



DOC273.98.90733

# **Claros hardware setup for Ethernet/IP or Profinet implementation**

10/2020, Edition 1

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## Section 1 Intended use

These setup instructions are intended for use by persons who integrate external Ethernet/IP Gateway or Profinet Gateway as hardware components in the Claros network.

## Section 2 Introduction

The manufacturer is not responsible for any damages due to misapplication or misuse of this product including, without limitation, direct, incidental and consequential damages, and disclaims such damages to the full extent permitted under applicable law. The user is solely responsible to identify critical application risks and install appropriate mechanisms to protect processes during a possible equipment malfunction.

### **DANGER**



Electrocution hazard. Always remove power to the instrument before making electrical connections.

#### Items to collect:

- USB stick formatted as FAT32
- PC with Windows<sup>1</sup> 10
- Module:
  - For Ethernet/IP implementation:
    - LXZ446.99.00001: GATEWAY IIoT RevPi Basic Module
    - LXZ446.99.00002: GATEWAY Ethernet/IP Slave
    - LXZ446.99.00003: Jumper for PiBridge
  - For Profinet implementation:
    - LXZ446.99.00001: GATEWAY IIoT RevPi Basic Module
    - LXZ446.99.00007: GATEWAY Profinet IRT Slave
    - LXZ446.99.00003: Jumper for PiBridge

Connect the three modules RevPi, Slave and PiBridge to power and LAN.

Refer to the links in the table that follows for more information from the manufacturer of the modules.

Module	Link
GATEWAY Profinet IRT Slave	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
GATEWAY Ethernet/IP Slave	<a href="https://www.kunbus.com/ethernet-ip-gateway-module.html">https://www.kunbus.com/ethernet-ip-gateway-module.html</a>
GATEWAY IIoT RevPi Basic Module	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>

<sup>1</sup> Microsoft® Windows® is a registered trademark of Microsoft Corporation in the United States and other countries.

Module	Link
How to connect RevPi Modules	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>
How to install RevPi Modules on a DIN rail	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
How to connect the power supply	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

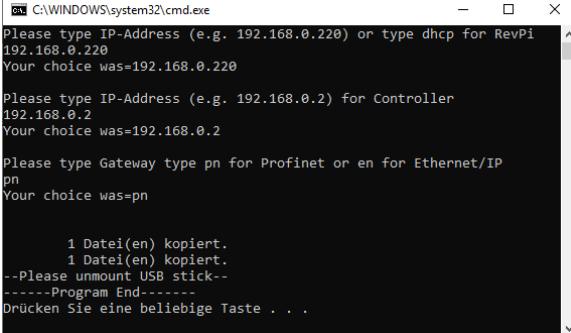
## Prepare the USB stick

1. Insert an empty USB stick in the PC.
2. Go to <https://www.hach.com> and search for the keywords "usb ethernet/IP installation" or "usb profinet installation".
3. Download USB\_ETHIP\_PRNET.zip.
4. Unzip the file into the root directory of the USB stick.

## Section 3 Start the USB configuration

Insert the prepared USB stick in the PC.

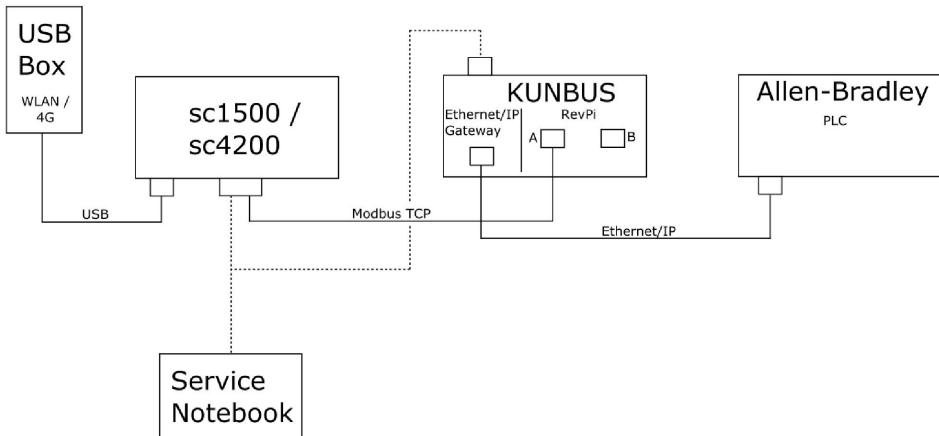
Step	Description	Picture
1	Start start_usb_config.bat. A terminal window opens. Follow the step-by-step guide.	
2	Enter the IP address of the RevPi module.	
3	Enter the IP address of the SC controller. Make sure that the Network prefix is the same as from the RevPi module (e.g., 192.168.0).  Make sure that the host identifier is different to the RevPi module (e.g., 220 RevPi, 2 Controller).	
4	Enter the Gateway type: <ul style="list-style-type: none"><li>• pn—Profinet</li><li>• en—Ethernet/IP</li></ul>	

Step	Description	Picture
5	Confirm the settings with Enter. Remove the USB stick.	
6	Insert the USB stick in the left USB socket of the RevPi Module.	
7	LED description: <ul style="list-style-type: none"> <li>A1/A2 orange: RevPi installation starts.</li> <li>A1 red, A2 off: RevPi insert USB stick.</li> <li>A1 green, A2 off: USB stick inserted successfully.</li> <li>A1 off, A2 green: RevPi downloads/uploads data from USB stick.</li> <li>A3 red: RevPi reboots.</li> </ul> When A3 is red, remove the USB stick.	
8	The RevPi settings are complete.	

## Section 4 Examples for installation

Figure 1 shows an installation with two different LAN connections.

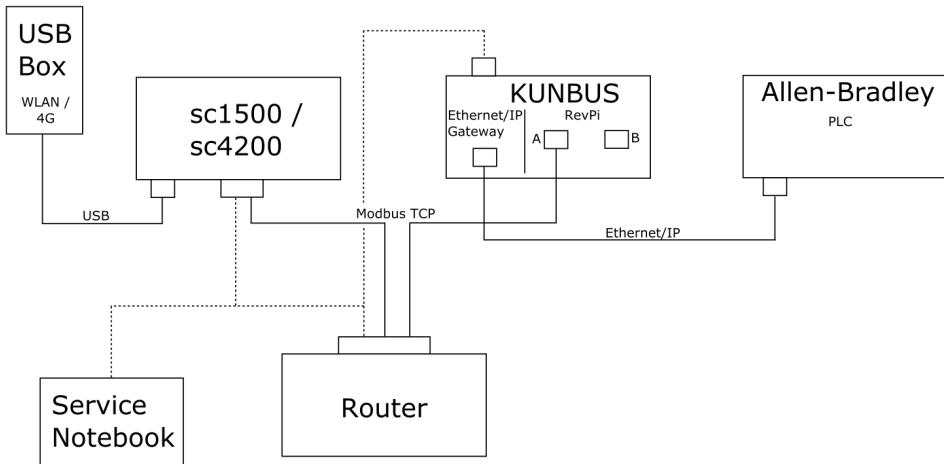
**Figure 1 Example 1**



- Modbus TCP and Ethernet/IP use two different LAN connections.
- All of the devices have a static IP address.
- The controller has internet access with WiFi or cellular connection.
- To set up the IP addresses of the controller and the Ethernet/IP gateway, a laptop is necessary.

Figure 2 shows an installation with a router for the Modbus TCP connection.

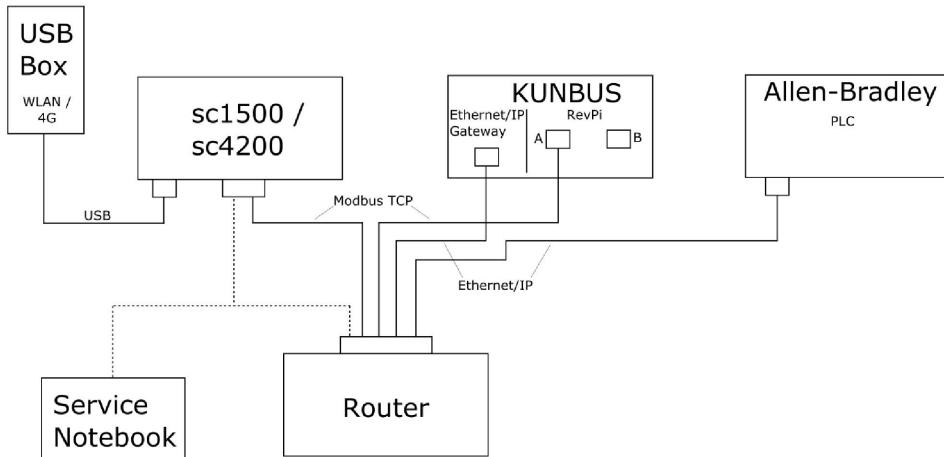
Figure 2 Example 2



- The Modbus TCP is connected to a router.
- All of the devices have a static IP address or the router sets the IP address through DHCP.  
*Note: Make sure that the router always uses the same IP address for the same devices (MAC) if DHCP is used.*
- The controller has internet access with WiFi or cellular connection.
- To set up the IP address of the controller, the Ethernet/IP gateway and the router settings, a laptop is necessary.

Figure 3 shows an installation with a router or switch for all devices.

Figure 3 Example 3

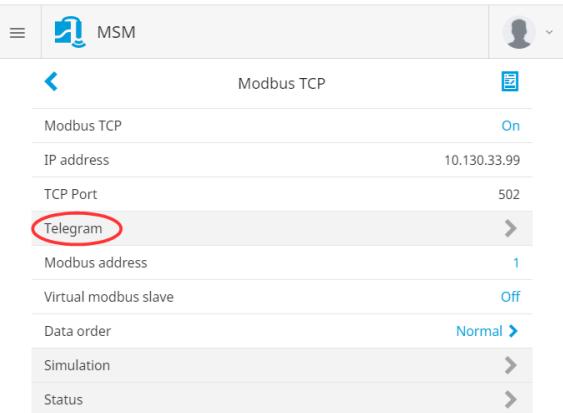


- All of the devices are connected with a router or switch.
- All of the devices have a static IP address or the router or switch sets the IP address through DHCP.

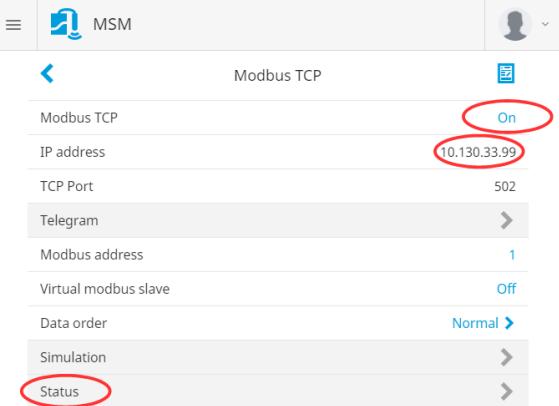
- Note:** Make sure that the router always uses the same IP address for the same devices (MAC) if DHCP is used.
- The controller has internet access with WiFi or cellular connection.
  - To set up the IP address of the controller and the router settings, a laptop is necessary.

## Section 5 Setup of the SC4200c Controller Modbus TCP telegram

Start the Claros application and follow the step-by-step guide.

Step	Description	Picture
1	Select the controller menu, then push <b>Modbus TCP</b> .	 <p>1732216 - sc4200c</p> <p>Software update is available</p> <p>1 1761925 - SOLITAX sc 2 LDO250000001 - LDO sc</p> <p>v56.02</p> <p>2 Sensors 2 Relays 1 Profibus</p> <p>000000001185 - Low voltage relay 000000001337 - High voltage relay</p> <p>000000079312 - Profibus</p> <p>Historical data &gt;</p> <p>Modbus TCP &gt; (Red circle)</p>
2	Select <b>Telegram</b> to set the Modbus TCP telegram.	 <p>MSM</p> <p>Modbus TCP</p> <p>Modbus TCP On</p> <p>IP address 10.130.33.99</p> <p>TCP Port 502</p> <p>Telegram &gt; (Red circle)</p> <p>Modbus address 1</p> <p>Virtual modbus slave Off</p> <p>Data order Normal &gt;</p> <p>Simulation &gt;</p> <p>Status &gt;</p>

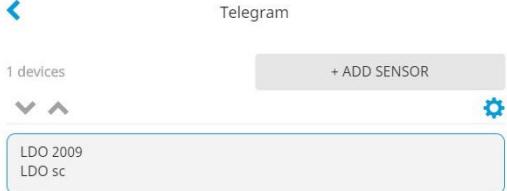
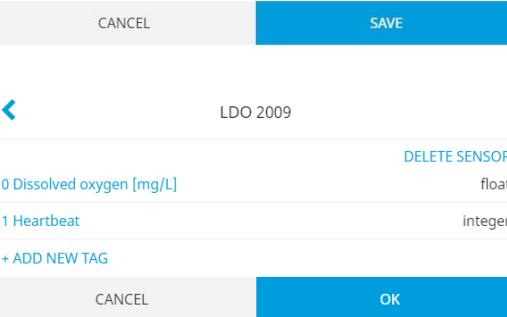
Step	Description	Picture
3	<p>The shown telegram is an example for the LDO sc sensor.</p> <p>Set the Heartbeat to integer. The heartbeat is a counter that shows the update of the value at one second increments.</p> <p><b>Note:</b> The content of the Modbus TCP telegram is the same as the Profibus telegram.</p>	

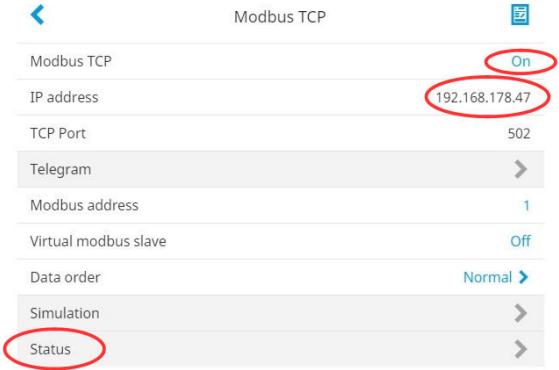
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4	<p>The Modbus TCP menu shows the IP address of the controller.  <b>10.130.33.99</b> is the IP address set in the controller service menu.</p> <p>Set Modbus TCP to <b>On</b>, then push <b>Status</b>.</p>	 <table border="1"> <thead> <tr> <th>Setting</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Modbus TCP</td> <td>On</td> </tr> <tr> <td>IP address</td> <td>10.130.33.99</td> </tr> <tr> <td>TCP Port</td> <td>502</td> </tr> <tr> <td>Telegram</td> <td></td> </tr> <tr> <td>Modbus address</td> <td>1</td> </tr> <tr> <td>Virtual modbus slave</td> <td>Off</td> </tr> <tr> <td>Data order</td> <td>Normal</td> </tr> <tr> <td>Simulation</td> <td></td> </tr> <tr> <td>Status</td> <td></td> </tr> </tbody> </table>	Setting	Value	Modbus TCP	On	IP address	10.130.33.99	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal	Simulation		Status																			
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5	<p>The Status menu shows the Modbus TCP statistics.  <b>10.130.33.50</b> is the IP address of the RevPi Module. The RevPi has 5 Modbus TCP master.</p>	 <table border="1"> <thead> <tr> <th>Client</th> <th>Address</th> </tr> </thead> <tbody> <tr> <td>Client 1</td> <td>10.130.33.50:46338</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> <tr> <td>Client 2</td> <td>10.130.33.50:46340</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> <tr> <td>Client 3</td> <td>10.130.33.50:46342</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table>	Client	Address	Client 1	10.130.33.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client 2	10.130.33.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client 3	10.130.33.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Section 6 Setup of the SC1500 Controller Modbus TCP telegram

Start the Claros application and follow the step-by-step guide.

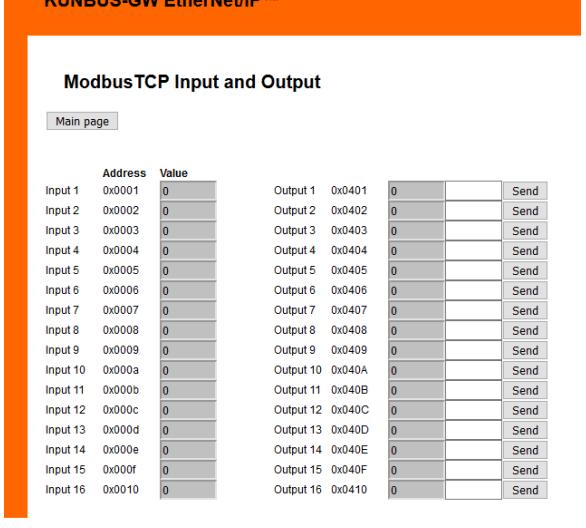
Step	Description	Picture
1	Select the controller menu, then push <b>Modbus TCP</b> .	<p>The screenshot shows the SC1500 controller's configuration interface. At the top, it displays the model number '1694389 - sc1500'. Below this, there are three numbered items: '1 1327087 - AN-ISE sc', '2 1555058 - AN-ISE sc', and '3 LDO 2009 - LDO sc'. To the right of these items is a small image of the controller and some technical specifications: 'v20.12', '3 Sensors', '1 Outputs', and '1 Profibus'. Below these items is the identifier '000000074854 - mA output'. Further down is the identifier '000005009872 - Profibus'. At the bottom of the list, there are two items: 'Historical data' and 'Modbus TCP'. The 'Modbus TCP' item is circled in red.</p>
2	Select <b>Telegram</b> to set the Modbus TCP telegram.	<p>The screenshot shows the 'Modbus TCP' configuration screen. It includes settings for 'Modbus TCP' (status 'On'), 'IP address' (192.168.178.47), 'TCP Port' (502), and 'Telegram'. The 'Telegram' option is circled in red. Other visible options include 'Modbus address' (1), 'Virtual modbus slave' (Off), 'Data order' (Normal), 'Simulation', and 'Status'.</p>

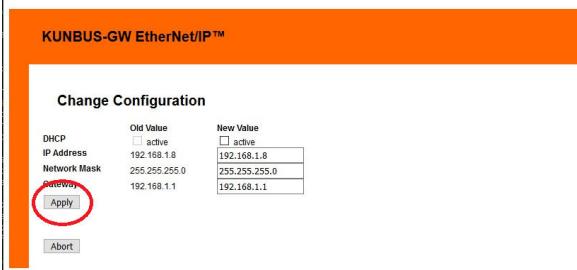
Step	Description	Picture
3	<p>The shown telegram is an example for the LDO sc sensor.</p> <p>Set the Heartbeat to integer. The heartbeat is a counter that shows the update of the value at one second increments.</p> <p><i>Note: The content of the Modbus TCP telegram is the same as the Profibus telegram.</i></p>	 

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4	<p>The Modbus TCP menu shows the IP address of the controller.  <b>192.168.178.47</b> is the IP address set in the controller service menu.</p> <p>Set Modbus TCP to <b>On</b>, then push <b>Status</b>.</p>	 <p>Modbus TCP</p> <p>IP address: 192.168.178.47 (highlighted)</p> <p>Status (highlighted)</p>																																								
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## Section 7 Configure the Ethernet/IP Gateway

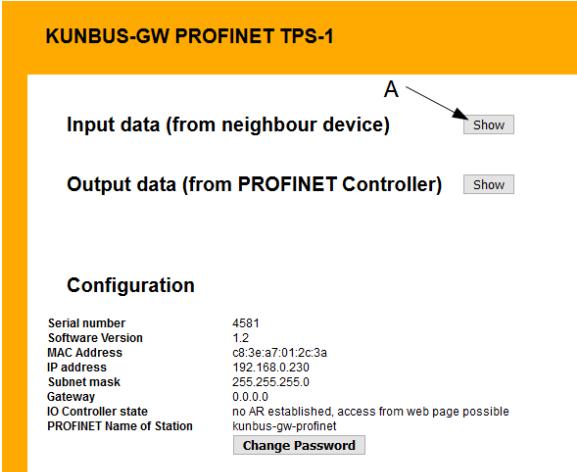
Step	Description	Picture
1	<ul style="list-style-type: none"> <li>Connect the Ethernet/IP Gateway to the PC with the LAN-to-USB adapter cable.</li> <li>Refer to <a href="#">Introduction</a> on page 3. Use the link of the GATEWAY Ethernet/IP Slave. Follow the instruction in the manufacturer's user manual, <i>Gateway component for EtherNet/IP</i>.</li> <li>Use the 8-pin address switch (A) to set the host identifier to the binary format of the Gateway.           <ul style="list-style-type: none"> <li>Example: Set the host to 8: 00010000</li> </ul> </li> <li>Open the website <a href="http://192.168.1.X">http://192.168.1.X</a> (X=Sum of all switches set to ON).</li> </ul>	
2	<p>Open the browser and enter the IP address 192.168.1.X. Login data for the first login:</p> <p>User: Admin Password: 1701 Push Login.</p>	

Step	Description	Picture																																																																																																																							
3	<p>The controller and Ethernet/IP Gateway transfers the data area 0000 - 01BF, which is a range of 448 byte or 112 float or 224 integer or a mix of them, based on the telegram type of the Modbus TCP in the controller.</p> <p><b>Note:</b> Only the first data range to 32 integer show. View all data in the PLC (224 integer).</p> <p>Push <b>Show</b>.</p>	 <p>KUNBUS-GW EtherNet/IP™</p> <p>Log Out</p> <p>Modbus Register 0x0011 - 0x0010 and 0x0401 - 0x0410 Modbus Register 0x0021 - 0x0020 and 0x0411 - 0x0420 Modbus Register 0x0031 - 0x0030 and 0x0421 - 0x0430 Modbus Register 0x0041 - 0x0040 and 0x0431 - 0x0440</p> <p>Configuration</p> <p>Serial number: 594 Software Version: 1.1.944 MAC Address: c8:3e:37:00:0b:10 IP address: 192.168.1.0 Subnet mask: 255.255.255.0 Gateway: 192.168.1.1 DHCP: <input checked="" type="checkbox"/> <a href="#">Change Configuration</a> <a href="#">Change Password</a> <a href="#">Reboot</a></p> <p>Show Show Show Show</p> <p>Download ECR file</p>																																																																																																																							
4	The selected data area is shown.	 <p>KUNBUS-GW EtherNet/IP™</p> <p>Main page</p> <table border="1"> <thead> <tr> <th></th> <th>Address</th> <th>Value</th> <th></th> <th>Address</th> <th>Value</th> <th></th> </tr> </thead> <tbody> <tr> <td>Input 1</td> <td>0x0001</td> <td>0</td> <td></td> <td>Output 1</td> <td>0x0401</td> <td>0</td> </tr> <tr> <td>Input 2</td> <td>0x0002</td> <td>0</td> <td></td> <td>Output 2</td> <td>0x0402</td> <td>0</td> </tr> <tr> <td>Input 3</td> <td>0x0003</td> <td>0</td> <td></td> <td>Output 3</td> <td>0x0403</td> <td>0</td> </tr> <tr> <td>Input 4</td> <td>0x0004</td> <td>0</td> <td></td> <td>Output 4</td> <td>0x0404</td> <td>0</td> </tr> <tr> <td>Input 5</td> <td>0x0005</td> <td>0</td> <td></td> <td>Output 5</td> <td>0x0405</td> <td>0</td> </tr> <tr> <td>Input 6</td> <td>0x0006</td> <td>0</td> <td></td> <td>Output 6</td> <td>0x0406</td> <td>0</td> </tr> <tr> <td>Input 7</td> <td>0x0007</td> <td>0</td> <td></td> <td>Output 7</td> <td>0x0407</td> <td>0</td> </tr> <tr> <td>Input 8</td> <td>0x0008</td> <td>0</td> <td></td> <td>Output 8</td> <td>0x0408</td> <td>0</td> </tr> <tr> <td>Input 9</td> <td>0x0009</td> <td>0</td> <td></td> <td>Output 9</td> <td>0x0409</td> <td>0</td> </tr> <tr> <td>Input 10</td> <td>0x000a</td> <td>0</td> <td></td> <td>Output 10</td> <td>0x040A</td> <td>0</td> </tr> <tr> <td>Input 11</td> <td>0x000b</td> <td>0</td> <td></td> <td>Output 11</td> <td>0x040B</td> <td>0</td> </tr> <tr> <td>Input 12</td> <td>0x000c</td> <td>0</td> <td></td> <td>Output 12</td> <td>0x040C</td> <td>0</td> </tr> <tr> <td>Input 13</td> <td>0x000d</td> <td>0</td> <td></td> <td>Output 13</td> <td>0x040D</td> <td>0</td> </tr> <tr> <td>Input 14</td> <td>0x000e</td> <td>0</td> <td></td> <td>Output 14</td> <td>0x040E</td> <td>0</td> </tr> <tr> <td>Input 15</td> <td>0x000f</td> <td>0</td> <td></td> <td>Output 15</td> <td>0x040F</td> <td>0</td> </tr> <tr> <td>Input 16</td> <td>0x0010</td> <td>0</td> <td></td> <td>Output 16</td> <td>0x0410</td> <td>0</td> </tr> </tbody> </table>		Address	Value		Address	Value		Input 1	0x0001	0		Output 1	0x0401	0	Input 2	0x0002	0		Output 2	0x0402	0	Input 3	0x0003	0		Output 3	0x0403	0	Input 4	0x0004	0		Output 4	0x0404	0	Input 5	0x0005	0		Output 5	0x0405	0	Input 6	0x0006	0		Output 6	0x0406	0	Input 7	0x0007	0		Output 7	0x0407	0	Input 8	0x0008	0		Output 8	0x0408	0	Input 9	0x0009	0		Output 9	0x0409	0	Input 10	0x000a	0		Output 10	0x040A	0	Input 11	0x000b	0		Output 11	0x040B	0	Input 12	0x000c	0		Output 12	0x040C	0	Input 13	0x000d	0		Output 13	0x040D	0	Input 14	0x000e	0		Output 14	0x040E	0	Input 15	0x000f	0		Output 15	0x040F	0	Input 16	0x0010	0		Output 16	0x0410	0
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Step	Description	Picture															
5	Push <b>Change Configuration</b> to set the IP address.	 <p>KUNBUS-GW EtherNet/IP™</p> <p><b>Log Out</b></p> <p>Modbus Register 0x001 - 0x010 and 0x0401 - 0x0410 Modbus Register 0x011 - 0x020 and 0x0411 - 0x0420 Modbus Register 0x021 - 0x030 and 0x041 - 0x0430 Modbus Register 0x031 - 0x040 and 0x0431 - 0x0440</p> <p>Show / Show / Show / Show</p> <p><b>Configuration</b></p> <p>Serial number: 594 Software Version: 1.1.944 MAC Address: IP address: 192.168.1.8 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 DHCP: <input type="checkbox"/> active</p> <p><b>Buttons:</b> Change Configuration, Change Password, Reboot</p> <p><a href="#">Download EDR file.</a></p>															
6	<p>Change the IP address according to the gateway address.  <b>Push Apply</b> to confirm.  Set all dip switches to off.  Set the power of the gateway to off, then restart. The new IP Address is now used.</p>	 <p>KUNBUS-GW EtherNet/IP™</p> <p><b>Change Configuration</b></p> <table border="1"> <thead> <tr> <th></th> <th>Old Value</th> <th>New Value</th> </tr> </thead> <tbody> <tr> <td>DHCP</td> <td><input type="checkbox"/> active</td> <td><input type="checkbox"/> active</td> </tr> <tr> <td>IP Address</td> <td>192.168.1.8</td> <td>192.168.1.8</td> </tr> <tr> <td>Network Mask</td> <td>255.255.255.0</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>192.168.1.1</td> <td>192.168.1.1</td> </tr> </tbody> </table> <p><b>Buttons:</b> Apply (circled in red), Abort</p>		Old Value	New Value	DHCP	<input type="checkbox"/> active	<input type="checkbox"/> active	IP Address	192.168.1.8	192.168.1.8	Network Mask	255.255.255.0	255.255.255.0	Gateway	192.168.1.1	192.168.1.1
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Network Mask	255.255.255.0	255.255.255.0															
Gateway	192.168.1.1	192.168.1.1															

## Section 8 Configure the Profinet Gateway

Step	Description	Picture
1	<ul style="list-style-type: none"> <li>Connect the Profinet Gateway to the PC with the LAN-to-LAN adapter.</li> <li>Refer to <a href="#">Introduction</a> on page 3. Use the link of the GATEWAY Profinet IRT Slave. Follow the instruction in the manufacturer's user manual <i>Gateway Component for PROFINET</i>.</li> <li>Use the software PRONETA to set the name to <b>kunbus-gw-profinet</b>.</li> <li>Enter the used <b>IP address</b>.</li> </ul>	<p>The screenshot shows the Siemens PRONETA software interface. On the left, there is a network diagram with nodes labeled 'de-3jdy4z2-p PRONETA' and 'cb-3e-a7-00-26-05 KUNBUS-GW Profinet TPS-1'. In the center, there is a 'Geräteabelle - Online' (Device Table - Online) window. The table lists one device: 'cb-3e-a7-00-26-05 KUNBUS-GW Profinet TPS-1' with IP address '192.168.1.10'. The device name is highlighted as 'kunbus-gw-profinet'. A red box highlights the IP address '192.168.1.10'.</p>
2	<p>Open the browser and enter the IP address. Login data for first login: User: Admin Password: 1701 Push <b>Login</b>.</p>	<p>The screenshot shows a login page for the KUNBUS-GW PROFINET TPS-1. The title bar says 'KUNBUS-GW PROFINET TPS-1'. The form has fields for 'Username' (containing 'Admin') and 'Password' (containing '1701'). There is a 'Login' button at the bottom.</p>

Step	Description	Picture																
3	Push <b>Show</b> (A) to show the input data.	 <p><b>KUNBUS-GW PROFINET TPS-1</b></p> <p><b>A</b></p> <p><b>Input data (from neighbour device)</b> <input type="button" value="Show"/></p> <p><b>Output data (from PROFINET Controller)</b> <input type="button" value="Show"/></p> <p><b>Configuration</b></p> <table> <tbody> <tr> <td>Serial number</td> <td>4581</td> </tr> <tr> <td>Software Version</td> <td>1.2</td> </tr> <tr> <td>MAC Address</td> <td>c8:3e:a7:01:2c:3a</td> </tr> <tr> <td>IP address</td> <td>192.168.0.230</td> </tr> <tr> <td>Subnet mask</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>0.0.0.0</td> </tr> <tr> <td>IO Controller state</td> <td>no AR established, access from web page possible</td> </tr> <tr> <td>PROFINET Name of Station</td> <td>kunbus-gw-profinet</td> </tr> </tbody> </table> <p><input type="button" value="Change Password"/></p>	Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:2c:3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
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## Section 9 Troubleshooting

### 9.1 Troubleshooting RevPi

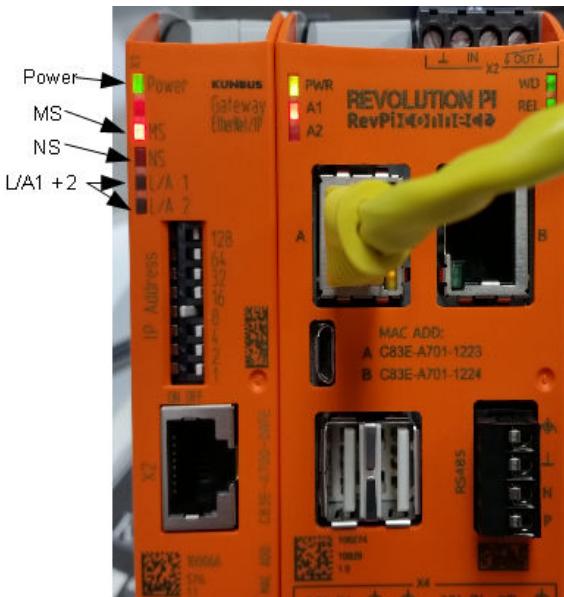
Figure 4 RevPi Basic module



Message	Description	Solution
LED A2 flashes red.	The communication has stopped.	<ul style="list-style-type: none"><li>• Connect the network cable (cable or router).</li><li>• Set the Modbus address setting in Claros to 1.</li><li>• Set the Modbus TCP in Claros menu to on.</li></ul>
LED A3 slowly flashes red.	The configuration of the Ethernet/IP and Profinet Gateway is mixed up.	<p>Refer to <a href="#">Start the USB configuration</a> on page 5, step 4 and select the correct Gateway type:</p> <ul style="list-style-type: none"><li>• en – Ethernet/IP</li><li>• pn – Profinet</li></ul>

## 9.2 Troubleshooting Ethernet/IP

Figure 5 Ethernet/IP Gateway

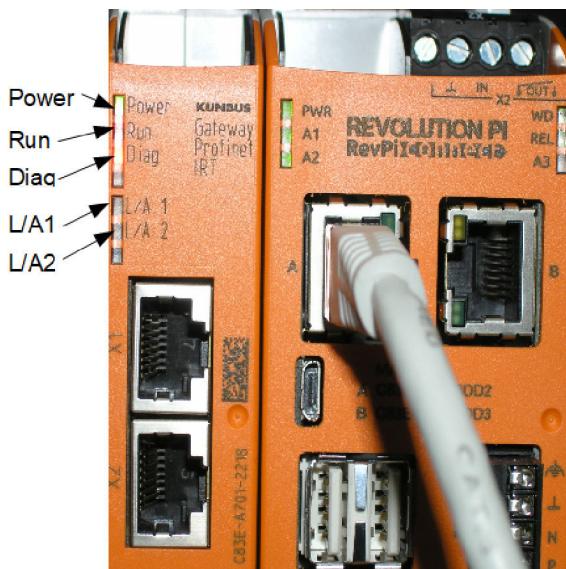


Message	Description	Solution
Power LED is off.	The Ethernet/IP gateway is set to off.	Set the power to on.
Power LED flashes green.	The start up procedure is not complete.	Wait a few minutes.
Power LED flashes red.	Shows a warning.	Examine if all of the devices are connected.
Power LED is red.	Shows an error.	The Ethernet/IP gateway is defective. Replace the Ethernet/IP gateway.
MS LED is off.	The Ethernet/IP gateway is set to off.	Set power to on.
MS LED flashes green.	The configuration procedure is not complete.	Wait a few minutes.
MS LED flashes red.	Shows a configuration error.	Refer to <a href="#">Configure the Ethernet/IP Gateway</a> on page 15 to examine the configuration.
MS LED is red.	Shows an error.	The Ethernet/IP gateway is defective. Replace the Ethernet/IP gateway.
MS LED flashes red and green.	The self test is not complete.	Wait a few minutes.

Message	Description	Solution
NS LED is off.	The Ethernet/IP gateway is set to off or has no IP address.	Set power to on. Set the IP address.
NS LED flashes green.	The IP address is set but the CIP connection is not established.	Wait a few minutes.
NS LED flashes red.	The CIP connection has stopped.	Examine if there is a timeout.
NS LED is red.	The selected IP address is used by another device.	Change the IP address to a unique IP address.
L/A 1 or 2 LED is off.	There is no connection to other devices.	Connect to a device.
L/A 1 or 2 LED flashes green.	No data exchange.	Wait until the next data exchange.

### 9.3 Troubleshooting Profinet

Figure 6 Profinet Gateway



Message	Description	Solution
Power LED is off.	The Profinet gateway is off.	Set power to on.
Power LED flashes green.	The start up procedure is not completed.	Wait a few minutes.
Power LED flashes red.	Shows a warning.	Examine if all of the devices are installed.
Power LED is red.	Shows an error.	The Profinet gateway is defective. Replace the Profinet gateway.

Message	Description	Solution
Run LED is off.	No connection to a network.	Connect to network.
Run LED flashes green.	Profinet controller is connected but no data exchange.	Wait until the next data exchange.
Run LED flashes slowly green.	Triggered by tool for identification of the gateway component.	Wait a few minutes.
Diag LED flashes red.	Triggered by tool for identification of the gateway component.	Wait a few minutes.
Diag LED flashes fast red.	No connection to the controller. No Profinet name set in the module.	Refer to <a href="#">Configure the Profinet Gateway</a> on page 18 to set the name.
Diag LED is red.	A Gateway device reports diagnosis data.	Refer to the diagnostic report.
L/A 1 or 2 LED is off.	No connection to a network.	Connect to network.
L/A 1 or 2 LED flashes green.	Data exchange.	Wait until the data exchange is complete.

# Inhaltsverzeichnis

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| 2 Einführung auf Seite 25  | 7 Konfiguration des Ethernet/IP-Gateways auf Seite 38                       |
| 3 Start der USB-Konfiguration auf Seite 27                                   | 8 Konfiguration des Profinet-Gateways auf Seite 41                          |
| 4 Installationsbeispiele auf Seite 29  | 9 Fehlerbehebung auf Seite 44   |
| 5 Einrichtung des Modbus-TCP-Telegramms beim SC4200c Controller auf Seite 32 |   |

## Kapitel 1 Bestimmungsgemäßer Gebrauch

Diese Setup-Anweisungen sind für Personen vorgesehen, die ein externes Ethernet/IP-Gateway oder Profinet-Gateway als Hardwarekomponenten im Claros Netzwerk integrieren.

## Kapitel 2 Einführung

Der Hersteller ist nicht für Schäden verantwortlich, die durch Fehlanwendung oder Missbrauch dieses Produkts entstehen, einschließlich, aber ohne Beschränkung auf direkte, zufällige oder Folgeschäden, und lehnt jegliche Haftung im gesetzlich zulässigen Umfang ab. Der Benutzer ist selbst dafür verantwortlich, schwerwiegende Anwendungsrisiken zu erkennen und erforderliche Maßnahmen durchzuführen, um die Prozesse im Fall von möglichen Gerätefehlern zu schützen.

### ▲ GEFAHR



Lebensgefahr durch Stromschlag. Trennen Sie das Gerät immer von der Spannungsversorgung, bevor Sie elektrische Anschlüsse herstellen.

#### Erforderliche Artikel:

- USB-Stick mit FAT32-Formatierung
- PC mit Windows<sup>1</sup> 10
- Modul:
  - Für die Ethernet/IP-Implementierung:
    - LXZ446.99.00001: GATEWAY IIoT RevPi Grundmodul
    - LXZ446.99.00002: GATEWAY Ethernet/IP Slave
    - LXZ446.99.00003: Jumper für PiBridge
  - Für die Profinet-Implementierung:
    - LXZ446.99.00001: GATEWAY IIoT RevPi Grundmodul
    - LXZ446.99.00007: GATEWAY Profinet-IRT-Slave
    - LXZ446.99.00003: Jumper für PiBridge

Schließen Sie die drei Module RevPi, Slave und PiBridge an die Stromversorgung und ein LAN an.

Weitere Informationen vom Hersteller der Module finden Sie unter den Links in der folgenden Tabelle.

Modul	Link
GATEWAY Profinet-IRT Slave	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
GATEWAY Ethernet/IP Slave	<a href="https://www.kunbus.com/ethernet-ip-gateway-module.html">https://www.kunbus.com/ethernet-ip-gateway-module.html</a>

<sup>1</sup> Microsoft® Windows® ist ein eingetragenes Warenzeichen der Microsoft Corporation in den USA und anderen Ländern.

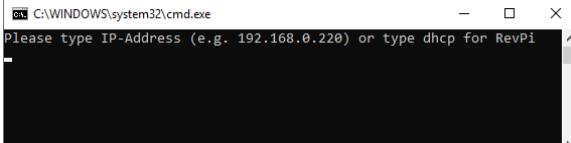
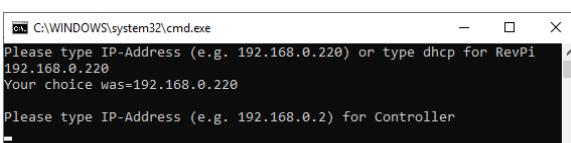
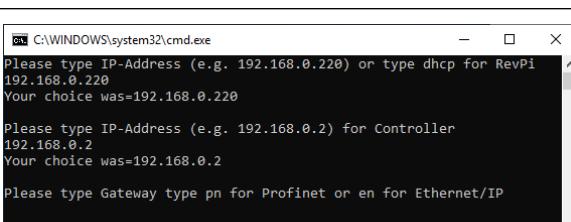
Modul	Link
GATEWAY IIoT RevPi Grundmodul	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>
Anschließen von RevPi Modulen	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>
Installieren von RevPi Modulen auf einer DIN-Schiene	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
Anschließen des Netzteils	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

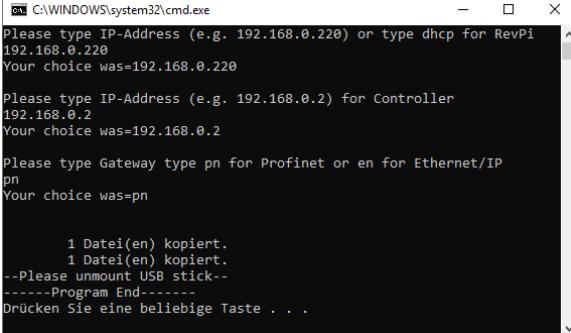
## Vorbereitung des USB-Sticks

1. Stecken Sie einen leeren USB-Stick in den PC.
2. Gehen Sie zu <https://www.hach.com> und suchen Sie nach den Schlüsselwörtern „USB-Ethernet/IP-Installation“ oder „USB-Profinet-Installation“.
3. Laden Sie die Datei USB\_ETHIP\_PRNET.zip herunter.
4. Entpacken Sie die Datei in das Stammverzeichnis des USB-Sticks.

## Kapitel 3 Start der USB-Konfiguration

Stecken Sie den vorbereiteten USB-Stick in den PC ein.

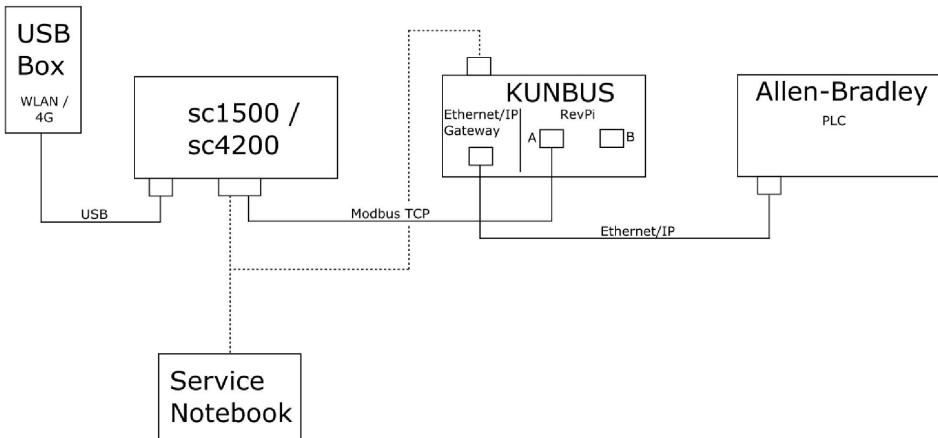
Schritt	Beschreibung	Bild
1	Öffnen Sie die Datei start_usb_config.bat. Ein Benutzerfenster wird geöffnet. Befolgen Sie die Schritt-für-Schritt-Anleitung.	
2	Geben Sie die IP-Adresse des RevPi Moduls ein.	
3	Geben Sie die IP-Adresse des SC Controllers ein. Stellen Sie sicher, dass das Netzwerkpräfix mit jenem des RevPi Moduls übereinstimmt (z.B. 192.168.0). Stellen Sie sicher, dass sich die Host-ID vom RevPi Modul unterscheidet (z.B. 220 für RevPi, 2 für Controller).	
4	Geben Sie den Gateway-Typ ein: <ul style="list-style-type: none"><li>• pn – Profinet</li><li>• en – Ethernet/IP</li></ul>	

Schritt	Beschreibung	Bild
5	Bestätigen Sie die Einstellungen mit der Eingabetaste. Ziehen Sie den USB-Stick ab.	
6	Stecken Sie den USB-Stick in die linke USB-Buchse des RevPi Moduls.	
7	LED-Beschreibung: <ul style="list-style-type: none"> <li>• A1/A2 orange: Installation von RevPi wird gestartet.</li> <li>• A1 rot, A2 aus: USB-Stick in das RevPi stecken.</li> <li>• A1 grün, A2 aus: USB-Stick erfolgreich eingesteckt.</li> <li>• A1 aus, A2 grün: RevPi lädt Daten vom/auf den USB-Stick herunter/hoch.</li> <li>• A3 rot: RevPi wird neu gestartet.</li> </ul> <p>Wenn A3 rot ist, entfernen Sie den USB-Stick.</p>	
8	Die RevPi Einstellungen sind abgeschlossen.	

## Kapitel 4 Installationsbeispiele

Abbildung 1 zeigt eine Installation mit zwei verschiedenen LAN-Verbindungen.

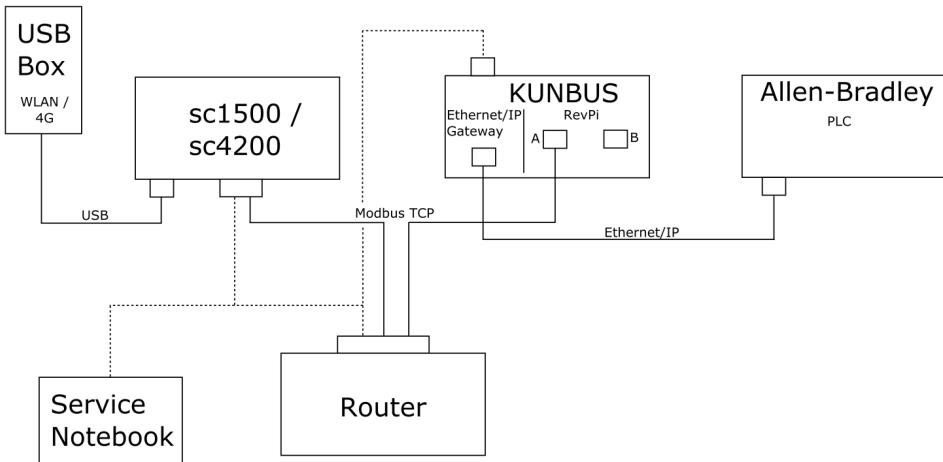
Abbildung 1 Beispiel 1



- Modbus-TCP und Ethernet/IP verwenden zwei verschiedene LAN-Verbindungen.
- Alle Geräte verfügen über eine statische IP-Adresse.
- Der Controller verfügt über einen Internetzugang über WLAN oder eine Mobilfunkverbindung.
- Um die IP-Adressen des Controllers und des Ethernet/IP-Gateways einzurichten, ist ein Laptop erforderlich.

Abbildung 2 zeigt eine Installation mit einem Router für die Modbus-TCP-Verbindung an.

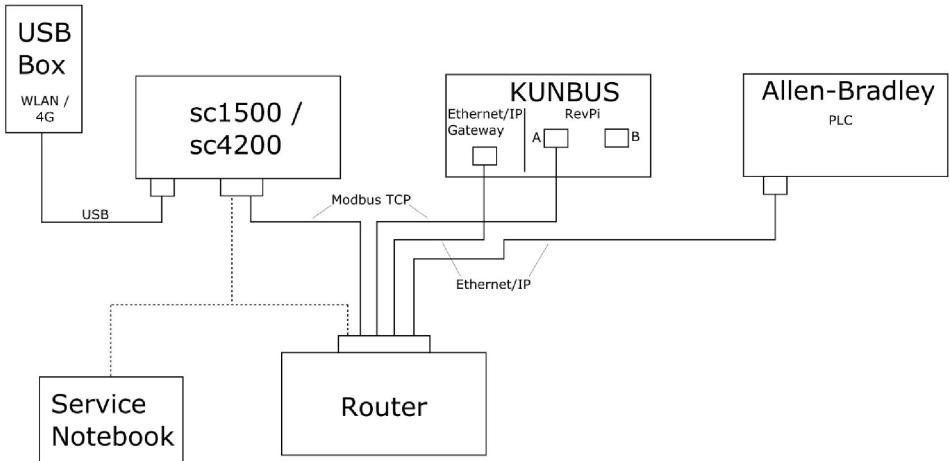
## Abbildung 2 Beispiel 2



- Das Modbus-TCP ist mit einem Router verbunden.
- Alle Geräte verfügen über eine statische IP-Adresse, oder der Router legt die IP-Adresse über DHCP fest.  
*Hinweis: Stellen Sie sicher, dass der Router immer dieselbe IP-Adresse für die gleichen Geräte (MAC) verwendet, wenn DHCP verwendet wird.*
- Der Controller verfügt über einen Internetzugang über WLAN oder eine Mobilfunkverbindung.
- Um die IP-Adresse des Controllers, das Ethernet/IP-Gateway und die Routereinstellungen einzurichten, ist ein Laptop erforderlich.

Abbildung 3 zeigt eine Installation mit einem Router oder Switch für alle Geräte an.

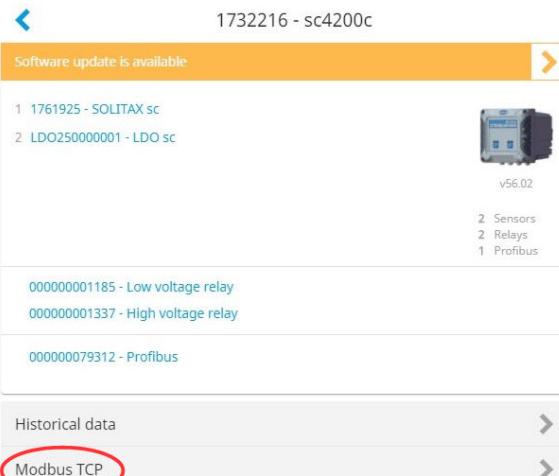
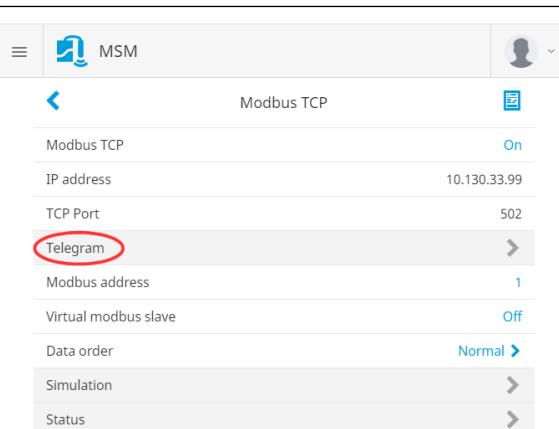
**Abbildung 3 Beispiel 3**

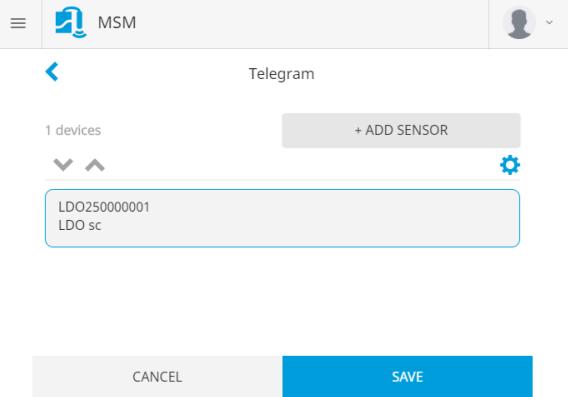
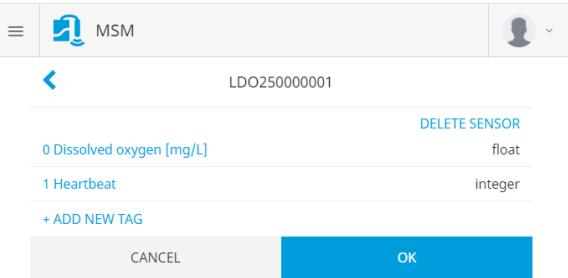


- Alle Geräte sind mit einem Router oder Switch verbunden.
- Alle Geräte verfügen über eine statische IP-Adresse, oder der Router oder Switch stellt die IP-Adresse über DHCP ein.  
*Hinweis: Stellen Sie sicher, dass der Router immer dieselbe IP-Adresse für die gleichen Geräte (MAC) verwendet, wenn DHCP verwendet wird.*
- Der Controller verfügt über einen Internetzugang über WLAN oder eine Mobilfunkverbindung.
- Um die IP-Adresse des Controllers und die Routereinstellungen einzurichten, ist ein Laptop erforderlich.

## Kapitel 5 Einrichtung des Modbus-TCP-Telegramms beim SC4200c Controller

Starten Sie die Claros Anwendung und befolgen Sie die Schritt-für-Schritt-Anleitung.

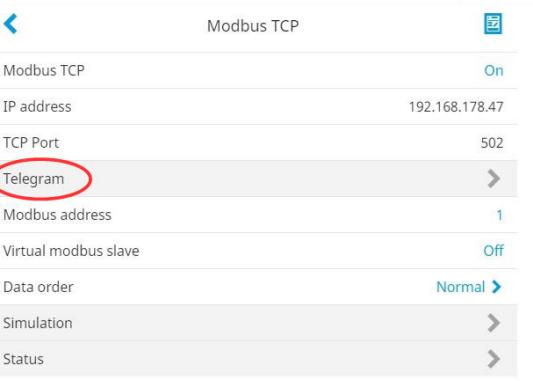
Schritt	Beschreibung	Bild
1	Wählen Sie das Controller-Menü aus, und drücken Sie <b>Modbus TCP</b> ( <b>Modbus-TCP</b> ).	 A screenshot of the SC4200c controller's software interface. At the top, it shows the model number '1732216 - sc4200c'. Below that is a yellow bar with the text 'Software update is available'. Underneath are two sections: '1 1761925 - SOLITAX sc' and '2 LDO250000001 - LDO sc'. To the right is a small image of the physical device and its version 'v56.02'. Further down are sections for '000000001185 - Low voltage relay', '000000001337 - High voltage relay', and '000000079312 - Profibus'. A large red circle highlights the 'Modbus TCP' option in the 'Historical data' section.
2	Wählen Sie <b>Telegram</b> ( <b>Telegramm</b> ), um das Modbus-TCP-Telegramm einzustellen.	 A screenshot of the 'Modbus TCP' configuration screen. It shows various parameters: 'IP address' set to '10.130.33.99', 'TCP Port' set to '502', and 'Modbus address' set to '1'. A large red circle highlights the 'Telegram' button in the middle of the list. Other options include 'Virtual modbus slave' (set to 'Off'), 'Data order' (set to 'Normal'), 'Simulation', and 'Status'.

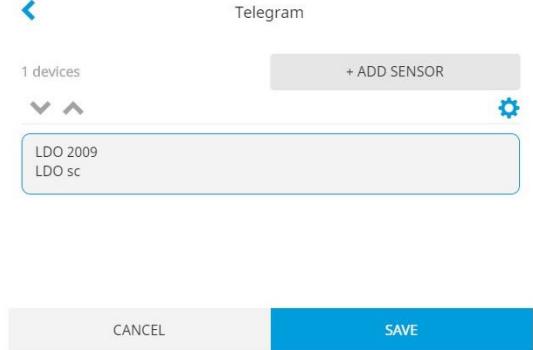
Schritt	Beschreibung	Bild
3	<p>Das angezeigte Telegramm ist ein Beispiel für den LDO sc Sensor. Stellen Sie den Heartbeat auf ganze Zahlen ein. Der Heartbeat ist ein Zähler, der die Aktualisierung des Werts in Schritten von einer Sekunde anzeigt.</p> <p><i>Hinweis:</i> Der Inhalt des Modbus-TCP-Telegramms ist mit jenem des Profibus-Telegramms identisch.</p>	 

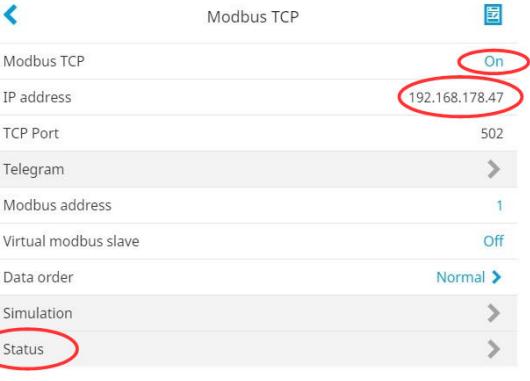
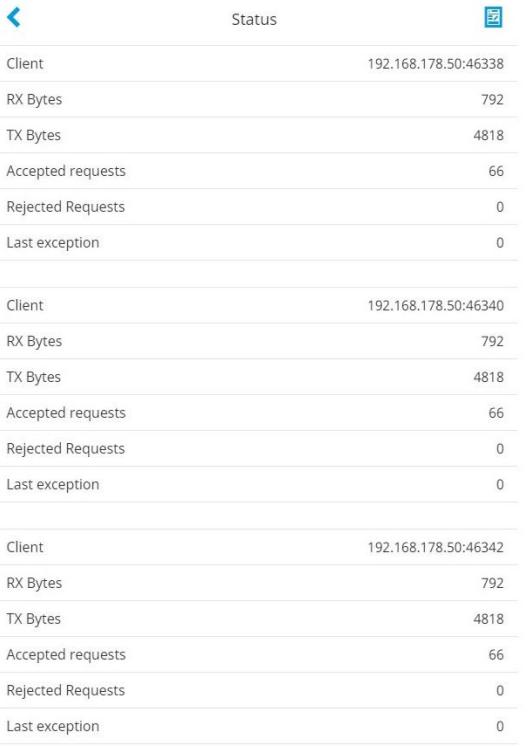
Schritt	Beschreibung	Bild																																								
4	<p>Das Modbus-TCP-Menü zeigt die IP-Adresse des Controllers an. <b>10.130.33.99</b> ist die IP-Adresse, die im Wartungsmenü des Controllers festgelegt wurde.</p> <p>Setzen Sie Modbus-TCP auf <b>On (Ein)</b>, und drücken Sie dann auf <b>Status</b>.</p>																																									
5	<p>Im Statusmenü werden die Modbus-TCP-Statistiken angezeigt. <b>10.130.33.50</b> ist die IP-Adresse des RevPi Moduls. Das RevPi verfügt über 5 Modbus-TCP-Master.</p>	<table border="1"> <tbody> <tr> <td>Client</td> <td>10.130.33.50:46338</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td>Client</td> <td>10.130.33.50:46340</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td>Client</td> <td>10.130.33.50:46342</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table>	Client	10.130.33.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0			Client	10.130.33.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0			Client	10.130.33.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Kapitel 6 Einrichtung des Modbus-TCP-Telegramms beim SC1500 Controller

Starten Sie die Claros Anwendung und befolgen Sie die Schritt-für-Schritt-Anleitung.

Schritt	Beschreibung	Bild
1	Wählen Sie das Controller-Menü aus, und drücken Sie <b>Modbus TCP</b> ( <b>Modbus-TCP</b> ).	 <p>The screenshot shows the Claros application interface. At the top, it displays the identifier '1694389 - sc1500'. Below this, there are three numbered items: 1 1327087 - AN-ISE sc, 2 1555058 - AN-ISE sc, and 3 LDO 2009 - LDO sc. Further down, there are two lines of text: '000000074854 - mA output' and '000005009872 - Profibus'. A section titled 'Historical data' contains two entries: 'Modbus TCP' and 'Modbus TCP'. The entry 'Modbus TCP' is circled in red.</p>
2	Wählen Sie <b>Telegram</b> ( <b>Telegramm</b> ), um das Modbus-TCP-Telegramm einzustellen.	 <p>The screenshot shows the 'Modbus TCP' configuration screen. It includes settings for IP address (192.168.178.47), TCP Port (502), and a section titled 'Telegram'. The 'Telegram' section is circled in red. Other options shown include Modbus address (1), Virtual modbus slave (Off), Data order (Normal), Simulation, and Status.</p>

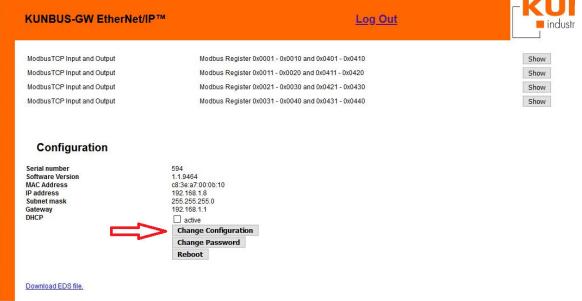
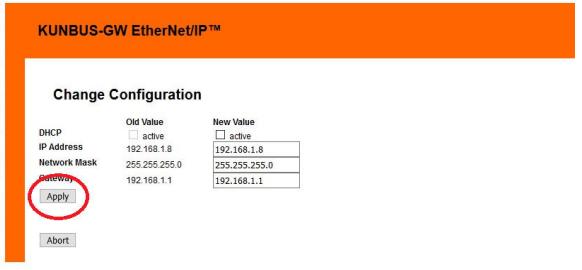
Schritt	Beschreibung	Bild
3	<p>Das angezeigte Telegramm ist ein Beispiel für den LDO sc Sensor. Stellen Sie den Heartbeat auf ganze Zahlen ein. Der Heartbeat ist ein Zähler, der die Aktualisierung des Werts in Schritten von einer Sekunde anzeigt.</p> <p><i>Hinweis: Der Inhalt des Modbus-TCP-Telegramms ist mit jenem des Profibus-Telegramms identisch.</i></p>	 

Schritt	Beschreibung	Bild																																				
4	<p>Das Modbus-TCP-Menü zeigt die IP-Adresse des Controllers an. <b>192.168.178.47</b> ist die IP-Adresse, die im Wartungsmenü des Controllers festgelegt wurde.</p> <p>Setzen Sie Modbus-TCP auf <b>On (Ein)</b>, und drücken Sie dann auf <b>Status</b>.</p>	 <table border="1"> <tr><td>Modbus TCP</td><td>On</td></tr> <tr><td>IP address</td><td>192.168.178.47</td></tr> <tr><td>TCP Port</td><td>502</td></tr> <tr><td>Telegram</td><td></td></tr> <tr><td>Modbus address</td><td>1</td></tr> <tr><td>Virtual modbus slave</td><td>Off</td></tr> <tr><td>Data order</td><td>Normal &gt;</td></tr> <tr><td>Simulation</td><td></td></tr> <tr><td>Status</td><td></td></tr> </table>	Modbus TCP	On	IP address	192.168.178.47	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal >	Simulation		Status																			
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Virtual modbus slave	Off																																					
Data order	Normal >																																					
Simulation																																						
Status																																						
5	<p>Im Statusmenü werden die Modbus-TCP-Statistiken angezeigt. <b>192.168.178.50</b> ist die IP-Adresse des RevPi Moduls. Das RevPi verfügt über 7 Modbus-TCP-Master.</p>	 <table border="1"> <tr><td>Client</td><td>192.168.178.50:46338</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td>Client</td><td>192.168.178.50:46340</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td>Client</td><td>192.168.178.50:46342</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> </table>	Client	192.168.178.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Kapitel 7 Konfiguration des Ethernet/IP-Gateways

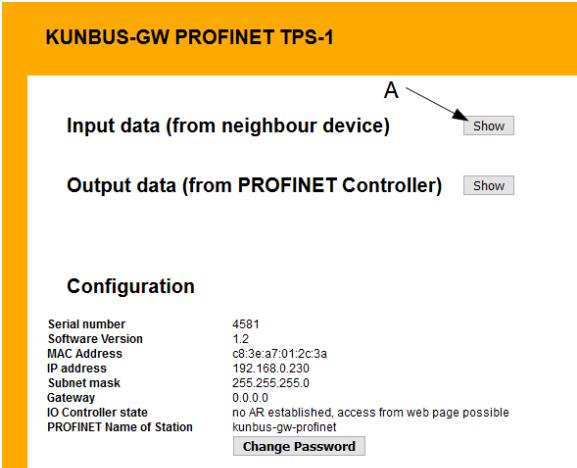
Schritt	Beschreibung	Bild
1	<ul style="list-style-type: none"> <li>Schließen Sie das Ethernet/IP-Gateway über das LAN-zu-USB-Adapterkabel an den PC an.</li> <li>Siehe <a href="#">Einführung</a> auf Seite 25. Nutzen Sie den Link des GATEWAY Ethernet/IP Slave. Befolgen Sie die Anweisungen im Benutzerhandbuch des Herstellers <i>Gateway-Komponente für EtherNet/IP</i>.</li> <li>Verwenden Sie den 8-poligen Adressschalter (A), um die Host-ID im Binärformat des Gateways festzulegen. <ul style="list-style-type: none"> <li>Beispiel: Legen Sie den Host auf 8 fest: 00010000.</li> </ul> </li> <li>Öffnen Sie die Website <a href="http://192.168.1.X">http://192.168.1.X</a> (X = Summe aller Schalter auf EIN).</li> </ul>	
2	<p>Öffnen Sie den Browser und geben Sie die IP-Adresse 192.168.1.X ein. Anmeldedaten für die Erst anmeldung:</p> <p>Benutzer: Admin Passwort: 1701 Drücken Sie auf <b>Login (Anmelden)</b>.</p>	

Schritt	Beschreibung	Bild																																																																																					
3	<p>Der Controller und das Ethernet/IP-Gateway übertragen den Datenbereich 0000 - 01BF, d.h. einen Bereich von 448 Byte oder 112 Float oder 224 Integer oder eine Kombination daraus, basierend auf dem Telegrammtyp des Modbus-TCP im Controller.</p> <p><b>Hinweis:</b> Nur der erste Datenbereich bis 32 Integer wird angezeigt. Lassen Sie sich alle Daten in der SPS anzeigen (224 Integer).</p> <p>Drücken Sie auf <b>Show (Anzeigen)</b>.</p>																																																																																						
4	Der ausgewählte Datenbereich wird angezeigt.	<table border="1"> <thead> <tr> <th>Address</th> <th>Value</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr><td>Input 1 0x0001</td><td>0</td><td>Output 1 0x0401</td><td>0</td><td>Send</td></tr> <tr><td>Input 2 0x0002</td><td>0</td><td>Output 2 0x0402</td><td>0</td><td>Send</td></tr> <tr><td>Input 3 0x0003</td><td>0</td><td>Output 3 0x0403</td><td>0</td><td>Send</td></tr> <tr><td>Input 4 0x0004</td><td>0</td><td>Output 4 0x0404</td><td>0</td><td>Send</td></tr> <tr><td>Input 5 0x0005</td><td>0</td><td>Output 5 0x0405</td><td>0</td><td>Send</td></tr> <tr><td>Input 6 0x0006</td><td>0</td><td>Output 6 0x0406</td><td>0</td><td>Send</td></tr> <tr><td>Input 7 0x0007</td><td>0</td><td>Output 7 0x0407</td><td>0</td><td>Send</td></tr> <tr><td>Input 8 0x0008</td><td>0</td><td>Output 8 0x0408</td><td>0</td><td>Send</td></tr> <tr><td>Input 9 0x0009</td><td>0</td><td>Output 9 0x0409</td><td>0</td><td>Send</td></tr> <tr><td>Input 10 0x000a</td><td>0</td><td>Output 10 0x040A</td><td>0</td><td>Send</td></tr> <tr><td>Input 11 0x000b</td><td>0</td><td>Output 11 0x040B</td><td>0</td><td>Send</td></tr> <tr><td>Input 12 0x000c</td><td>0</td><td>Output 12 0x040C</td><td>0</td><td>Send</td></tr> <tr><td>Input 13 0x000d</td><td>0</td><td>Output 13 0x040D</td><td>0</td><td>Send</td></tr> <tr><td>Input 14 0x000e</td><td>0</td><td>Output 14 0x040E</td><td>0</td><td>Send</td></tr> <tr><td>Input 15 0x000f</td><td>0</td><td>Output 15 0x040F</td><td>0</td><td>Send</td></tr> <tr><td>Input 16 0x0010</td><td>0</td><td>Output 16 0x0410</td><td>0</td><td>Send</td></tr> </tbody> </table>	Address	Value				Input 1 0x0001	0	Output 1 0x0401	0	Send	Input 2 0x0002	0	Output 2 0x0402	0	Send	Input 3 0x0003	0	Output 3 0x0403	0	Send	Input 4 0x0004	0	Output 4 0x0404	0	Send	Input 5 0x0005	0	Output 5 0x0405	0	Send	Input 6 0x0006	0	Output 6 0x0406	0	Send	Input 7 0x0007	0	Output 7 0x0407	0	Send	Input 8 0x0008	0	Output 8 0x0408	0	Send	Input 9 0x0009	0	Output 9 0x0409	0	Send	Input 10 0x000a	0	Output 10 0x040A	0	Send	Input 11 0x000b	0	Output 11 0x040B	0	Send	Input 12 0x000c	0	Output 12 0x040C	0	Send	Input 13 0x000d	0	Output 13 0x040D	0	Send	Input 14 0x000e	0	Output 14 0x040E	0	Send	Input 15 0x000f	0	Output 15 0x040F	0	Send	Input 16 0x0010	0	Output 16 0x0410	0	Send
Address	Value																																																																																						
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Input 9 0x0009	0	Output 9 0x0409	0	Send																																																																																			
Input 10 0x000a	0	Output 10 0x040A	0	Send																																																																																			
Input 11 0x000b	0	Output 11 0x040B	0	Send																																																																																			
Input 12 0x000c	0	Output 12 0x040C	0	Send																																																																																			
Input 13 0x000d	0	Output 13 0x040D	0	Send																																																																																			
Input 14 0x000e	0	Output 14 0x040E	0	Send																																																																																			
Input 15 0x000f	0	Output 15 0x040F	0	Send																																																																																			
Input 16 0x0010	0	Output 16 0x0410	0	Send																																																																																			

Schritt	Beschreibung	Bild																	
5	Drücken Sie auf <b>Change Configuration</b> ( <b>Konfiguration ändern</b> ), um die IP-Adresse festzulegen.	 <p>KUNBUS-GW EtherNet/IP™</p> <p><a href="#">Log Out</a></p> <p>Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output</p> <p>Modbus Register 0x0001 - 0x0010 and 0x0401 - 0x0410 Modbus Register 0x0011 - 0x0020 and 0x0411 - 0x0420 Modbus Register 0x0021 - 0x0030 and 0x0421 - 0x0430 Modbus Register 0x0031 - 0x0040 and 0x0431 - 0x0440</p> <p>Show Show Show Show</p> <p><b>Configuration</b></p> <p>Serial number: 594 Software Version: 1.1.944 MAC Address: c8:3e:37:00:0b:10 IP address: 192.168.1.8 Network Mask: 255.255.255.0 Gateway: 192.168.1.1 DHCP: <input type="checkbox"/> active</p> <p><a href="#">Download ECF file</a></p> <p><b>Change Configuration</b> <b>Change Password</b> <b>Reboot</b></p>																	
6	<p>Ändern Sie die IP-Adresse entsprechend der Gateway-Adresse.</p> <p>Drücken Sie zum Bestätigen auf <b>Apply</b> (<b>Anwenden</b>).</p> <p>Stellen Sie alle DIP-Schalter auf AUS.</p> <p>Schalten Sie das Gateway aus, und starten Sie es erneut. Die neue IP-Adresse wird nun verwendet.</p>	 <p>KUNBUS-GW EtherNet/IP™</p> <p><b>Change Configuration</b></p> <table border="1"> <tr> <td>DHCP</td> <td><input type="checkbox"/> active</td> <td>Old Value</td> <td><input type="checkbox"/> active</td> <td>New Value</td> </tr> <tr> <td>IP Address</td> <td>192.168.1.8</td> <td>192.168.1.8</td> <td>192.168.1.8</td> </tr> <tr> <td>Network Mask</td> <td>255.255.255.0</td> <td>255.255.255.0</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>192.168.1.1</td> <td>192.168.1.1</td> <td>192.168.1.1</td> </tr> </table> <p><b>Apply</b> <b>Abort</b></p>	DHCP	<input type="checkbox"/> active	Old Value	<input type="checkbox"/> active	New Value	IP Address	192.168.1.8	192.168.1.8	192.168.1.8	Network Mask	255.255.255.0	255.255.255.0	255.255.255.0	Gateway	192.168.1.1	192.168.1.1	192.168.1.1
DHCP	<input type="checkbox"/> active	Old Value	<input type="checkbox"/> active	New Value															
IP Address	192.168.1.8	192.168.1.8	192.168.1.8																
Network Mask	255.255.255.0	255.255.255.0	255.255.255.0																
Gateway	192.168.1.1	192.168.1.1	192.168.1.1																

## Kapitel 8 Konfiguration des Profinet-Gateways

Schritt	Beschreibung	Bild								
1	<ul style="list-style-type: none"> <li>Schließen Sie das Profinet-Gateway über den LAN-zu-LAN-Adapter an den PC an.</li> <li>Siehe <a href="#">Einführung</a> auf Seite 25. Nutzen Sie den Link bei GATEWAY Profinet-IRT Slave. Befolgen Sie die Anweisungen im Benutzerhandbuch des Herstellers <i>Gateway-Komponente für PROFINET</i>.</li> <li>Verwenden Sie die Software PRONETA, um den Namen auf <b>kunbus-gw-profinet</b> einzustellen.</li> <li>Geben Sie die verwendete <b>IP-Adresse</b> ein.</li> </ul>	<p>The screenshot shows the Siemens PRONETA software interface. On the left, there's a graphical view with icons for 'de-3dynet2-p' (PRONETA) and 'cb-3e-a7-00-26-05' (KUNBUS-GW Profinet TPS-1). On the right, a 'Geräteabelle - Online' (Device Table - Online) window is open, displaying a single row of data:</p> <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Gerätetyp</th> <th>IP-Adresse</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>cb-3e-a7-00-26-05</td> <td>KUNBUS-GW Profinet TPS-1</td> <td>192.168.1.10</td> </tr> </tbody> </table> <p>Two specific fields are highlighted with red circles and arrows pointing to them: 'Name' (containing 'kunbus-gw-profinet') and 'IP-Address' (containing '192.168.1.10').</p>	#	Name	Gerätetyp	IP-Adresse	1	cb-3e-a7-00-26-05	KUNBUS-GW Profinet TPS-1	192.168.1.10
#	Name	Gerätetyp	IP-Adresse							
1	cb-3e-a7-00-26-05	KUNBUS-GW Profinet TPS-1	192.168.1.10							
2	<p>Öffnen Sie den Browser und geben Sie die IP-Adresse ein. Anmelddaten für die Erstanmeldung: Benutzer: Admin Passwort: 1701 Drücken Sie auf <b>Login (Anmelden)</b>.</p>	<p>The screenshot shows a web-based login interface with the title 'KUNBUS-GW PROFINET TPS-1'. It has two input fields: 'Username:' containing 'Admin' and 'Password:' containing '1701'. Below the password field is a redacted password placeholder. A 'Login' button is at the bottom.</p>								

Schritt	Beschreibung	Bild																
3	Drücken Sie auf <b>Show (Anzeigen)</b> (A), um die Eingabedaten anzuzeigen.	 <p>KUNBUS-GW PROFINET TPS-1</p> <p>A</p> <p>Input data (from neighbour device) <input type="button" value="Show"/></p> <p>Output data (from PROFINET Controller) <input type="button" value="Show"/></p> <p><b>Configuration</b></p> <table> <tbody> <tr><td>Serial number</td><td>4581</td></tr> <tr><td>Software Version</td><td>1.2</td></tr> <tr><td>MAC Address</td><td>c8:3e:a7:01:2c:3a</td></tr> <tr><td>IP address</td><td>192.168.0.230</td></tr> <tr><td>Subnet mask</td><td>255.255.255.0</td></tr> <tr><td>Gateway</td><td>0.0.0.0</td></tr> <tr><td>IO Controller state</td><td>no AR established, access from web page possible</td></tr> <tr><td>PROFINET Name of Station</td><td>kunbus-gw-profinet</td></tr> </tbody> </table> <p><input type="button" value="Change Password"/></p>	Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:2c:3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
Serial number	4581																	
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4	<p>Es werden alle vom Controller an das Profinet-Gateway gesendeten Daten angezeigt.</p> <p>Der Controller und das Profinet-Gateway übertragen den Datenbereich 0000 - 01BF, d.h. einen Bereich von 448 Byte oder 112 Float oder 224 Integer oder eine Kombination daraus, basierend auf dem Telegrammtyp des Modbus-TCP im Controller.</p>	<p><b>KUNBUS-GW PROFINET TPS-1</b></p> <p><b>Input (from neighbour device)</b></p> <p>Main page</p> <table border="1"> <thead> <tr> <th>Address</th> <th>0</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr><td>0x0000</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0010</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0020</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0030</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0040</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> 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<tr><td>0x0150</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0160</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0170</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0180</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0190</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x01A0</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x01B0</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x01C0</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> 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# Kapitel 9 Fehlerbehebung

## 9.1 Fehlerbehebung bei RevPi

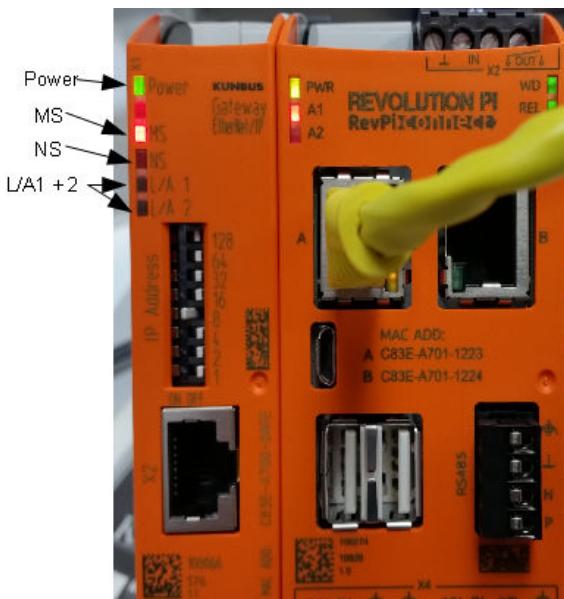
Abbildung 4 RevPi Grundmodul



Meldung	Beschreibung	Lösung
LED A2 blinks rot.	Die Verbindung wurde unterbrochen.	<ul style="list-style-type: none"><li>• Schließen Sie das Netzwerkkabel (Kabel oder Router) an.</li><li>• Stellen Sie die Modbus-Adresseinstellung in Claros auf 1 ein.</li><li>• Schalten Sie Modbus-TCP im Claros Menü ein.</li></ul>
LED A3 blinks langsam rot.	Die Konfiguration von Ethernet/IP- und Profinet-Gateway ist nicht korrekt.	Siehe <a href="#">Start der USB-Konfiguration</a> auf Seite 27, Schritt 4, und wählen Sie den richtigen Gateway-Typ aus: <ul style="list-style-type: none"><li>• en – Ethernet/IP</li><li>• pn – Profinet</li></ul>

## 9.2 Fehlerbehebung bei Ethernet/IP

Abbildung 5 Ethernet/IP-Gateway

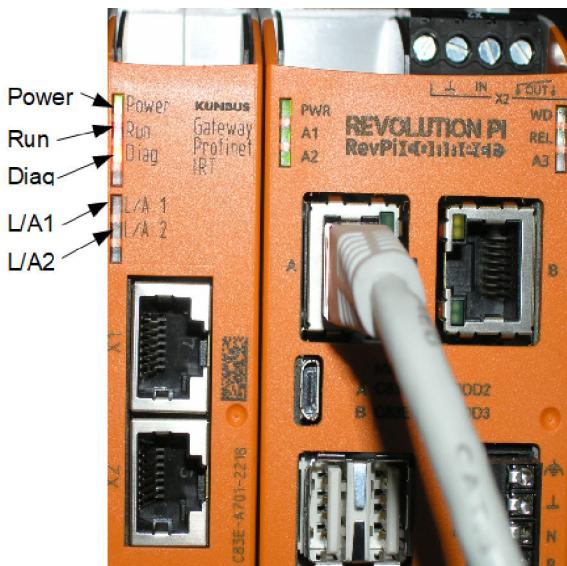


Meldung	Beschreibung	Lösung
Die Power-LED leuchtet nicht.	Das Ethernet/IP-Gateway ist ausgeschaltet.	Schalten Sie das Gerät ein.
Die Power-LED blinkt grün.	Der Startvorgang ist nicht abgeschlossen.	Warten Sie einige Minuten.
Die Power-LED blinkt rot.	Dies zeigt eine Warnung an.	Überprüfen Sie, ob alle Geräte angeschlossen sind.
Die Power-LED leuchtet rot.	Dies zeigt einen Fehler an.	Das Ethernet/IP-Gateway ist defekt. Tauschen Sie das Ethernet/IP-Gateway aus.
Die MS-LED leuchtet nicht.	Das Ethernet/IP-Gateway ist ausgeschaltet.	Schalten Sie das Gerät ein.
Die MS-LED blinkt grün.	Die Konfiguration ist nicht abgeschlossen.	Warten Sie einige Minuten.
Die MS-LED blinkt rot.	Dies zeigt einen Konfigurationsfehler an.	Informationen zur Konfiguration finden Sie unter <a href="#">Konfiguration des Ethernet/IP-Gateways</a> auf Seite 38.
Die MS-LED leuchtet rot.	Dies zeigt einen Fehler an.	Das Ethernet/IP-Gateway ist defekt. Tauschen Sie das Ethernet/IP-Gateway aus.
Die MS-LED blinkt rot und grün.	Der Selbsttest ist nicht abgeschlossen.	Warten Sie einige Minuten.

Meldung	Beschreibung	Lösung
Die NS-LED leuchtet nicht.	Das Ethernet/IP-Gateway ist ausgeschaltet oder hat keine IP-Adresse.	Schalten Sie das Gerät ein. Stellen Sie die IP-Adresse ein.
Die NS-LED blinkt grün.	Die IP-Adresse ist festgelegt, aber die CIP-Verbindung wurde nicht hergestellt.	Warten Sie einige Minuten.
Die NS-LED blinkt rot.	Die CIP-Verbindung wurde getrennt.	Prüfen Sie, ob eine Zeitüberschreitung vorliegt.
Die NS-LED leuchtet rot.	Die ausgewählte IP-Adresse wird von einem anderen Gerät verwendet.	Ändern Sie die IP-Adresse auf eine eindeutige IP-Adresse.
Die LED L/A 1 oder 2 leuchtet nicht.	Es besteht keine Verbindung zu anderen Geräten.	Schließen Sie ein Gerät an.
Die LED L/A 1 oder 2 blinkt grün.	Kein Datenaustausch.	Warten Sie bis zum nächsten Datenaustausch.

## 9.3 Fehlerbehebung bei Profinet

Abbildung 6 Profinet-Gateway



Meldung	Beschreibung	Lösung
Die Power-LED leuchtet nicht.	Das Profinet-Gateway ist ausgeschaltet.	Schalten Sie das Gerät ein.
Die Power-LED blinkt grün.	Der Startvorgang ist nicht abgeschlossen.	Warten Sie einige Minuten.
Die Power-LED blinkt rot.	Dies zeigt eine Warnung an.	Überprüfen Sie, ob alle Geräte installiert sind.

Meldung	Beschreibung	Lösung
Die Power-LED leuchtet rot.	Dies zeigt einen Fehler an.	Das Profinet-Gateway ist defekt. Tauschen Sie das Profinet-Gateway aus.
Die Run-LED leuchtet nicht.	Keine Verbindung zu einem Netzwerk.	Stellen Sie eine Verbindung zu einem Netzwerk her.
Die Run-LED blinkt grün.	Profinet-Controller ist verbunden, es erfolgt aber kein Datenaustausch.	Warten Sie bis zum nächsten Datenaustausch.
Die Run-LED blinkt langsam grün.	Ausgelöst vom Tool zur Identifizierung der Gateway-Komponente.	Warten Sie einige Minuten.
Die Diag-LED blinkt rot.	Ausgelöst vom Tool zur Identifizierung der Gateway-Komponente.	Warten Sie einige Minuten.
Die Diag-LED blinkt schnell rot.	Keine Verbindung mit dem Controller. Kein Profinet-Name im Modul festgelegt.	Informationen zum Festlegen des Namens finden Sie unter <a href="#">Konfiguration des Profinet-Gateways</a> auf Seite 41.
Die Diag-LED leuchtet rot.	Ein Gateway-Gerät meldet Diagnosedaten.	Lesen Sie den Diagnosebericht.
Die LED L/A 1 oder 2 leuchtet nicht.	Keine Verbindung zu einem Netzwerk.	Stellen Sie eine Verbindung zu einem Netzwerk her.
Die LED L/A 1 oder 2 blinkt grün.	Datenaustausch.	Warten Sie, bis der Datenaustausch abgeschlossen ist.

# Table des matières

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|---|---|
| 1 Usage prévu à la page 48  | 7 Configurez la passerelle Ethernet/IP à la page 60 |
| 2 Introduction à la page 48   | 8 Configurez la passerelle Profinet à la page 63    |
| 3 Démarrez la configuration USB à la page 50                                | 9 Dépannage à la page 66                            |
| 4 Exemples d'installation à la page 52                                      |   |
| 5 Configuration du télégramme Modbus TCP du contrôleur SC4200c à la page 54 |   |
| 6 Configuration du télégramme Modbus TCP du contrôleur SC1500 à la page 57  |   |

## Section 1 Usage prévu

Ces instructions de configuration sont destinées à être utilisées par des personnes qui intègrent une passerelle Ethernet/IP externe ou une passerelle Profinet comme composants matériels du réseau Claros.

## Section 2 Introduction

Le fabricant décline toute responsabilité quant aux dégâts liés à une application ou un usage inappropriés de ce produit, y compris, sans s'y limiter, des dommages directs ou indirects ainsi que des dommages consécutifs, et rejette toute responsabilité quant à ces dommages dans la mesure où la loi applicable le permet. L'utilisateur est seul responsable de la vérification des risques d'application critiques et de la mise en place de mécanismes de protection des processus en cas de défaillance de l'équipement.

### **DANGER**



Risque d'électrocution. Débranchez systématiquement l'alimentation de l'appareil avant tout branchement électrique.

### Éléments à réunir :

- Clé USB formatée FAT32
- PC avec Windows<sup>1</sup> 10
- Module :
  - Pour le déploiement Ethernet/IP :
    - LXZ446.99.00001 : module de base RevPi PASSERELLE IIoT
    - LXZ446.99.00002 : PASSERELLE esclave Ethernet/IP
    - LXZ446.99.00003 : cavalier pour PiBridge
  - Pour le déploiement Profinet :
    - LXZ446.99.00001 : module de base RevPi PASSERELLE IIoT
    - LXZ446.99.00007 : PASSERELLE esclave IRT Profinet
    - LXZ446.99.00003 : cavalier pour PiBridge

Connectez les trois modules RevPi, Slave et PiBridge à l'alimentation et au réseau local.

Reportez-vous aux liens du tableau ci-dessous pour plus d'informations concernant le fabricant des modules.

<sup>1</sup> Microsoft® Windows® est une marque déposée de Microsoft Corporation aux Etats-Unis et dans d'autres pays.

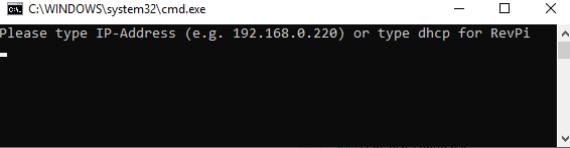
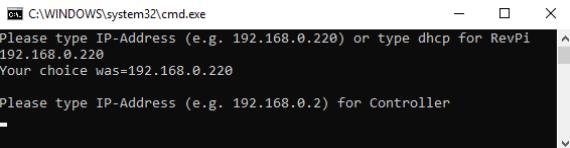
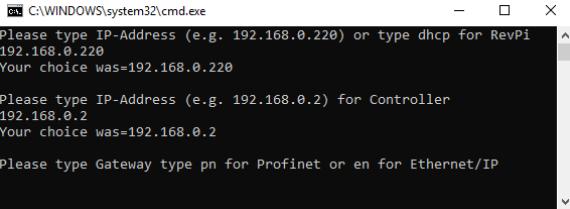
Module	Liaison
PASSERELLE Esclave IRT Profinet	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
PASSERELLE esclave Ethernet/IP	<a href="https://www.kunbus.com/ethernet-ip-gateway-module.html">https://www.kunbus.com/ethernet-ip-gateway-module.html</a>
Module de base RevPi PASSERELLE IIoT	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>
Comment connecter les modules RevPi	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>
Comment installer des modules RevPi sur un rail DIN	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
Comment brancher l'alimentation	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

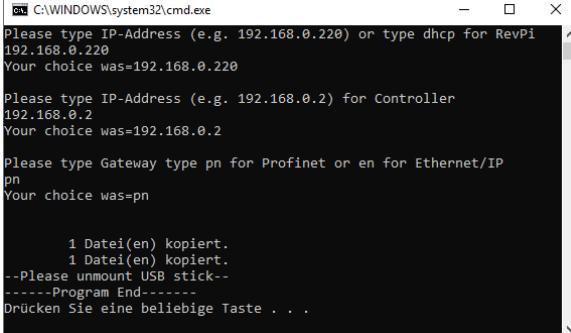
## Préparez la clé USB

1. Insérez une clé USB vide dans le PC.
2. Rendez-vous sur <https://www.hach.com> et recherchez les mots-clés « installation usb ethernet/IP » ou « installation usb profinet ».
3. Téléchargez USB\_ETHIP\_PRNET.zip.
4. Décompressez le fichier dans le répertoire racine de la clé USB.

## Section 3 Démarrez la configuration USB

Insérez la clé USB préparée dans le PC.

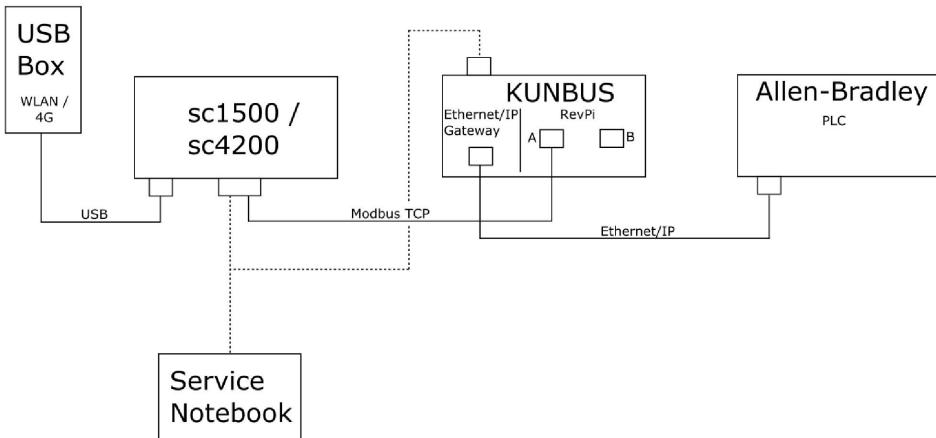
Etape	Description	Image
1	Exécutez start_usb_config.bat. Une fenêtre de borne s'ouvre. Suivez le guide étape par étape.	
2	Saisissez l'adresse IP du module RevPi.	
3	Saisissez l'adresse IP du contrôleur SC. Assurez-vous que le préfixe réseau est identique à celui du module RevPi (par exemple, 192.168.0).  Assurez-vous que l'identificateur d'hôte est différent du module RevPi (par exemple, 220 RevPi, 2 contrôleurs).	
4	Saisissez le type de passerelle : <ul style="list-style-type: none"><li>• pn—Profinet</li><li>• en—Ethernet/IP</li></ul>	  

Etape	Description	Image
5	Confirmez les réglages en appuyant sur Enter (Entrée). Retirez la clé USB.	
6	Insérez la clé USB dans le port USB gauche du module RevPi.	
7	<p>Description des VOYANTS :</p> <ul style="list-style-type: none"> <li>A1/A2 orange : l'installation de RevPi démarre.</li> <li>A1 rouge, A2 éteint : insertion clé USB dans RevPi.</li> <li>A1 vert, A2 éteint : la clé USB a bien été insérée.</li> <li>A1 désactivé, A2 vert : RevPi télécharge en amont/en aval les données depuis la clé USB.</li> <li>A3 rouge : le RevPi redémarre.</li> </ul> <p>Lorsque A3 est rouge, retirez la clé USB.</p>	
8	Les paramètres RevPi sont appliqués.	

## Section 4 Exemples d'installation

Figure 1 présente une installation avec deux connexions LAN différentes.

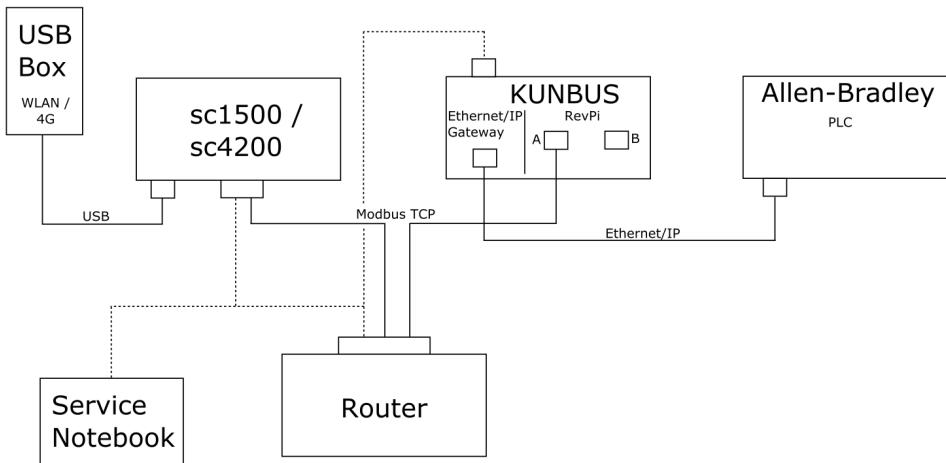
Figure 1 Exemple 1



- TCP Modbus et Ethernet/IP utilisent deux connexions LAN différentes.
- Tous les périphériques ont une adresse IP statique.
- Le contrôleur dispose d'un accès à Internet avec connexion Wi-Fi ou cellulaire.
- Pour configurer l'adresse IP du contrôleur et de la passerelle Ethernet/IP, un ordinateur portable est nécessaire.

Figure 2 présente une installation avec un routeur pour la connexion TCP Modbus.

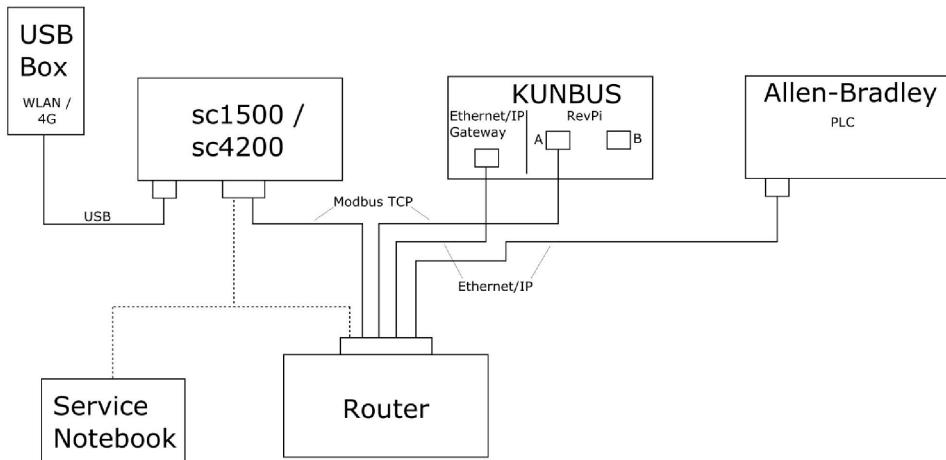
Figure 2 Exemple 2



- Le TCP Modbus est connecté à un routeur.
- Tous les périphériques ont une adresse IP statique ou le routeur définit l'adresse IP via DHCP.  
*Remarque : Assurez-vous que le routeur utilise toujours la même adresse IP pour les mêmes périphériques (MAC) si DHCP est utilisé.*
- Le contrôleur dispose d'un accès à Internet avec connexion Wi-Fi ou cellulaire.
- Pour configurer l'adresse IP du contrôleur et de la passerelle Ethernet/IP, ainsi que les paramètres du routeur, un ordinateur portable est nécessaire.

Figure 3 présente une installation avec un routeur ou un commutateur pour tous les périphériques.

Figure 3 Exemple 3

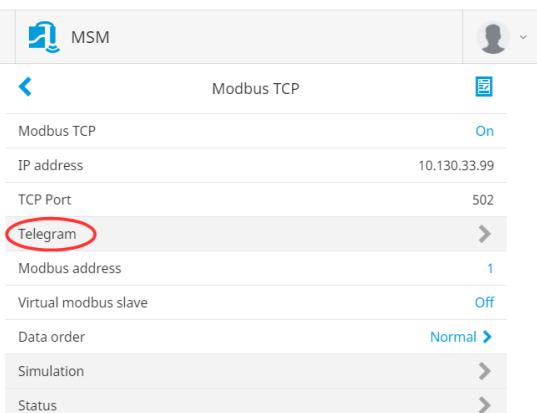


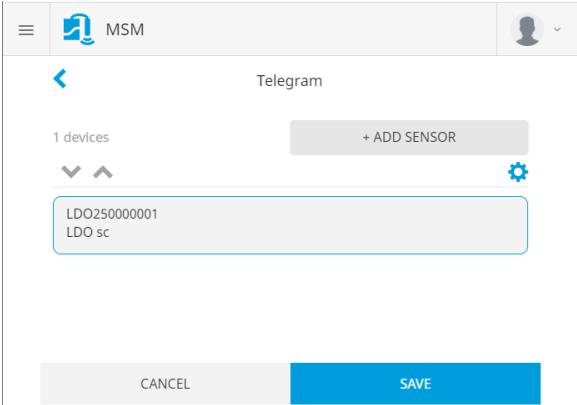
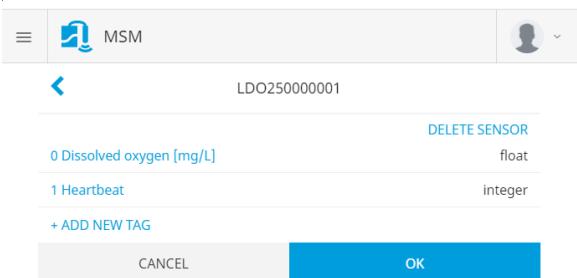
- Tous les périphériques sont connectés à un routeur ou à un commutateur.

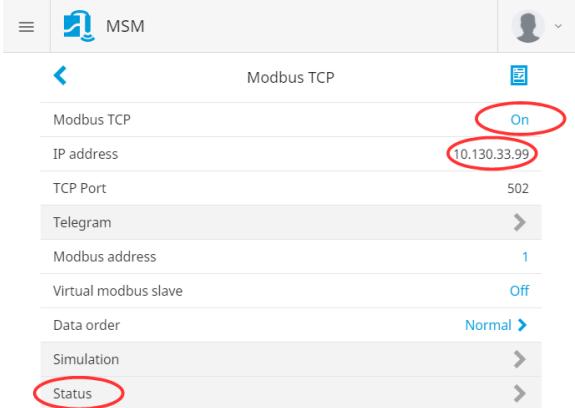
- Tous les périphériques ont une adresse IP statique ou le routeur ou commutateur définit l'adresse IP via DHCP.  
*Remarque : Assurez-vous que le routeur utilise toujours la même adresse IP pour les mêmes périphériques (MAC) si DHCP est utilisé.*
- Le contrôleur dispose d'un accès à Internet avec connexion Wi-Fi ou cellulaire.
- Pour configurer l'adresse IP du contrôleur et les paramètres du routeur, un ordinateur portable est nécessaire.

## Section 5 Configuration du télégramme Modbus TCP du contrôleur SC4200c

Démarrez l'application Claros et suivez le guide étape par étape.

Etape	Description	Image
1	Sélectionnez le menu du contrôleur, puis appuyez sur <b>Modbus TCP</b> .	
2	Sélectionnez <b>Telegram</b> ( <b>Télégramme</b> ) pour définir le télégramme TCP Modbus.	

Etape	Description	Image
3	<p>Le télégramme illustré est un exemple pour le capteur sc LDO.</p> <p>Définissez le battement de cœur sur entier. Le battement de cœur est un compteur qui affiche la mise à jour de la valeur par incrément d'une seconde.</p> <p><i>Remarque : Le contenu du télégramme TCP Modbus est identique au télégramme Profibus.</i></p>	 

Etape	Description	Image																																				
4	<p>Le menu TCP Modbus affiche l'adresse IP du contrôleur. <b>10.130.33.99</b> est l'adresse IP définie dans le menu de maintenance du contrôleur. Définissez le TCP Modbus sur <b>On (Activé)</b>, puis appuyez sur <b>Status (Etat)</b>.</p>																																					
5	<p>Le menu Status (Etat) affiche les statistiques TCP Modbus. <b>10.130.33.50</b> est l'adresse IP du module RevPi. Le RevPi dispose de 5 TCP Modbus maîtres.</p>	 <table border="1"> <thead> <tr> <th>Client</th> <th>10.130.33.50:46338</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Client</th> <th>10.130.33.50:46340</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Client</th> <th>10.130.33.50:46342</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table>	Client	10.130.33.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	10.130.33.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	10.130.33.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Section 6 Configuration du télégramme Modbus TCP du contrôleur SC1500

Démarrez l'application Claros et suivez le guide étape par étape.

Etape	Description	Image
1	Sélectionnez le menu du contrôleur, puis appuyez sur <b>Modbus TCP</b> .	<p>The screenshot shows the SC1500 controller's configuration interface. At the top, it displays the model number '1694389 - sc1500'. Below this, there are three numbered options: 1 1327087 - AN-ISE sc, 2 1555058 - AN-ISE sc, and 3 LDO 2009 - LDO sc. Further down, there are two more options: 000000074854 - mA output and 000005009872 - Profibus. A section labeled 'Historical data' contains two items: 'Modbus TCP' and 'Modbus TCP'. The 'Modbus TCP' item is circled in red.</p>
2	Sélectionnez <b>Telegram</b> ( <b>Télégramme</b> ) pour définir le télégramme TCP Modbus.	<p>This screenshot shows the 'Modbus TCP' configuration screen. It includes settings for IP address (192.168.178.47), TCP Port (502), and a list of parameters. The 'Telegram' parameter is circled in red. Other visible parameters include Modbus address (1), Virtual modbus slave (Off), Data order (Normal), Simulation, and Status.</p>

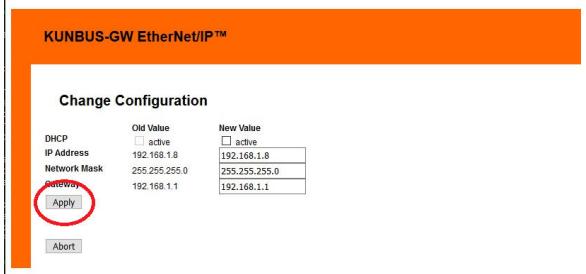
Etape	Description	Image
3	<p>Le télégramme illustré est un exemple pour le capteur sc LDO.</p> <p>Définissez le battement de cœur sur entier. Le battement de cœur est un compteur qui affiche la mise à jour de la valeur par incrément d'une seconde.</p> <p><i>Remarque : Le contenu du télégramme TCP Modbus est identique au télégramme Profibus.</i></p>	<p>Telegram</p> <p>1 devices</p> <p>+ ADD SENSOR</p> <p>LDO 2009 LDO sc</p> <p>CANCEL      SAVE</p> <p>LDO 2009</p> <p>DELETE SENSOR</p> <p>0 Dissolved oxygen [mg/L]      float</p> <p>1 Heartbeat      integer</p> <p>+ ADD NEW TAG</p> <p>CANCEL      OK</p>

Etape	Description	Image																																								
4	<p>Le menu TCP Modbus affiche l'adresse IP du contrôleur. <b>192.168.178.47</b> est l'adresse IP définie dans le menu de maintenance du contrôleur.</p> <p>Définissez le TCP Modbus sur <b>On (Activé)</b>, puis appuyez sur <b>Status (Etat)</b>.</p>	<table border="1"> <tr><td>Modbus TCP</td><td>On</td></tr> <tr><td>IP address</td><td>192.168.178.47</td></tr> <tr><td>TCP Port</td><td>502</td></tr> <tr><td>Telegram</td><td></td></tr> <tr><td>Modbus address</td><td>1</td></tr> <tr><td>Virtual modbus slave</td><td>Off</td></tr> <tr><td>Data order</td><td>Normal &gt;</td></tr> <tr><td>Simulation</td><td></td></tr> <tr><td>Status</td><td></td></tr> </table>	Modbus TCP	On	IP address	192.168.178.47	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal >	Simulation		Status																							
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5	<p>Le menu Status (Etat) affiche les statistiques TCP Modbus. <b>192.168.178.50</b> est l'adresse IP du module RevPi. Le RevPi dispose de 7 TCP Modbus maîtres.</p>	<table border="1"> <tr><td>Client</td><td>192.168.178.50:46338</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td> </td><td> </td></tr> <tr><td>Client</td><td>192.168.178.50:46340</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td> </td><td> </td></tr> <tr><td>Client</td><td>192.168.178.50:46342</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> </table>	Client	192.168.178.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0			Client	192.168.178.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0			Client	192.168.178.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Section 7 Configurez la passerelle Ethernet/IP

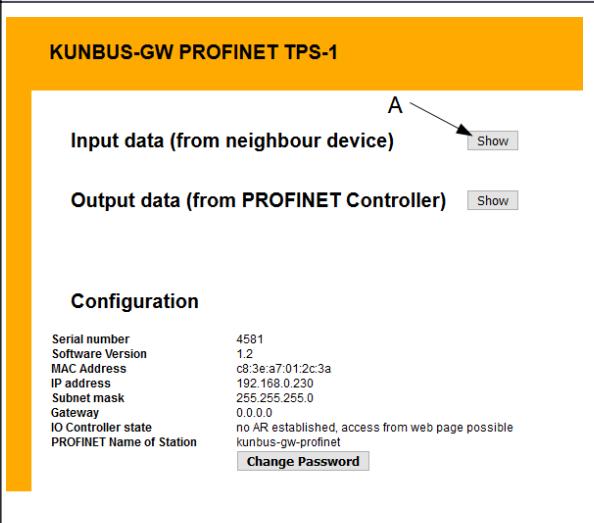
Etape	Description	Image
1	<ul style="list-style-type: none"> <li>Connectez la passerelle Ethernet/IP au PC au moyen du câble adaptateur LAN&gt;USB.</li> <li>Reportez-vous à la section <b>Introduction</b> à la page 48. Utilisez le lien de l'esclave PASSERELLE Ethernet/IP. Suivez les instructions du manuel d'utilisateur du fabricant, <i>Composant passerelle pour Ethernet/IP</i>.</li> <li>Utilisez le commutateur d'adresse à 8 broches (A) pour définir l'identificateur d'hôte au format binaire de la passerelle. <ul style="list-style-type: none"> <li>Exemple : définissez l'hôte sur 8: 00010000</li> </ul> </li> <li>Ouvrez le site Web <a href="http://192.168.1.X">http://192.168.1.X</a> (X = somme de tous les commutateurs réglés sur ON).</li> </ul>	
2	<p>Ouvrez le navigateur et saisissez l'adresse IP 192.168.1.X.</p> <p>Données pour la première connexion :</p> <p>Utilisateur : Admin Mot de passe : 1701 Appuyez sur <b>Login (Connexion)</b>.</p>	

Etape	Description	Image																																																																				
3	<p>Le contrôleur et la passerelle Ethernet/IP transfèrent la zone de données 0000 - 01BF, qui est une plage de 448 octets ou 112 flotteurs ou 224 entiers ou une combinaison de ces éléments, en fonction du type de télégramme du TCP Modbus dans le contrôleur.</p> <p><b>Remarque :</b> Seule la première plage de données à 32 entiers s'affiche. Affichez toutes les données de l'API (224 entiers).</p> <p>Appuyez sur <b>Show</b> (<b>Afficher</b>).</p>	<table border="1"> <thead> <tr> <th>Address</th> <th>Value</th> <th>Address</th> <th>Value</th> </tr> </thead> <tbody> <tr><td>Input 1 0x0001</td><td>0</td><td>Output 1 0x0401</td><td>0</td></tr> <tr><td>Input 2 0x0002</td><td>0</td><td>Output 2 0x0402</td><td>0</td></tr> <tr><td>Input 3 0x0003</td><td>0</td><td>Output 3 0x0403</td><td>0</td></tr> <tr><td>Input 4 0x0004</td><td>0</td><td>Output 4 0x0404</td><td>0</td></tr> <tr><td>Input 5 0x0005</td><td>0</td><td>Output 5 0x0405</td><td>0</td></tr> <tr><td>Input 6 0x0006</td><td>0</td><td>Output 6 0x0406</td><td>0</td></tr> <tr><td>Input 7 0x0007</td><td>0</td><td>Output 7 0x0407</td><td>0</td></tr> <tr><td>Input 8 0x0008</td><td>0</td><td>Output 8 0x0408</td><td>0</td></tr> <tr><td>Input 9 0x0009</td><td>0</td><td>Output 9 0x0409</td><td>0</td></tr> <tr><td>Input 10 0x000a</td><td>0</td><td>Output 10 0x040A</td><td>0</td></tr> <tr><td>Input 11 0x000b</td><td>0</td><td>Output 11 0x040B</td><td>0</td></tr> <tr><td>Input 12 0x000c</td><td>0</td><td>Output 12 0x040C</td><td>0</td></tr> <tr><td>Input 13 0x000d</td><td>0</td><td>Output 13 0x040D</td><td>0</td></tr> <tr><td>Input 14 0x000e</td><td>0</td><td>Output 14 0x040E</td><td>0</td></tr> <tr><td>Input 15 0x000f</td><td>0</td><td>Output 15 0x040F</td><td>0</td></tr> <tr><td>Input 16 0x0010</td><td>0</td><td>Output 16 0x0410</td><td>0</td></tr> </tbody> </table>	Address	Value	Address	Value	Input 1 0x0001	0	Output 1 0x0401	0	Input 2 0x0002	0	Output 2 0x0402	0	Input 3 0x0003	0	Output 3 0x0403	0	Input 4 0x0004	0	Output 4 0x0404	0	Input 5 0x0005	0	Output 5 0x0405	0	Input 6 0x0006	0	Output 6 0x0406	0	Input 7 0x0007	0	Output 7 0x0407	0	Input 8 0x0008	0	Output 8 0x0408	0	Input 9 0x0009	0	Output 9 0x0409	0	Input 10 0x000a	0	Output 10 0x040A	0	Input 11 0x000b	0	Output 11 0x040B	0	Input 12 0x000c	0	Output 12 0x040C	0	Input 13 0x000d	0	Output 13 0x040D	0	Input 14 0x000e	0	Output 14 0x040E	0	Input 15 0x000f	0	Output 15 0x040F	0	Input 16 0x0010	0	Output 16 0x0410	0
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Input 16 0x0010	0	Output 16 0x0410	0																																																																			
4	La zone de données sélectionnée s'affiche.																																																																					

Etape	Description	Image
5	Appuyez sur <b>Change Configuration (Modifier la configuration)</b> pour définir l'adresse IP.	 <p>KUNBUS-GW EtherNet/IP™</p> <p><a href="#">Log Out</a></p> <p>Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output</p> <p>Modbus Register 0x001 - 0x010 and 0x0401 - 0x0410 Modbus Register 0x011 - 0x020 and 0x0411 - 0x0420 Modbus Register 0x021 - 0x030 and 0x0421 - 0x0430 Modbus Register 0x031 - 0x040 and 0x0431 - 0x0440</p> <p>Show Show Show Show</p> <p><b>Configuration</b></p> <p>Serial number: 594 Software Version: 1.1.944 MAC Address: c8:3e:37:00:0b:10 IP address: 192.168.1.8 Network Mask: 255.255.255.0 Gateway: 192.168.1.1 <input type="checkbox"/> active</p> <p><a href="#">Download ECR file</a></p> <p><b>Change Configuration</b></p> <p><b>Change Configuration</b></p> <p>DHCP: <input type="checkbox"/> active IP Address: 192.168.1.8 Network Mask: 255.255.255.0 Gateway: 192.168.1.1</p> <p><b>New Value</b></p> <p><input type="checkbox"/> 192.168.1.8 <input type="checkbox"/> 255.255.255.0 <input type="checkbox"/> 192.168.1.1</p> <p><b>Buttons</b></p> <p><b>Apply</b> (circled in red) Abort</p>
6	<p>Modifiez l'adresse IP en fonction de l'adresse de la passerelle. Appuyez sur <b>Apply (Appliquer)</b> pour confirmer. Mettez tous les commutateurs DIP sur Off (Désactivé). Mettez la passerelle hors tension, puis redémarrez-la. La nouvelle adresse IP est maintenant utilisée.</p>	 <p>KUNBUS-GW EtherNet/IP™</p> <p><b>Change Configuration</b></p> <p>DHCP: <input type="checkbox"/> active IP Address: 192.168.1.8 Network Mask: 255.255.255.0 Gateway: 192.168.1.1</p> <p><b>Buttons</b></p> <p><b>Apply</b> (circled in red) Abort</p>

## Section 8 Configurez la passerelle Profinet

Etape	Description	Image
1	<ul style="list-style-type: none"> <li>Connectez la passerelle Profinet au PC à l'aide de l'adaptateur LAN&gt;LAN.</li> <li>Reportez-vous à la section <b>Introduction</b> à la page 48. Utilisez le lien de l'esclave PASSERELLE Profinet IRT. Suivez les instructions du manuel d'utilisateur du fabricant, <i>Composant passerelle pour PROFINET</i>.</li> <li>Utilisez le logiciel PRONETA pour définir le nom sur <b>kunbus-GW-profinet</b>.</li> <li>Saisissez l'<b>adresse IP</b> utilisée.</li> </ul>	<p>The screenshot shows the Siemens PRONETA software interface. On the left, there's a graphical view of network components. In the center, a table lists devices connected online. One device is highlighted with a blue oval: '8-3e-a7-00-26-05' (Hardware-ID) and 'KUNBUS-GW Profinet TPS-1' (Device Type). To the right of the table, two arrows point to specific fields: 'kunbus-gw-profinet' under 'Name' and 'IP-Address' under 'IP-Address'.</p>
2	<p>Ouvrez le navigateur et saisissez l'adresse IP. Données pour la première connexion :</p> <p>Utilisateur : Admin Mot de passe : 1701 Appuyez sur <b>Login</b> (<b>Connexion</b>).</p>	<p>The screenshot shows a web-based login interface for the KUNBUS-GW PROFINET TPS-1. It has a yellow header bar with the text 'KUNBUS-GW PROFINET TPS-1'. Below it is a form with fields for 'Username' (containing 'Admin') and 'Password' (containing four dots). A 'Login' button is at the bottom right.</p>

Etape	Description	Image																
3	Appuyez sur <b>Show (Afficher)</b> (A) pour afficher les données de saisie.	 <p>KUNBUS-GW PROFINET TPS-1</p> <p>A</p> <p><b>Input data (from neighbour device)</b> <input type="button" value="Show"/></p> <p><b>Output data (from PROFINET Controller)</b> <input type="button" value="Show"/></p> <p><b>Configuration</b></p> <table> <tbody> <tr><td>Serial number</td><td>4581</td></tr> <tr><td>Software Version</td><td>1.2</td></tr> <tr><td>MAC Address</td><td>c8:3e:a7:01:2c:3a</td></tr> <tr><td>IP address</td><td>192.168.0.230</td></tr> <tr><td>Subnet mask</td><td>255.255.255.0</td></tr> <tr><td>Gateway</td><td>0.0.0.0</td></tr> <tr><td>IO Controller state</td><td>no AR established, access from web page possible</td></tr> <tr><td>PROFINET Name of Station</td><td>kunbus-gw-profinet</td></tr> </tbody> </table> <p><input type="button" value="Change Password"/></p>	Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:2c:3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
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4	<p>Affiche toutes les données envoyées du contrôleur à la passerelle Profinet.</p> <p>Le contrôleur et la passerelle Profinet transfèrent la zone de données 0000 - 01BF, qui est une plage de 448 octets ou 112 flotteurs ou 224 entiers ou une combinaison de ces éléments, en fonction du type de télégramme du TCP Modbus dans le contrôleur.</p>	<p>KUNBUS-GW PROFINET TPS-1</p> <p>Input (from neighbour device)</p> <p>Main page</p> <table border="1"> <thead> <tr> <th>Address</th> <th>0</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr><td>0x0000</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> 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## Section 9 Dépannage

### 9.1 Dépannage du RevPi

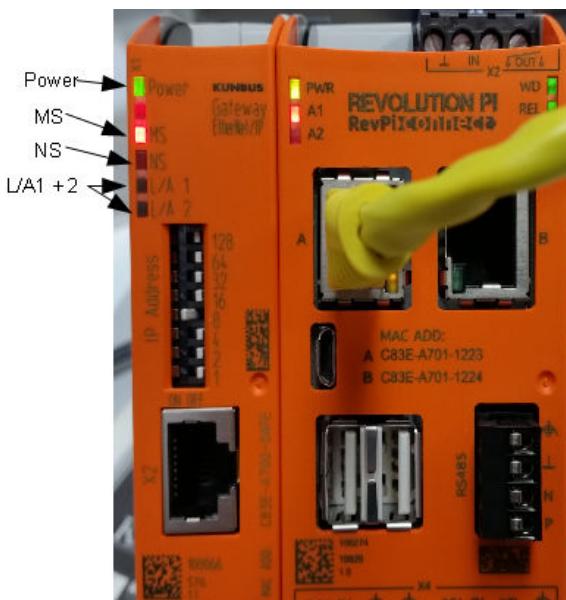
Figure 4 Module de base RevPi



Message	Description	Solution
Le voyant A2 clignote en rouge.	La communication s'est arrêtée.	<ul style="list-style-type: none"><li>Connectez le câble réseau (câble ou routeur).</li><li>Définissez le paramètre d'adresse Modbus dans Claros sur 1.</li><li>Définissez le TCP Modbus dans le menu Claros sur on (activé).</li></ul>
Le voyant A3 clignote lentement en rouge.	La configuration des passerelles Ethernet/IP et Profinet est mélangée.	Reportez-vous à la section <a href="#">Démarrez la configuration USB</a> à la page 50, étape 4 et sélectionnez le type de passerelle approprié : <ul style="list-style-type: none"><li>en – Ethernet/IP</li><li>pn – Profinet</li></ul>

## 9.2 Dépannage Ethernet/IP

Figure 5 Passerelle Ethernet/IP

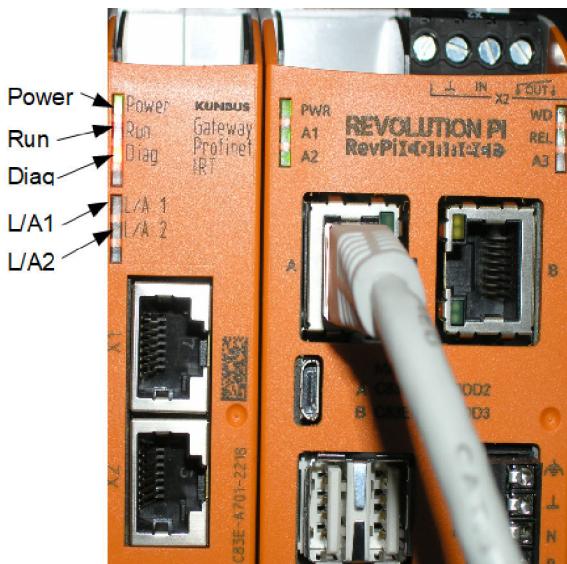


Message	Description	Solution
Le voyant d'alimentation est éteint.	La passerelle Ethernet/IP est désactivée.	Mettez l'appareil sous tension.
Le voyant d'alimentation clignote en vert.	La procédure de démarrage n'est pas terminée.	Attendez quelques minutes.
Le voyant d'alimentation clignote en rouge.	Affiche un avertissement.	Vérifiez si tous les périphériques sont connectés.
Le voyant d'alimentation est rouge.	Affiche une erreur.	La passerelle Ethernet/IP est défectueuse. Remplacez la passerelle Ethernet/IP.
Le voyant MS est éteint.	La passerelle Ethernet/IP est désactivée.	Mettez sous tension.
Le voyant MS clignote en vert.	La procédure de configuration n'est pas terminée.	Attendez quelques minutes.
Le voyant MS clignote en rouge.	Affiche une erreur de configuration.	Reportez-vous à <a href="#">Configurez la passerelle Ethernet/IP</a> à la page 60 pour vérifier la configuration.
Le voyant MS est rouge.	Affiche une erreur.	La passerelle Ethernet/IP est défectueuse. Remplacez la passerelle Ethernet/IP.
Le voyant MS clignote en rouge et en vert.	L'auto-test n'est pas terminé.	Attendez quelques minutes.

Message	Description	Solution
Le voyant NS est éteint.	La passerelle Ethernet/IP est désactivée ou n'a pas d'adresse IP.	Mettez sous tension. Définissez l'adresse IP.
Le voyant NS clignote en vert.	L'adresse IP est définie, mais la connexion CIP n'est pas établie.	Attendez quelques minutes.
Le voyant NS clignote en rouge.	La connexion CIP s'est arrêtée.	Vérifiez s'il y a une temporisation.
Le voyant NS est rouge.	L'adresse IP sélectionnée est utilisée par un autre périphérique.	Remplacez l'adresse IP par une adresse IP unique.
Le voyant L/A 1 ou 2 est éteint.	Aucune connexion à d'autres périphériques.	Connectez-vous à un périphérique.
Le voyant L/A 1 ou 2 clignote en vert.	Aucun échange de données.	Attendez le prochain échange de données.

## 9.3 Dépannage de Profinet

Figure 6 Passerelle Profinet



Message	Description	Solution
Le voyant d'alimentation est éteint.	La passerelle Profinet est désactivée.	Mettez sous tension.
Le voyant d'alimentation clignote en vert.	La procédure de démarrage n'est pas terminée.	Attendez quelques minutes.
Le voyant d'alimentation clignote en rouge.	Affiche un avertissement.	Vérifiez si tous les périphériques sont installés.

Message	Description	Solution
Le voyant d'alimentation est rouge.	Affiche une erreur.	La passerelle Profinet est défectueuse. Remplacez la passerelle Profinet.
Le voyant d'exécution est éteint.	Aucune connexion à un réseau.	Connectez-vous au réseau.
Le voyant d'exécution clignote en vert.	Le contrôleur Profinet est connecté, mais il n'y a pas d'échange de données.	Attendez le prochain échange de données.
Le voyant d'exécution clignote lentement en vert.	Déclenché par l'outil pour l'identification du composant passerelle.	Attendez quelques minutes.
Le voyant Diag clignote en rouge.	Déclenché par l'outil pour l'identification du composant passerelle.	Attendez quelques minutes.
Le voyant Diag clignote rapidement en rouge.	Aucune connexion au contrôleur. Aucun nom de Profinet défini dans le module.	Reportez-vous à la section <a href="#">Configurez la passerelle Profinet</a> à la page 63 pour définir le nom.
Le voyant Diag est rouge.	Un dispositif de passerelle rapporte des données de diagnostic.	Consultez le rapport de diagnostic.
Le voyant L/A 1 ou 2 est éteint.	Aucune connexion à un réseau.	Connectez-vous au réseau.
Le voyant L/A 1 ou 2 clignote en vert.	Echange de données.	Patiente jusqu'à la fin de l'échange de données.

## Tabla de contenidos

- |  |   |
|--|---|
| 1 Uso previsto en la página 70   | 6 Configuración del telegrama Modbus TCP del controlador SC1500 en la página 80 |
| 2 Introducción en la página 70   | 7 Configuración del gateway Ethernet/IP en la página 83                         |
| 3 Inicio de la configuración USB en la página 72                                 | 8 Configuración del gateway Profinet en la página 86                            |
| 4 Ejemplos de instalación en la página 73  | 9 Solución de problemas en la página 89   |
| 5 Configuración del telegrama Modbus TCP del controlador SC4200c en la página 77 |   |

## Sección 1 Uso previsto

Estas instrucciones de configuración están destinadas a aquellas personas que incorporan gateways Ethernet/IP o Profinet externos como componentes del hardware de la red de Claros.

## Sección 2 Introducción

El fabricante no es responsable de ningún daño debido a un mal uso de este producto incluyendo, sin limitación, daños directos, fortuitos o circunstanciales y reclamaciones sobre los daños que no estén recogidos en la legislación vigente. El usuario es el responsable de la identificación de los riesgos críticos y de tener los mecanismos adecuados de protección de los procesos en caso de un posible mal funcionamiento del equipo.

### ⚠ PELIGRO



Peligro de electrocución. Desconecte siempre la alimentación eléctrica del instrumento antes de realizar conexiones eléctricas.

### Material necesario:

- Dispositivo USB formateado como FAT32
- PC con Windows<sup>1</sup> 10
- Módulo:
  - Para la implementación de Ethernet/IP:
    - LXZ446.99.00001: módulo básico de GATEWAY IIoT RevPi
    - LXZ446.99.00002: esclavo de GATEWAY Ethernet/IP
    - LXZ446.99.00003: puente para PiBridge
  - Para la implementación de Profinet:
    - LXZ446.99.00001: módulo básico de GATEWAY IIoT RevPi
    - LXZ446.99.00007: esclavo de GATEWAY Profinet IRT
    - LXZ446.99.00003: puente para PiBridge

Conecte los tres módulos RevPi, esclavo y PiBridge a la corriente y la LAN.

Consulte los enlaces de la siguiente tabla para obtener más información del fabricante de los módulos.

<sup>1</sup> Microsoft® Windows® es una marca comercial registrada de Microsoft Corporation en Estados Unidos y otros países.

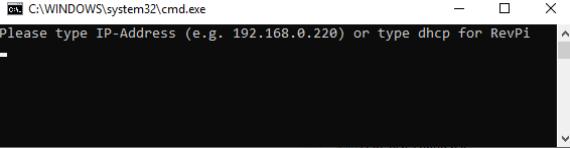
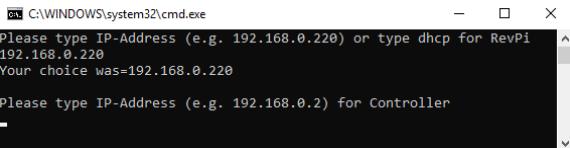
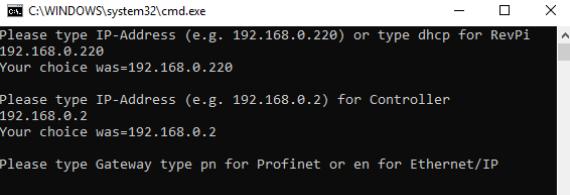
Módulo	Enlace
Esclavo de GATEWAY Profinet IRT	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
Esclavo de GATEWAY Ethernet/IP	<a href="https://www.kunbus.com/ethernet-ip-gateway-module.html">https://www.kunbus.com/ethernet-ip-gateway-module.html</a>
Módulo básico de GATEWAY IIoT RevPi	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>
Cómo conectar los módulos RevPi	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>
Cómo instalar los módulos RevPi en un raíl DIN	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
Cómo conectar la fuente de alimentación	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

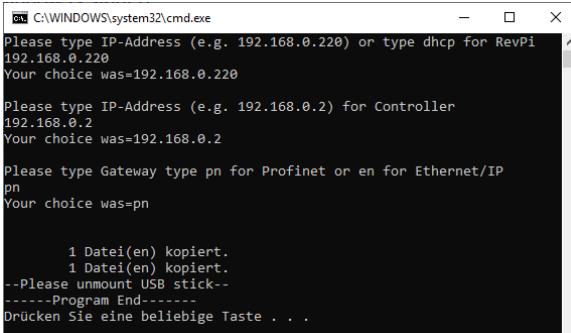
## Preparación del dispositivo USB

1. Inserte un dispositivo USB vacío en el PC.
2. Vaya a <https://www.hach.com> y busque las palabras clave "usb ethernet/IP installation" (instalación ethernet/IP usb) o "usb profinet installation" (instalación profinet usb).
3. Descargue el archivo USB\_ETHIP\_PRNET.zip.
4. Descomprima el archivo en el directorio raíz del dispositivo USB.

## Sección 3 Inicio de la configuración USB

Inserte el dispositivo USB preparado en el PC.

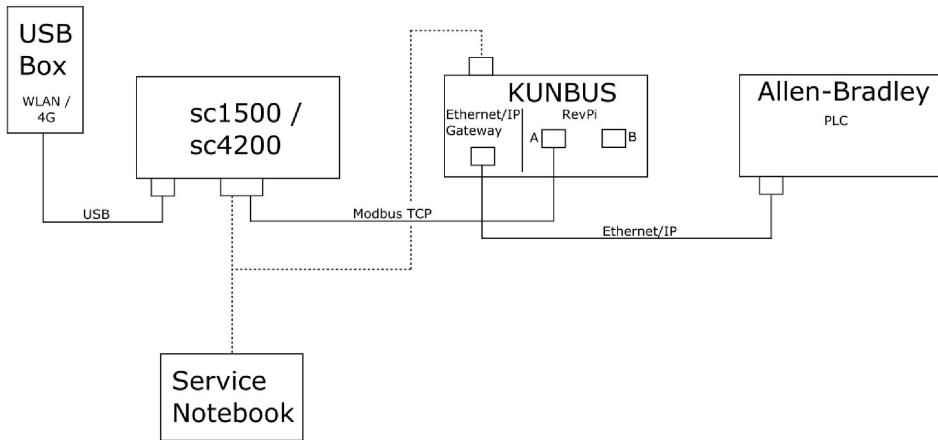
Paso	Descripción	Imagen
1	Inicie el archivo start_usb_config.bat. Se abre una ventana del terminal. Siga la guía paso a paso.	
2	Introduzca la dirección IP del módulo RevPi.	
3	Introduzca la dirección IP del controlador SC. Asegúrese de que el prefijo de la red es el mismo que el del módulo RevPi (p. ej., 192.168.0). Asegúrese de que el identificador de host es distinto al del módulo RevPi (p. ej., 220 RevPi, 2 controladores).	
4	Introduzca el tipo de gateway: <ul style="list-style-type: none"><li>• pn – Profinet</li><li>• en – Ethernet/IP</li></ul>	

Paso	Descripción	Imagen
5	Confirme la configuración con la tecla Intro. Retire el dispositivo USB.	
6	Inserte el dispositivo USB en la toma USB izquierda del módulo RevPi.	
7	Descripción del LED: <ul style="list-style-type: none"><li>A1/A2 naranja: inicio de la instalación de RevPi.</li><li>A1 rojo, A2 apagado: dispositivo USB insertado en RevPi.</li><li>A1 verde, A2 apagado: dispositivo USB insertado correctamente.</li><li>A1 apagado, A2 verde: RevPi descarga/carga los datos desde el dispositivo USB.</li><li>A3 rojo: RevPi se reinicia.</li></ul> Cuando A3 esté en rojo, retire el dispositivo USB.	
8	La configuración de RevPi se ha completado.	

## Sección 4 Ejemplos de instalación

La [Figura 1](#) muestra una instalación con dos conexiones LAN distintas.

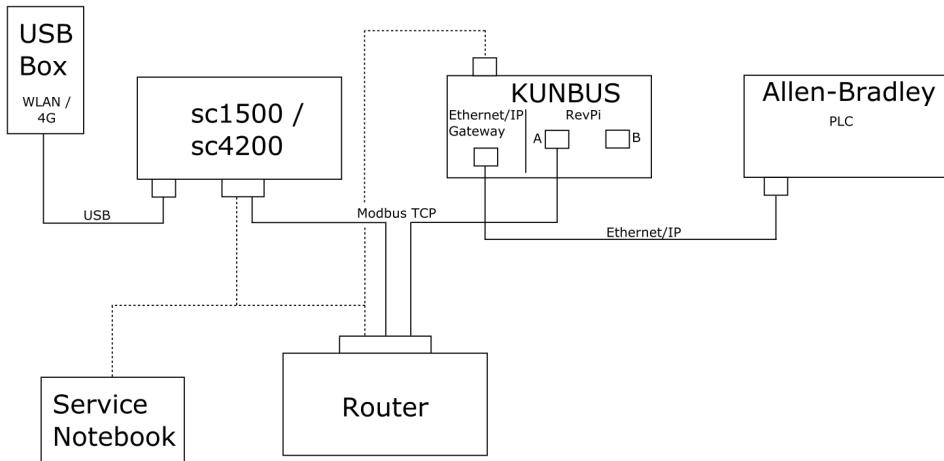
Figura 1 Ejemplo 1



- El Modbus TCP y Ethernet/IP utilizan dos conexiones LAN diferentes.
- Todos los dispositivos tienen una dirección IP estática.
- El controlador tiene acceso a Internet con WiFi o conexión móvil.
- Se requiere un ordenador portátil para establecer las direcciones IP del controlador y del gateway Ethernet/IP.

La [Figura 2](#) muestra una instalación con un router para la conexión Modbus TCP.

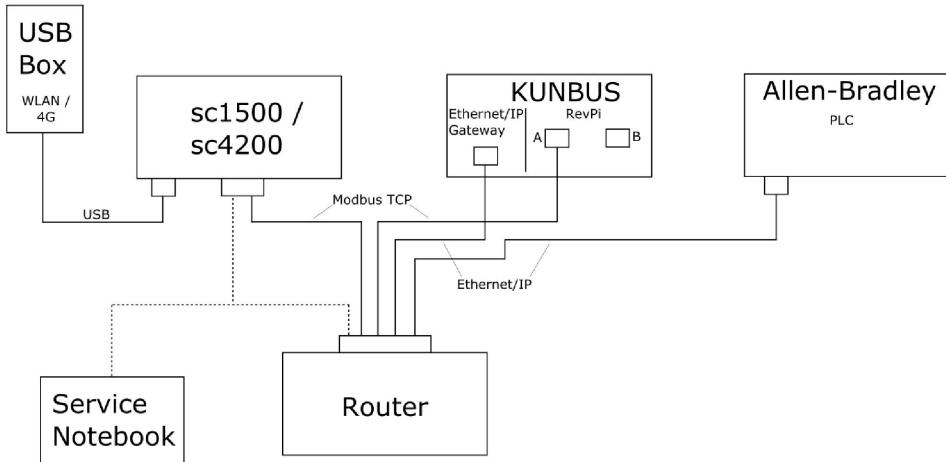
**Figura 2 Ejemplo 2**



- El Modbus TCP está conectado a un router.
- Todos los dispositivos tienen una dirección IP estática o el router establece la dirección IP a través del protocolo DHCP.  
*Nota: Asegúrese de que el router siempre utiliza la misma dirección IP para los mismos dispositivos (MAC) si se utiliza el protocolo DHCP.*
- El controlador tiene acceso a Internet con WiFi o conexión móvil.
- Se requiere un ordenador portátil para establecer la dirección IP del controlador, el gateway Ethernet/IP y la configuración del router.

La [Figura 3](#) muestra una instalación con un router o conmutador para todos los dispositivos.

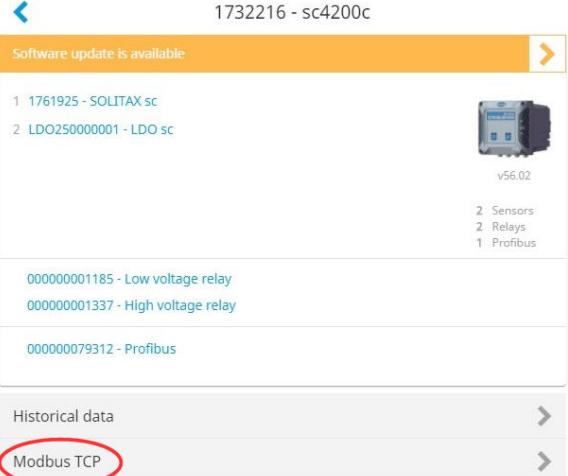
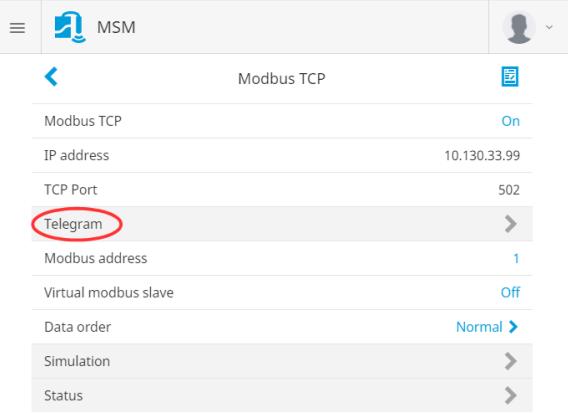
Figura 3 Ejemplo 3

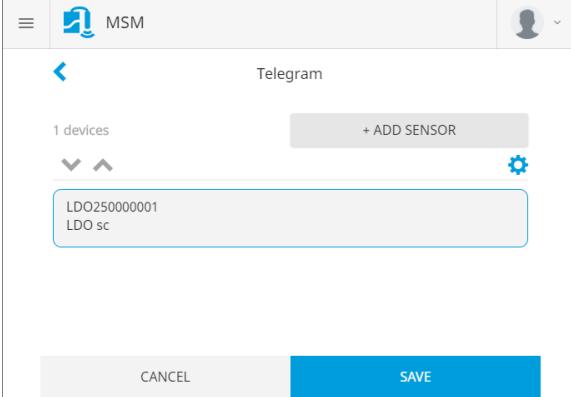
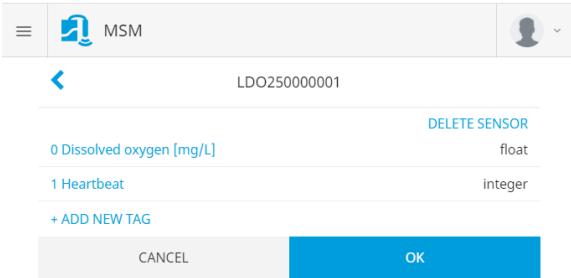


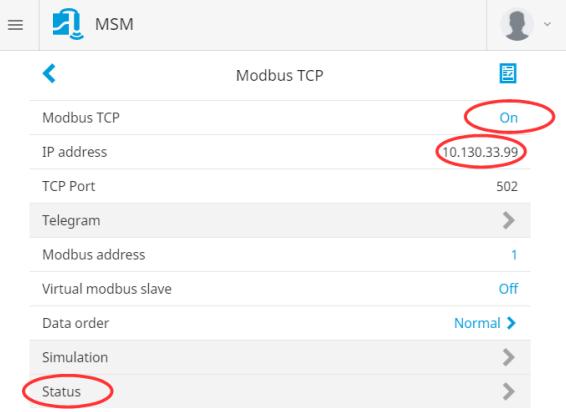
- Todos los dispositivos están conectados con un router o commutador.
- Todos los dispositivos tienen una dirección IP estática, o bien el router o el commutador establecen la dirección IP a través del protocolo DHCP.  
**Nota:** Asegúrese de que el router siempre utiliza la misma dirección IP para los mismos dispositivos (MAC) si se utiliza el protocolo DHCP.
- El controlador tiene acceso a Internet con WiFi o conexión móvil.
- Se requiere un ordenador portátil para establecer la dirección IP del controlador y la configuración del router.

## Sección 5 Configuración del telegrama Modbus TCP del controlador SC4200c

Inicie la aplicación de Claros y siga las indicaciones paso a paso.

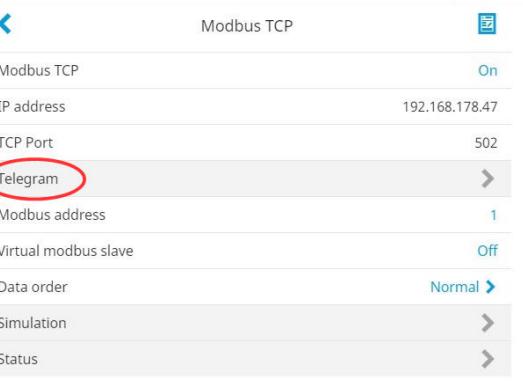
Paso	Descripción	Imagen
1	Seleccione el menú del controlador y pulse <b>Modbus TCP</b> .	 A screenshot of the SC4200c software interface. At the top, it says "1732216 - sc4200c". Below that is a yellow bar with the text "Software update is available". Underneath are several lists of components: "1 1761925 - SOLITAX sc", "2 LDO250000001 - LDO sc", "000000001185 - Low voltage relay", "000000001337 - High voltage relay", and "0000000079312 - Profibus". Further down are sections for "Historical data" and "Modbus TCP". The "Modbus TCP" section is circled in red.
2	Seleccione <b>Telegram (Telegrama)</b> para configurar el telegrama Modbus TCP.	 A screenshot of the "Modbus TCP" configuration screen. It shows various parameters: "IP address" set to "10.130.33.99", "TCP Port" set to "502", and "Modbus address" set to "1". The "Telegram" option is highlighted with a red circle. Other options include "Virtual modbus slave" (off), "Data order" (Normal), "Simulation", and "Status".

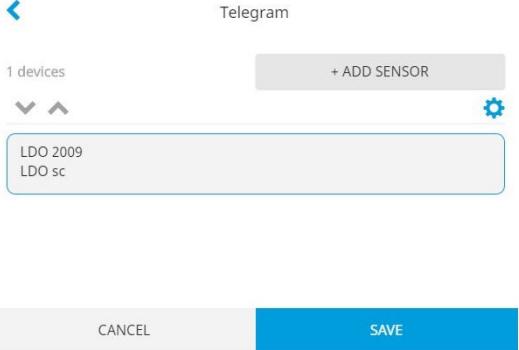
Paso	Descripción	Imagen
3	<p>El telegrama que se muestra es un ejemplo para el sensor LDO sc.</p> <p>Establezca el heartbeat en un número entero. El heartbeat es un contador que muestra la actualización del valor en incrementos de un segundo.</p> <p><b>Nota:</b> El contenido del telegrama Modbus TCP es el mismo que el del telegrama Profibus.</p>	 

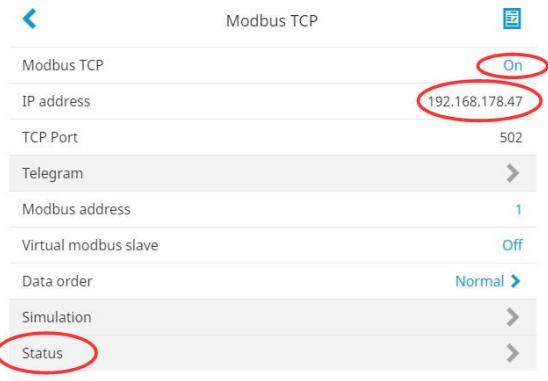
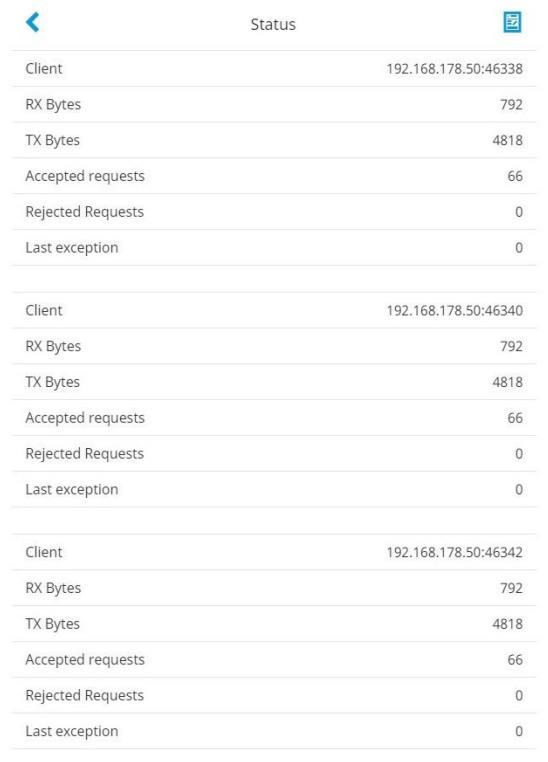
Paso	Descripción	Imagen																																				
4	<p>El menú Modbus TCP muestra la dirección IP del controlador. <b>10.130.33.99</b> es la dirección IP establecida en el menú de servicio del controlador.</p> <p>Establezca el Modbus TCP en <b>On</b> para activarlo y pulse <b>Status (Estado)</b>.</p>	 <table border="1"> <thead> <tr> <th>Modbus TCP</th> <th>On</th> </tr> </thead> <tbody> <tr> <td>IP address</td> <td>10.130.33.99</td> </tr> <tr> <td>TCP Port</td> <td>502</td> </tr> <tr> <td>Telegram</td> <td></td> </tr> <tr> <td>Modbus address</td> <td>1</td> </tr> <tr> <td>Virtual modbus slave</td> <td>Off</td> </tr> <tr> <td>Data order</td> <td>Normal</td> </tr> <tr> <td>Simulation</td> <td></td> </tr> <tr> <td>Status</td> <td></td> </tr> </tbody> </table>	Modbus TCP	On	IP address	10.130.33.99	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal	Simulation		Status																			
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Virtual modbus slave	Off																																					
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Simulation																																						
Status																																						
5	<p>El menú Status (Estado) muestra las estadísticas del Modbus TCP. <b>10.130.33.50</b> es la dirección IP del módulo RevPi. El módulo RevPi tiene 5 dispositivos maestros Modbus TCP.</p>	 <table border="1"> <thead> <tr> <th>Client</th> <th>10.130.33.50:46338</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Client</th> <th>10.130.33.50:46340</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Client</th> <th>10.130.33.50:46342</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table>	Client	10.130.33.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	10.130.33.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	10.130.33.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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Last exception	0																																					

## Sección 6 Configuración del telegrama Modbus TCP del controlador SC1500

Inicie la aplicación de Claros y siga las indicaciones paso a paso.

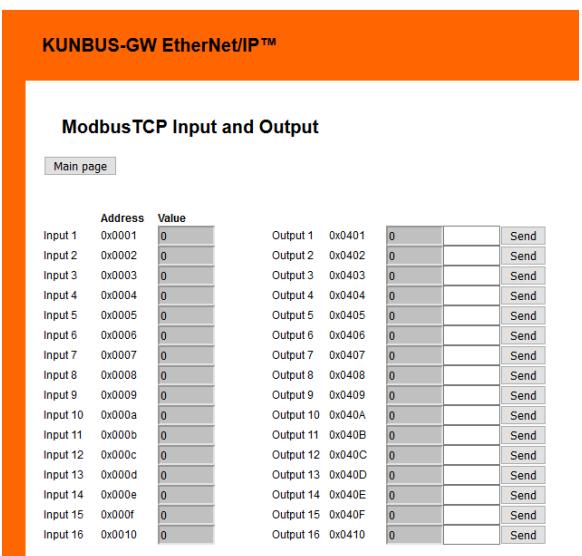
Paso	Descripción	Imagen
1	Seleccione el menú del controlador y pulse <b>Modbus TCP</b> .	 <p>The screenshot shows the SC1500 configuration interface. At the top, it displays the identifier '1694389 - sc1500'. Below this, there is a list of components: '1 1327087 - AN-ISE sc', '2 1555058 - AN-ISE sc', and '3 LDO 2009 - LDO sc'. To the right of the list is a small image of the SC1500 device and its model number 'v20.12'. Below the components, there are three lines of text: '000000074854 - mA output', '000005009872 - Profibus', and 'Historical data'. The 'Modbus TCP' option is listed below these and is circled with a red oval.</p>
2	Seleccione <b>Telegram (Telegrama)</b> para configurar el telegrama Modbus TCP.	 <p>The screenshot shows the 'Modbus TCP' configuration screen. It includes settings for 'Modbus TCP' (status 'On'), 'IP address' (192.168.178.47), 'TCP Port' (502), and 'Telegram'. The 'Telegram' option is circled with a red oval. Other visible options include 'Modbus address' (1), 'Virtual modbus slave' (Off), 'Data order' (Normal), 'Simulation', and 'Status'.</p>

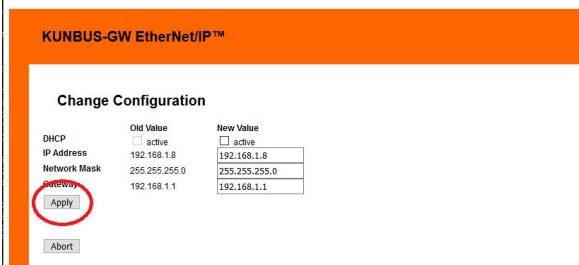
Paso	Descripción	Imagen
3	<p>El telegrama que se muestra es un ejemplo para el sensor LDO sc. Establezca el heartbeat en un número entero. El heartbeat es un contador que muestra la actualización del valor en incrementos de un segundo.</p> <p><b>Nota:</b> El contenido del telegrama Modbus TCP es el mismo que el del telegrama Profibus.</p>	 

Paso	Descripción	Imagen																																				
4	<p>El menú Modbus TCP muestra la dirección IP del controlador. <b>192.168.178.47</b> es la dirección IP establecida en el menú de servicio del controlador.</p> <p>Establezca el Modbus TCP en <b>On</b> para activarlo y pulse <b>Status (Estado)</b>.</p>	 <table border="1"> <tr><td>Modbus TCP</td><td>On</td></tr> <tr><td>IP address</td><td>192.168.178.47</td></tr> <tr><td>TCP Port</td><td>502</td></tr> <tr><td>Telegram</td><td></td></tr> <tr><td>Modbus address</td><td>1</td></tr> <tr><td>Virtual modbus slave</td><td>Off</td></tr> <tr><td>Data order</td><td>Normal &gt;</td></tr> <tr><td>Simulation</td><td></td></tr> <tr><td>Status</td><td></td></tr> </table>	Modbus TCP	On	IP address	192.168.178.47	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal >	Simulation		Status																			
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5	<p>El menú Status (Estado) muestra las estadísticas del Modbus TCP. <b>192.168.178.50</b> es la dirección IP del módulo RevPi. El módulo RevPi tiene 7 dispositivos maestros Modbus TCP.</p>	 <table border="1"> <tr><td>Client</td><td>192.168.178.50:46338</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td>Client</td><td>192.168.178.50:46340</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td>Client</td><td>192.168.178.50:46342</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> </table>	Client	192.168.178.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Sección 7 Configuración del gateway Ethernet/IP

Paso	Descripción	Imagen
1	<ul style="list-style-type: none"> <li>Conecte el gateway Ethernet/IP al PC con el cable adaptador LAN a USB.</li> <li>Consulte <a href="#">Introducción</a> en la página 70. Utilice el enlace del esclavo del GATEWAY Ethernet/IP. Siga las instrucciones del manual de usuario del fabricante, <i>Componente del gateway de Ethernet/IP</i>.</li> <li>Utilice el conmutador de dirección de 8 pines (A) para configurar el identificador de host en el formato binario del gateway.           <ul style="list-style-type: none"> <li>Ejemplo: establezca el host en 8: 00010000</li> </ul> </li> <li>Abra la página web <a href="http://192.168.1.X">http://192.168.1.X</a> (X= suma de todos los conmutadores en ON).</li> </ul>	
2	<p>Abra el navegador e introduzca la dirección IP 192.168.1.X.</p> <p>Datos de acceso para el primer inicio de sesión:</p> <p>Usuario: Admin Contraseña: 1701 Pulse <b>Login (Registrar)</b>.</p>	

Paso	Descripción	Imagen																																																																				
3	<p>El controlador y el gateway Ethernet/IP transfieren el área de datos 0000 - 01BF, que es un rango de 448 bytes, 112 números reales, 224 números enteros o una combinación de estos, en función del tipo de telegrama del Modbus TCP del controlador.</p> <p><i>Nota:</i> Solo se muestra el primer intervalo de datos hasta 32 números enteros. Consulte todos los datos del PLC (224 números enteros).</p> <p>Pulse <b>Show (Mostrar)</b>.</p>	 <p>KUNBUS-GW EtherNet/IP™</p> <p>Log Out</p> <p>Modbus Register 0x0001 - 0x0010 and 0x0401 - 0x0410 Modbus Register 0x0011 - 0x0020 and 0x0411 - 0x0420 Modbus Register 0x0021 - 0x0030 and 0x0421 - 0x0430 Modbus Register 0x0031 - 0x0040 and 0x0431 - 0x0440</p> <p>Configuration</p> <p>Serial number: 594 Software Version: 1.1.944 MAC Address: c8:3e:37:00:0b:10 IP address: 192.168.1.0 Subnet mask: 255.255.255.0 Gateway: 192.168.1.1 DHCP: <input type="checkbox"/> active <a href="#">Change Configuration</a> <a href="#">Change Configuration</a> <a href="#">Reboot</a></p> <p>Show Show Show Show</p> <p>Download ECR file</p>																																																																				
4	Se muestra el área de datos seleccionada.	 <p>KUNBUS-GW EtherNet/IP™</p> <h3>ModbusTCP Input and Output</h3> <p>Main page</p> <table border="1"> <thead> <tr> <th>Address</th> <th>Value</th> <th>Address</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Input 1</td> <td>0</td> <td>Output 1</td> <td>0</td> </tr> <tr> <td>Input 2</td> <td>0</td> <td>Output 2</td> <td>0</td> </tr> <tr> <td>Input 3</td> <td>0</td> <td>Output 3</td> <td>0</td> </tr> <tr> <td>Input 4</td> <td>0</td> <td>Output 4</td> <td>0</td> </tr> <tr> <td>Input 5</td> <td>0</td> <td>Output 5</td> <td>0</td> </tr> <tr> <td>Input 6</td> <td>0</td> <td>Output 6</td> <td>0</td> </tr> <tr> <td>Input 7</td> <td>0</td> <td>Output 7</td> <td>0</td> </tr> <tr> <td>Input 8</td> <td>0</td> <td>Output 8</td> <td>0</td> </tr> <tr> <td>Input 9</td> <td>0</td> <td>Output 9</td> <td>0</td> </tr> <tr> <td>Input 10</td> <td>0</td> <td>Output 10</td> <td>0</td> </tr> <tr> <td>Input 11</td> <td>0</td> <td>Output 11</td> <td>0</td> </tr> <tr> <td>Input 12</td> <td>0</td> <td>Output 12</td> <td>0</td> </tr> <tr> <td>Input 13</td> <td>0</td> <td>Output 13</td> <td>0</td> </tr> <tr> <td>Input 14</td> <td>0</td> <td>Output 14</td> <td>0</td> </tr> <tr> <td>Input 15</td> <td>0</td> <td>Output 15</td> <td>0</td> </tr> <tr> <td>Input 16</td> <td>0</td> <td>Output 16</td> <td>0</td> </tr> </tbody> </table>	Address	Value	Address	Value	Input 1	0	Output 1	0	Input 2	0	Output 2	0	Input 3	0	Output 3	0	Input 4	0	Output 4	0	Input 5	0	Output 5	0	Input 6	0	Output 6	0	Input 7	0	Output 7	0	Input 8	0	Output 8	0	Input 9	0	Output 9	0	Input 10	0	Output 10	0	Input 11	0	Output 11	0	Input 12	0	Output 12	0	Input 13	0	Output 13	0	Input 14	0	Output 14	0	Input 15	0	Output 15	0	Input 16	0	Output 16	0
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Paso	Descripción	Imagen															
5	Pulse <b>Change Configuration (Cambiar configuración)</b> para establecer la dirección IP.	 <p>KUNBUS-GW EtherNet/IP™</p> <p><b>Log Out</b></p> <p>Modbus Register 0x0001 - 0x0010 and 0x0401 - 0x0410 Modbus Register 0x0011 - 0x0020 and 0x0411 - 0x0420 Modbus Register 0x0021 - 0x0030 and 0x0421 - 0x0430 Modbus Register 0x0031 - 0x0040 and 0x0431 - 0x0440</p> <p><b>Configuration</b></p> <p>Serial number: 594 Software Version: 1.1.9444 MAC Address: IP address: 192.168.1.8 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 DHCP: <input type="checkbox"/> active</p> <p><b>Buttons:</b> Change Configuration (highlighted with a red arrow) Change Password Reboot <a href="#">Download EDR file.</a></p>															
6	Cambie la dirección IP según la dirección del gateway.  Pulse <b>Apply (Aplicar)</b> para confirmar.  Desconecte todos los conmutadores DIP.  Apague la alimentación del gateway y reiníciela. Ya se puede utilizar la nueva dirección IP.	 <p>KUNBUS-GW EtherNet/IP™</p> <p><b>Change Configuration</b></p> <table border="1"> <thead> <tr> <th></th> <th>Old Value</th> <th>New Value</th> </tr> </thead> <tbody> <tr> <td>DHCP</td> <td><input type="checkbox"/> active</td> <td><input type="checkbox"/> active</td> </tr> <tr> <td>IP Address</td> <td>192.168.1.8</td> <td>192.168.1.8</td> </tr> <tr> <td>Network Mask</td> <td>255.255.255.0</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>192.168.1.1</td> <td>192.168.1.1</td> </tr> </tbody> </table> <p><b>Buttons:</b> Apply (highlighted with a red circle) Abort</p>		Old Value	New Value	DHCP	<input type="checkbox"/> active	<input type="checkbox"/> active	IP Address	192.168.1.8	192.168.1.8	Network Mask	255.255.255.0	255.255.255.0	Gateway	192.168.1.1	192.168.1.1
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Network Mask	255.255.255.0	255.255.255.0															
Gateway	192.168.1.1	192.168.1.1															

## Sección 8 Configuración del gateway Profinet

Paso	Descripción	Imagen
1	<ul style="list-style-type: none"> <li>Conecte el gateway Profinet al PC con el adaptador LAN a LAN.</li> <li>Consulte <a href="#">Introducción</a> en la página 70. Utilice el enlace del esclavo del GATEWAY Profinet IRT. Siga las instrucciones del manual de usuario del fabricante <i>Componente del gateway de PROFINET</i>.</li> <li>Utilice el software PRONETA para cambiar el nombre a <b>kunbus-gw-profinet</b>.</li> <li>Introduzca la <b>dirección IP</b> utilizada.</li> </ul>	<p>The screenshot shows the Siemens PRONETA software interface. On the left, there's a tree view with nodes like 'de-3dydy42-p PROFINET' and 'cb-3e-a7-00-26-05 KUNBUS-GW Profinet TPS-1'. In the center, there's a 'Geräteanzeige - Online' window showing a network diagram with nodes 'de-3dydy42-p PROFINET' and 'cb-3e-a7-00-26-05 KUNBUS-GW Profinet TPS-1'. To the right, a 'Geräteabelle - Online' table lists a single entry: '1 cb-3e-a7-00-26-05 KUNBUS-GW Profinet TPS-1 192.168.1.10'. Below the table, there are two boxes: 'kunbus-gw-profinet' and 'IP-Address'.</p>
2	<p>Abra el navegador e introduzca la dirección IP. Datos de acceso para el primer inicio de sesión:</p> <p>Usuario: Admin Contraseña: 1701 <b>Pulse Login (Registrar).</b></p>	<p>The screenshot shows a login page for 'KUNBUS-GW PROFINET TPS-1'. It has a yellow header and a white body. The body contains fields for 'Username' (with 'Admin' entered) and 'Password' (with '1701' entered), followed by a 'Login' button.</p>

Paso	Descripción	Imagen																
3	Pulse Show (Mostrar) (A) para mostrar los datos de entrada.	<p style="text-align: center;"><b>KUNBUS-GW PROFINET TPS-1</b></p>  <p><b>Input data (from neighbour device)</b> <input type="button" value="Show"/></p> <p><b>Output data (from PROFINET Controller)</b> <input type="button" value="Show"/></p> <p><b>Configuration</b></p> <table> <tbody> <tr> <td>Serial number</td> <td>4581</td> </tr> <tr> <td>Software Version</td> <td>1.2</td> </tr> <tr> <td>MAC Address</td> <td>c8:3e:a7:01:2c:3a</td> </tr> <tr> <td>IP address</td> <td>192.168.0.230</td> </tr> <tr> <td>Subnet mask</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>0.0.0.0</td> </tr> <tr> <td>IO Controller state</td> <td>no AR established, access from web page possible</td> </tr> <tr> <td>PROFINET Name of Station</td> <td>kunbus-gw-profinet</td> </tr> </tbody> </table> <p><input type="button" value="Change Password"/></p>	Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:2c:3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
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4	Muestra todos los datos enviados desde el controlador al gateway Profinet.  El controlador y el gateway Profinet transfieren el área de datos 0000 - 01BF, que es un rango de 448 bytes, 112 números reales, 224 números enteros o una combinación de estos, en función del tipo de telegrama del Modbus TCP del controlador.	<p style="text-align: center;"><b>KUNBUS-GW PROFINET TPS-1</b></p> <p style="text-align: center;"><b>Input (from neighbour device)</b></p> <p>Main page</p> <table border="1"> <thead> <tr> <th>Address</th> <th>0</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>F</th> </tr> </thead> <tbody> <tr><td>0x0000</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> 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## Sección 9 Solución de problemas

### 9.1 Solución de problemas de RevPi

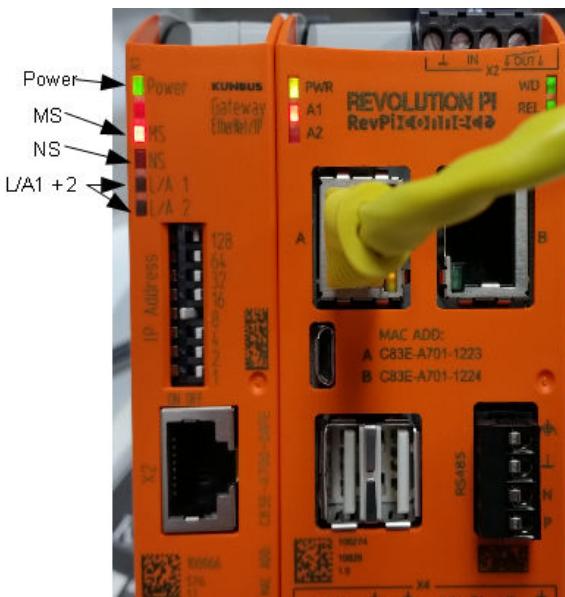
Figura 4 Módulo básico de RevPi



Mensaje	Descripción	Solución
El LED A2 parpadea en rojo.	La comunicación se ha detenido.	<ul style="list-style-type: none"><li>• Conecte el cable de red (cable o router).</li><li>• Establezca la configuración de la dirección de Modbus de Claros en el valor 1.</li><li>• Conecte el Modbus TCP en el menú de Claros.</li></ul>
El LED A3 parpadea lentamente en rojo.	La configuración de los gateway Ethernet/IP y Profinet es errónea.	Consulte <a href="#">Inicio de la configuración USB</a> en la página 72 (paso 4) y seleccione el tipo de gateway adecuado: <ul style="list-style-type: none"><li>• en – Ethernet/IP</li><li>• pn – Profinet</li></ul>

## 9.2 Solución de problemas de Ethernet/IP

Figura 5 Gateway Ethernet/IP

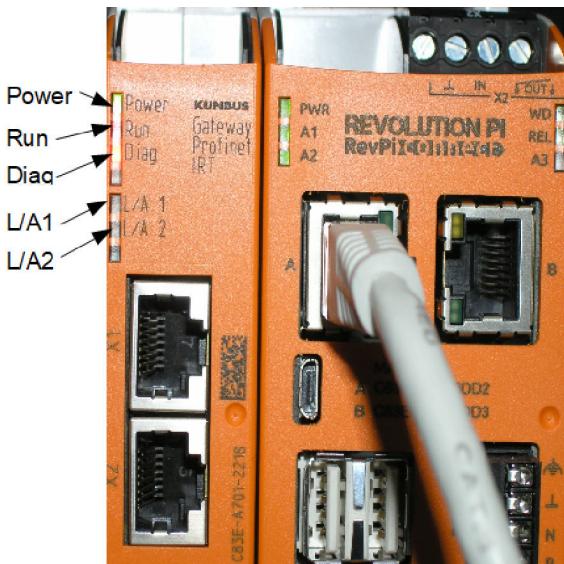


Mensaje	Descripción	Solución
El LED de energía está apagado.	El gateway Ethernet/IP está desconectado.	Conecte la alimentación.
El LED de energía parpadea en verde.	El procedimiento de arranque no se ha completado.	Espere unos minutos.
El LED de energía parpadea en rojo.	Muestra una advertencia.	Compruebe si todos los dispositivos están conectados.
El LED de energía está en rojo.	Muestra un error.	El gateway Ethernet/IP está defectuoso. Sustituya el gateway Ethernet/IP.
El LED MS está apagado.	El gateway Ethernet/IP está desconectado.	Conecte la alimentación.
El LED MS parpadea en verde.	El procedimiento de configuración no se ha completado.	Espere unos minutos.
El LED MS parpadea en rojo.	Muestra un error de configuración.	Consulte <a href="#">Configuración del gateway Ethernet/IP</a> en la página 83 para comprobar la configuración.
El LED MS está en rojo.	Muestra un error.	El gateway Ethernet/IP está defectuoso. Sustituya el gateway Ethernet/IP.
El LED MS parpadea en rojo y verde.	La autocomprobación no se ha completado.	Espere unos minutos.

Mensaje	Descripción	Solución
El LED NS está apagado.	El gateway Ethernet/IP no está conectado ni tiene dirección IP.	Conecte la alimentación. Establezca la dirección IP.
El LED NS parpadea en verde.	Se ha establecido la dirección IP, pero no la conexión CIP.	Espere unos minutos.
El LED NS parpadea en rojo.	La conexión CIP se ha detenido.	Compruebe si hay un tiempo de espera.
El LED NS está en rojo.	Otro dispositivo utiliza la dirección IP seleccionada.	Cambie la dirección IP por una dirección IP única.
El LED L/A 1 o 2 está apagado.	No hay conexión con otros dispositivos.	Conéctelo a un dispositivo.
El LED L/A 1 o 2 parpadea en verde.	No hay intercambio de datos.	Espere hasta el siguiente intercambio de datos.

### 9.3 Solución de problemas de Profinet

Figura 6 Gateway Profinet



Mensaje	Descripción	Solución
El LED de energía está apagado.	El gateway Profinet está desconectado.	Conecte la alimentación.
El LED de energía parpadea en verde.	El procedimiento de arranque no se ha completado.	Espere unos minutos.
El LED de energía parpadea en rojo.	Muestra una advertencia.	Compruebe si todos los dispositivos están instalados.

Mensaje	Descripción	Solución
El LED de energía está en rojo.	Muestra un error.	El gateway Profinet está defectuoso. Sustituya el gateway Profinet.
El LED de ejecución está apagado.	No hay conexión a una red.	Conéctese a la red.
El LED de ejecución parpadea en verde.	El controlador Profinet está conectado, pero no hay intercambio de datos.	Espere hasta el siguiente intercambio de datos.
El LED de ejecución parpadea lentamente en verde.	Se activa con una herramienta que identifica el componente del gateway.	Espere unos minutos.
El LED de diagnóstico parpadea en rojo.	Se activa con una herramienta que identifica el componente del gateway.	Espere unos minutos.
El LED de diagnóstico parpadea rápidamente en rojo.	No hay conexión con el controlador. No se ha establecido ningún nombre de Profinet en el módulo.	Consulte <a href="#">Configuración del gateway Profinet</a> en la página 86 para establecer el nombre.
El LED de diagnóstico está en rojo.	Un dispositivo de gateway informa de los datos de diagnóstico.	Consulte el informe de diagnóstico.
El LED L/A 1 o 2 está apagado.	No hay conexión a una red.	Conéctese a la red.
El LED L/A 1 o 2 parpadea en verde.	Hay intercambio de datos.	Espere hasta se haya completado el intercambio de datos.

# Sommario

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| 1 Uso previsto a pagina 93  | 6 Configurazione del telegramma Modbus TCP del controller SC1500 a pagina 102 |
| 2 Introduzione a pagina 93  | 7 Configurazione del gateway Ethernet/IP a pagina 105                         |
| 3 Avvio della configurazione della chiavetta USB a pagina 95                  | 8 Configurazione del gateway Profinet a pagina 108                            |
| 4 Esempi di installazione a pagina 96   | 9 Risoluzione dei problemi a pagina 111                                       |
| 5 Configurazione del telegramma Modbus TCP del controller SC4200c a pagina 99 |   |

## Sezione 1 Uso previsto

Queste istruzioni di configurazione sono rivolte a coloro che integrano il gateway Ethernet/IP esterno o il gateway Profinet come componenti hardware nella rete Claro.

## Sezione 2 Introduzione

Il produttore non sarà da ritenersi responsabile in caso di danni causati dall'applicazione errata o dall'uso errato di questo prodotto inclusi, a puro titolo esemplificativo e non limitativo, i danni diretti, incidentali e consequenziali; inoltre declina qualsiasi responsabilità per tali danni entro i limiti previsti dalle leggi vigenti. La responsabilità relativa all'identificazione dei rischi critici dell'applicazione e all'installazione di meccanismi appropriati per proteggere le attività in caso di eventuale malfunzionamento dell'apparecchiatura compete unicamente all'utilizzatore.

### PERICOLO



Pericolo di folgorazione. Quando si eseguono collegamenti elettrici, scollegare sempre l'alimentazione dello strumento.

#### Articoli necessari:

- Chiavetta USB formattata come FAT32
- PC con Windows<sup>1</sup> 10
- Modulo:
  - Per implementazione Ethernet/IP:
    - LXZ446.99.00001: modulo di base GATEWAY IIoT RevPi
    - LXZ446.99.00002: slave GATEWAY Ethernet/IP
    - LXZ446.99.00003: jumper per PiBridge
  - Per implementazione Profinet:
    - LXZ446.99.00001: modulo di base GATEWAY IIoT RevPi
    - LXZ446.99.00007: slave GATEWAY Profinet IRT
    - LXZ446.99.00003: jumper per PiBridge

Collegare i tre moduli RevPi, slave e PiBridge all'alimentazione e alla LAN.

Fare riferimento ai collegamenti nella seguente tabella per ulteriori informazioni dal produttore dei moduli.

<sup>1</sup> Microsoft® Windows® è un marchio registrato di Microsoft Corporation negli Stati Uniti e in altri paesi.

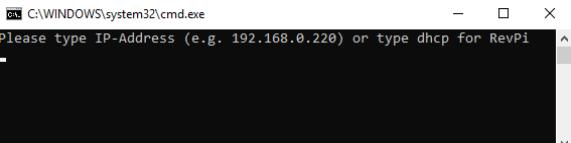
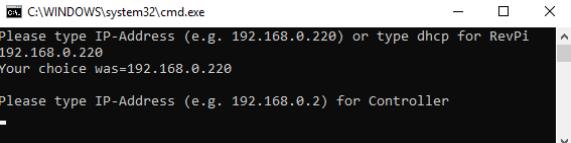
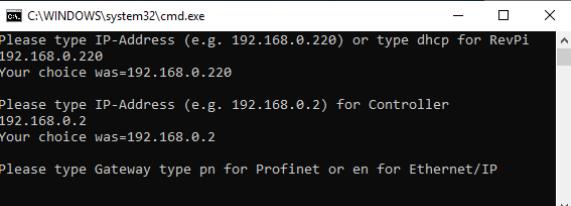
<b>Modulo</b>	<b>Collegamento</b>
Slave GATEWAY Profinet IRT	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
Slave GATEWAY Ethernet/IP	<a href="https://www.kunbus.com/ethernet-ip-gateway-module.html">https://www.kunbus.com/ethernet-ip-gateway-module.html</a>
Modulo di base GATEWAY IIoT RevPi	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>
Come collegare i moduli RevPi	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>
Come installare i moduli RevPi su una guida DIN	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
Come collegare l'alimentazione	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

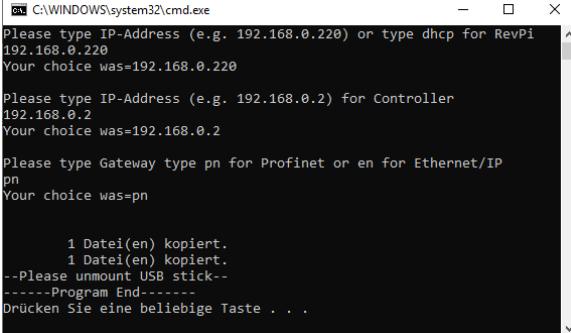
## Preparazione della chiavetta USB

1. Inserire una chiavetta USB vuota nel PC.
2. Andare al sito <https://www.hach.com> e cercare le parole chiave "USB Ethernet/IP installation" (Installazione USB Ethernet/IP) o "USB Profinet installation" (Installazione USB Profinet).
3. Scaricare USB\_ETHIP\_PRNET.zip.
4. Decomprimere il file nella directory principale della chiavetta USB.

## Sezione 3 Avvio della configurazione della chiavetta USB

Inserire nel PC la chiavetta USB preparata.

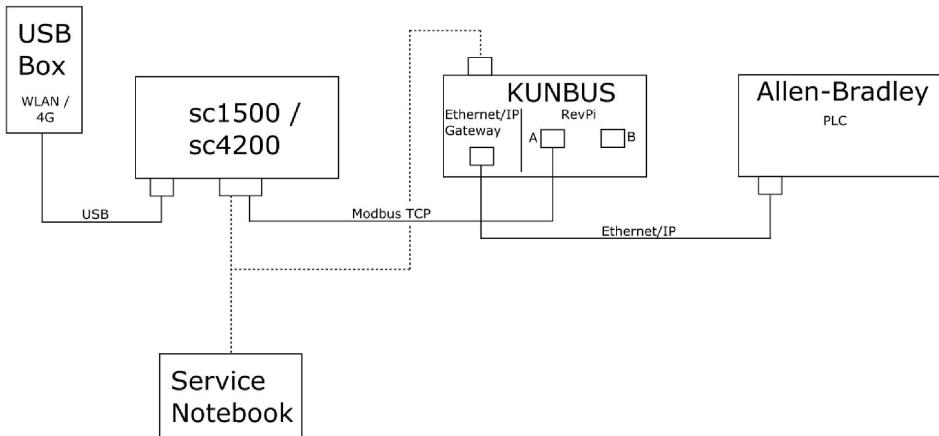
Punto	Descrizione	Immagine
1	Avviare il file start_usb_config.bat. Si apre una finestra terminale. Seguire la guida dettagliata.	
2	Immettere l'indirizzo IP del modulo RevPi.	
3	Immettere l'indirizzo IP del controller SC. Assicurarsi che il prefisso di rete sia lo stesso del modulo RevPi (ad esempio 192.168.0). Assicurarsi che l'identificatore dell'host sia diverso dal modulo RevPi (ad esempio 220 RevPi, 2 controller).	
4	Immettere il tipo di gateway: <ul style="list-style-type: none"><li>• pn: Profinet</li><li>• en: Ethernet/IP</li></ul>	

Punto	Descrizione	Immagine
5	Confermare le impostazioni con Invio. Rimuovere la chiavetta USB.	
6	Inserire la chiavetta USB nella porta USB sinistra del modulo RevPi.	
7	Descrizione dei LED: <ul style="list-style-type: none"><li>• A1/A2 arancione: RevPi, installazione avviata.</li><li>• A1 rosso, A2 spento: RevPi, inserire chiavetta USB.</li><li>• A1 verde, A2 spento: chiavetta USB inserita correttamente.</li><li>• A1 spento, A2 verde: RevPi, download/upload di dati dalla chiavetta USB.</li><li>• A3 rosso: RevPi, riavvio.</li></ul> Quando il LED A3 è rosso, rimuovere la chiavetta USB.	
8	Le impostazioni RevPi sono complete.	

## Sezione 4 Esempi di installazione

Figura 1 mostra un'installazione con due diverse connessioni LAN.

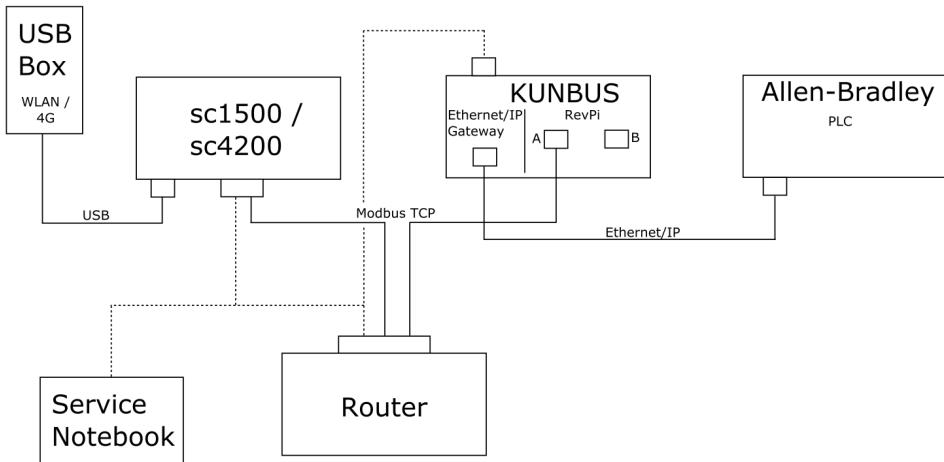
**Figura 1 Esempio 1**



- Modbus TCP ed Ethernet/IP utilizzano due connessioni LAN diverse.
- Tutti i dispositivi hanno un indirizzo IP statico.
- Il controller dispone di accesso a Internet con connessione Wi-Fi o cellulare.
- Per configurare gli indirizzi IP del controller e del gateway Ethernet/IP, è necessario un computer portatile.

[Figura 2](#) mostra un'installazione con un router per la connessione del Modbus TCP.

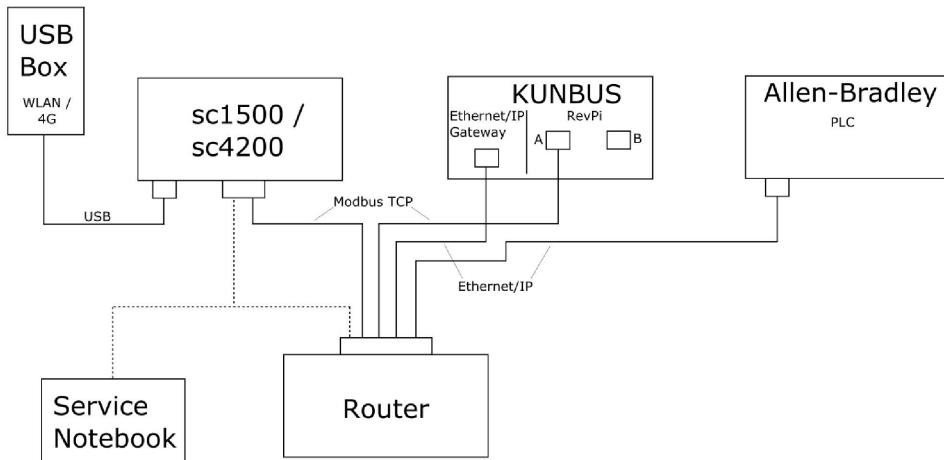
**Figura 2 Esempio 2**



- Il Modbus TCP è collegato a un router.
- Tutti i dispositivi hanno un indirizzo IP statico o il router imposta l'indirizzo IP tramite DHCP.  
**Nota:** assicurarsi che il router utilizzi sempre lo stesso indirizzo IP per gli stessi dispositivi (MAC) se viene utilizzato DHCP.
- Il controller dispone di accesso a Internet con connessione Wi-Fi o cellulare.
- Per configurare l'indirizzo IP del controller, il gateway Ethernet/IP e le impostazioni del router, è necessario un computer portatile.

[Figura 3](#) mostra un'installazione con un router o uno switch per tutti i dispositivi.

**Figura 3 Esempio 3**

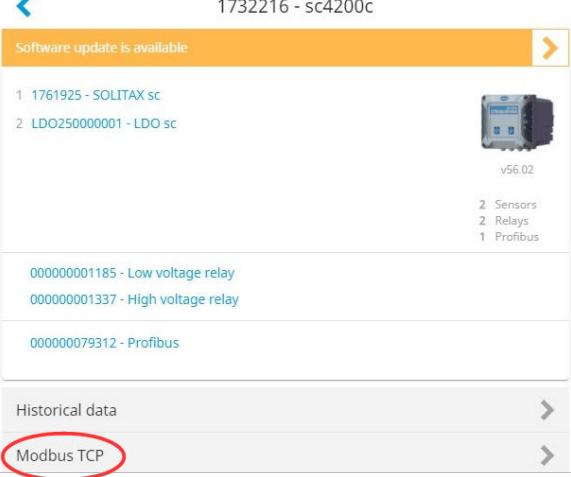
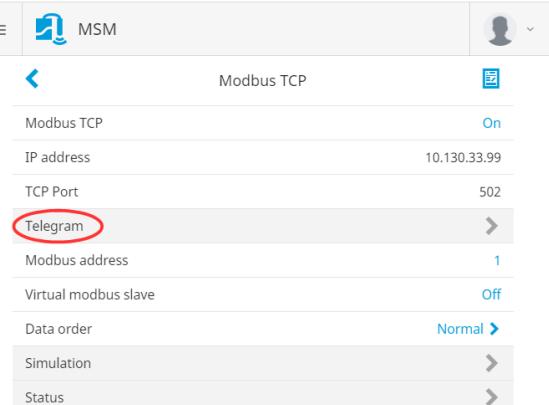


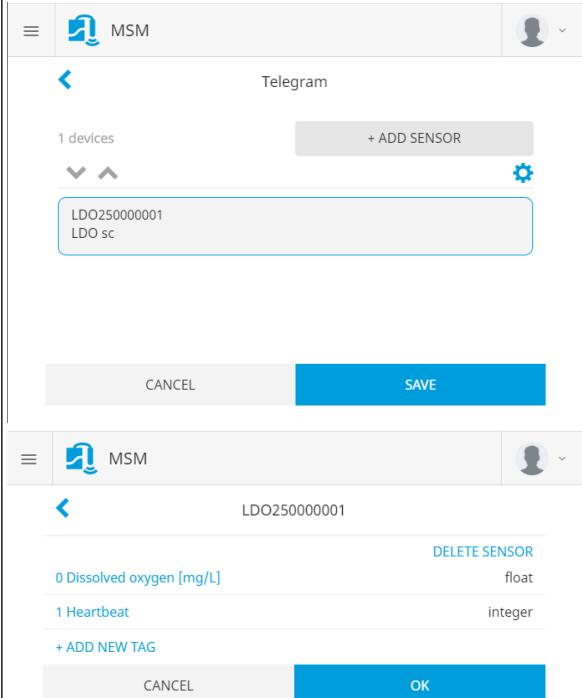
- Tutti i dispositivi sono connessi con un router o uno switch.

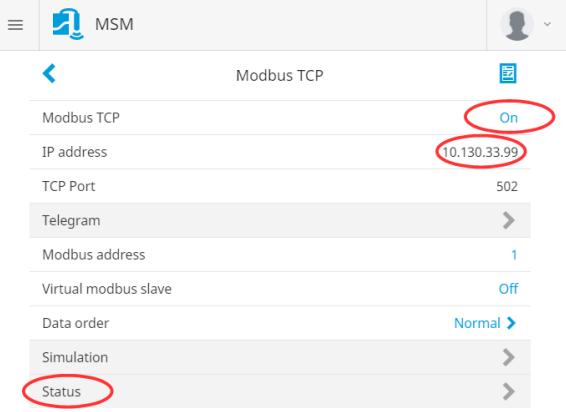
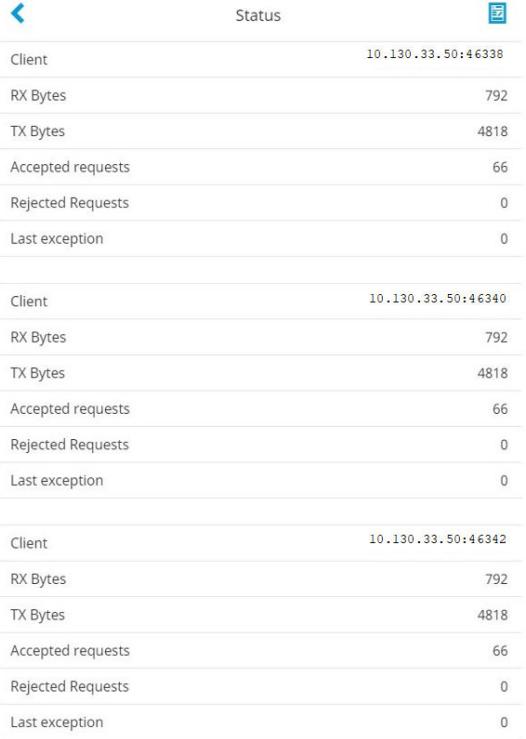
- Tutti i dispositivi hanno un indirizzo IP statico oppure il router o lo switch imposta l'indirizzo IP tramite DHCP.  
**Nota:** assicurarsi che il router utilizzi sempre lo stesso indirizzo IP per gli stessi dispositivi (MAC) se viene utilizzato DHCP.
- Il controller dispone di accesso a Internet con connessione Wi-Fi o cellulare.
- Per configurare l'indirizzo IP del controller e le impostazioni del router, è necessario un computer portatile.

## Sezione 5 Configurazione del telegramma Modbus TCP del controller SC4200c

Avviare l'applicazione Claro e seguire la guida dettagliata.

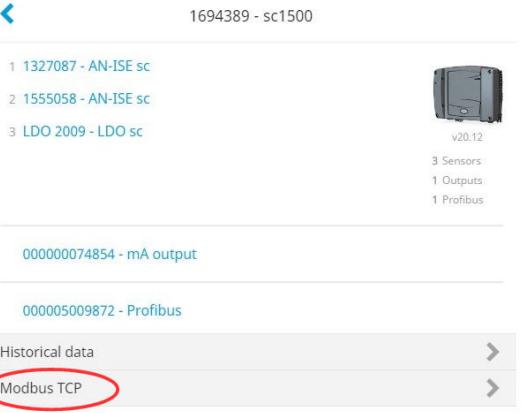
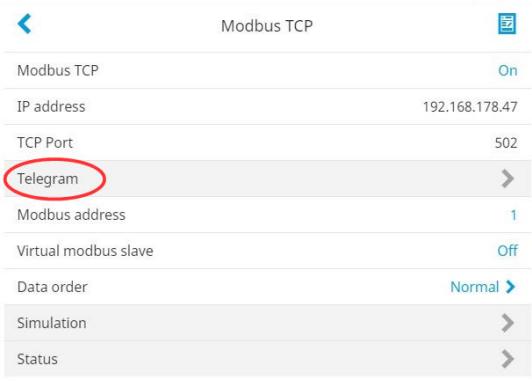
Punto	Descrizione	Immagine
1	Selezionare il menu del controller, quindi premere <b>Modbus TCP</b> .	 <p>1732216 - sc4200c</p> <p>Software update is available</p> <p>1 1761925 - SOLITAX sc 2 LDO250000001 - LDO sc</p> <p>000000001185 - Low voltage relay 000000001337 - High voltage relay</p> <p>000000079312 - Profibus</p> <p>Historical data &gt;</p> <p>Modbus TCP &gt; (highlighted)</p>
2	Selezionare <b>Telegram (Telegramma)</b> per impostare il telegramma TCP Modbus.	 <p>MSM</p> <p>Modbus TCP On</p> <p>IP address 10.130.33.99</p> <p>TCP Port 502</p> <p>Telegram &gt; (highlighted)</p> <p>Modbus address 1</p> <p>Virtual modbus slave Off</p> <p>Data order Normal &gt;</p> <p>Simulation &gt;</p> <p>Status &gt;</p>

Punto	Descrizione	Immagine
3	<p>Il telegramma mostrato è un esempio per il sensore LDO sc.</p> <p>Impostare l'heartbeat su integer. L'heartbeat è un contatore che mostra l'aggiornamento del valore a incrementi di un secondo.</p> <p><b>Nota:</b> il contenuto del telegramma Modbus TCP è lo stesso del telegramma Profinet.</p>	

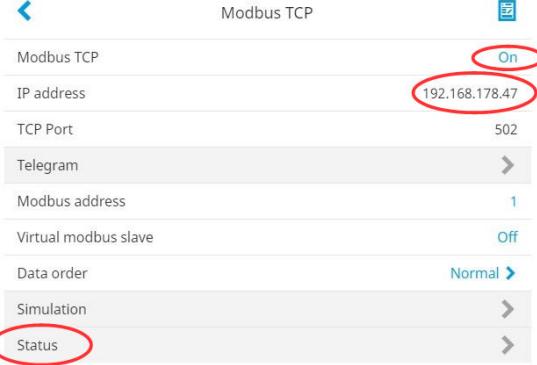
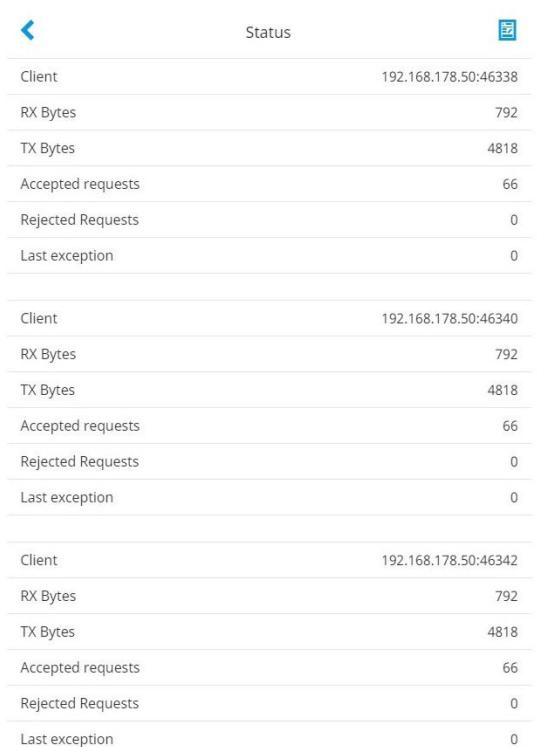
Punto	Descrizione	Immagine																																				
4	Il menu Modbus TCP mostra l'indirizzo IP del controller. <b>10.130.33.99</b> è l'indirizzo IP impostato nel menu di assistenza del controller. Impostare il Modbus TCP su <b>On</b> , quindi premere <b>Status (Stato)</b> .	 <p>Modbus TCP</p> <p>IP address: 10.130.33.99 (highlighted with a red circle)</p> <p>TCP Port: 502</p> <p>Modbus address: 1</p> <p>Virtual modbus slave: Off</p> <p>Data order: Normal</p> <p>Status (highlighted with a red circle)</p>																																				
5	Il menu dello stato mostra le statistiche del Modbus TCP. <b>10.130.33.50</b> è l'indirizzo IP del modulo RevPi. RevPi ha 5 Modbus TCP master.	 <table border="1"> <thead> <tr> <th>Client</th> <th>10.130.33.50:46338</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Client</th> <th>10.130.33.50:46340</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Client</th> <th>10.130.33.50:46342</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table>	Client	10.130.33.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	10.130.33.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	10.130.33.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Sezione 6 Configurazione del telegramma Modbus TCP del controller SC1500

Avviare l'applicazione Claros e seguire la guida dettagliata.

Punto	Descrizione	Immagine
1	Selezionare il menu del controller, quindi premere <b>Modbus TCP</b> .	
2	Selezionare <b>Telegram (Telegramma)</b> per impostare il telegramma TCP Modbus.	

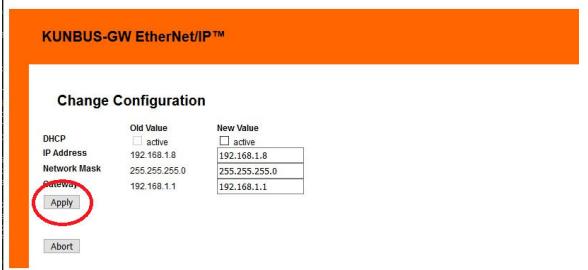
Punto	Descrizione	Immagine
3	<p>Il telegramma mostrato è un esempio per il sensore LDO sc.</p> <p>Impostare l'heartbeat su integer. L'heartbeat è un contatore che mostra l'aggiornamento del valore a incrementi di un secondo.</p> <p><b>Nota:</b> il contenuto del telegramma Modbus TCP è lo stesso del telegramma Profinet.</p>	<p>1 devices</p> <p>LDO 2009 LDO sc</p> <p>+ ADD SENSOR</p> <p>CANCEL      SAVE</p> <p>LDO 2009</p> <p>0 Dissolved oxygen [mg/L]      float</p> <p>1 Heartbeat      integer</p> <p>+ ADD NEW TAG</p> <p>CANCEL      OK</p>

Punto	Descrizione	Immagine																																						
4	Il menu Modbus TCP mostra l'indirizzo IP del controller. <b>192.168.178.47</b> è l'indirizzo IP impostato nel menu di assistenza del controller. Impostare il Modbus TCP su <b>On</b> , quindi premere <b>Status (Stato)</b> .	 <table border="1"> <tr><td>Modbus TCP</td><td>On</td></tr> <tr><td>IP address</td><td>192.168.178.47</td></tr> <tr><td>TCP Port</td><td>502</td></tr> <tr><td>Telegram</td><td></td></tr> <tr><td>Modbus address</td><td>1</td></tr> <tr><td>Virtual modbus slave</td><td>Off</td></tr> <tr><td>Data order</td><td>Normal &gt;</td></tr> <tr><td>Simulation</td><td></td></tr> <tr><td>Status</td><td></td></tr> </table>	Modbus TCP	On	IP address	192.168.178.47	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal >	Simulation		Status																					
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## Sezione 7 Configurazione del gateway Ethernet/IP

Punto	Descrizione	Immagine
1	<ul style="list-style-type: none"> <li>Collegare il gateway Ethernet/IP al PC con il cavo adattatore LAN-USB.</li> <li>Fare riferimento a <b>Introduzione</b> a pagina 93. Utilizzare il collegamento dello slave GATEWAY IP/Ethernet. Seguire le istruzioni riportate nel manuale per l'utente fornito dal produttore, <i>Componente Gateway per Ethernet/IP</i>.</li> <li>Utilizzare il commutatore di indirizzo a 8 pin (A) per impostare l'identificatore host sul formato binario del gateway. <ul style="list-style-type: none"> <li>Esempio: impostare l'host su 8: 00010000</li> </ul> </li> <li>Aprire il sito Web <a href="http://192.168.1.X">http://192.168.1.X</a> (X=somma di tutti i commutatori impostati su ON).</li> </ul>	<p>The diagram shows the rear panel of the KUNBUS-GW EtherNet/IP module. Pin A is labeled and points to the 8-pin DIP switch labeled 'ADDRESS'. Below the switch is a 'Barcode' area with 'IPV4' and 'IPV6' fields. At the bottom, there are terminals for '24V DC' and 'GND'.</p>
2	<p>Aprire il browser e immettere l'indirizzo IP 192.168.1.X.</p> <p>Dati di accesso per il primo accesso:</p> <p>Nome utente: Admin Password: 1701 Premere <b>Login (Accedi)</b>.</p>	<p>The screenshot shows the login page for the KUNBUS-GW EtherNet/IP. It has an orange header with the text 'KUNBUS-GW EtherNet/IP™'. The main area contains fields for 'Username' (Admin), 'Password', and a 'Login' button. Below the form is a link 'Download EDS file.'</p>

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3	<p>Il controller e il gateway Ethernet/IP trasferiscono l'area dati 0000 - 01BF, che è un intervallo di 448 byte o 112 float o 224 integer o un insieme di essi, in base al tipo di telegramma del Modbus TCP nel controller.</p> <p><b>Nota:</b> Viene visualizzato solo il primo intervallo di dati fino a 32 integer. È possibile visualizzare tutti i dati nel PLC (224 integer).</p> <p>Premere Show (Mostra).</p>	<p>KUNBUS-GW EtherNet/IP™</p> <p>Log Out</p> <p>Modbus Register 0x0001 - 0x0010 and 0x0401 - 0x0410 Modbus Register 0x0011 - 0x0020 and 0x0411 - 0x0420 Modbus Register 0x0021 - 0x0030 and 0x0421 - 0x0430 Modbus Register 0x0031 - 0x0040 and 0x0431 - 0x0440</p> <p>Show Show Show Show</p> <p>Configuration</p> <p>Serial number: 594 Software Version: 1.1.344 MAC Address: c8:3e:37:00:00:10 IP address: 192.168.1.0 Subnet mask: 255.255.255.0 Gateway: 192.168.1.1 DHCP: <input type="checkbox"/> active Change Configuration Change Configuration Change Password Reboot</p> <p>Download ECR file</p>																																																																																																						
4	Viene visualizzata l'area dati selezionata.	<p>KUNBUS-GW EtherNet/IP™</p> <p>Main page</p> <p>ModbusTCP Input and Output</p> <table border="1"> <thead> <tr> <th>Address</th> <th>Value</th> <th>Address</th> <th>Value</th> <th>Address</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Input 1 0x0001</td> <td>0</td> <td>Output 1 0x0401</td> <td>0</td> <td>Output 6 0x0406</td> <td>0</td> </tr> <tr> <td>Input 2 0x0002</td> <td>0</td> <td>Output 2 0x0402</td> <td>0</td> <td>Output 7 0x0407</td> <td>0</td> </tr> <tr> <td>Input 3 0x0003</td> <td>0</td> <td>Output 3 0x0403</td> <td>0</td> <td>Output 8 0x0408</td> <td>0</td> </tr> <tr> <td>Input 4 0x0004</td> <td>0</td> <td>Output 4 0x0404</td> <td>0</td> <td>Output 9 0x0409</td> <td>0</td> </tr> <tr> <td>Input 5 0x0005</td> <td>0</td> <td>Output 5 0x0405</td> <td>0</td> <td>Output 10 0x040A</td> <td>0</td> </tr> <tr> <td>Input 6 0x0006</td> <td>0</td> <td>Output 6 0x0406</td> <td>0</td> <td>Output 11 0x040B</td> <td>0</td> </tr> <tr> <td>Input 7 0x0007</td> <td>0</td> <td>Output 7 0x0407</td> <td>0</td> <td>Output 12 0x040C</td> <td>0</td> </tr> <tr> <td>Input 8 0x0008</td> <td>0</td> <td>Output 8 0x0408</td> <td>0</td> <td>Output 13 0x040D</td> <td>0</td> </tr> <tr> <td>Input 9 0x0009</td> <td>0</td> <td>Output 9 0x0409</td> <td>0</td> <td>Output 14 0x040E</td> <td>0</td> </tr> <tr> <td>Input 10 0x000a</td> <td>0</td> <td>Output 10 0x040A</td> <td>0</td> <td>Output 15 0x040F</td> <td>0</td> </tr> <tr> <td>Input 11 0x000b</td> <td>0</td> <td>Output 11 0x040B</td> <td>0</td> <td>Output 16 0x0410</td> <td>0</td> </tr> <tr> <td>Input 12 0x000c</td> <td>0</td> <td>Output 12 0x040C</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td>Input 13 0x000d</td> <td>0</td> <td>Output 13 0x040D</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td>Input 14 0x000e</td> <td>0</td> <td>Output 14 0x040E</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td>Input 15 0x000f</td> <td>0</td> <td>Output 15 0x040F</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td>Input 16 0x0010</td> <td>0</td> <td>Output 16 0x0410</td> <td>0</td> <td></td> <td></td> </tr> </tbody> </table>	Address	Value	Address	Value	Address	Value	Input 1 0x0001	0	Output 1 0x0401	0	Output 6 0x0406	0	Input 2 0x0002	0	Output 2 0x0402	0	Output 7 0x0407	0	Input 3 0x0003	0	Output 3 0x0403	0	Output 8 0x0408	0	Input 4 0x0004	0	Output 4 0x0404	0	Output 9 0x0409	0	Input 5 0x0005	0	Output 5 0x0405	0	Output 10 0x040A	0	Input 6 0x0006	0	Output 6 0x0406	0	Output 11 0x040B	0	Input 7 0x0007	0	Output 7 0x0407	0	Output 12 0x040C	0	Input 8 0x0008	0	Output 8 0x0408	0	Output 13 0x040D	0	Input 9 0x0009	0	Output 9 0x0409	0	Output 14 0x040E	0	Input 10 0x000a	0	Output 10 0x040A	0	Output 15 0x040F	0	Input 11 0x000b	0	Output 11 0x040B	0	Output 16 0x0410	0	Input 12 0x000c	0	Output 12 0x040C	0			Input 13 0x000d	0	Output 13 0x040D	0			Input 14 0x000e	0	Output 14 0x040E	0			Input 15 0x000f	0	Output 15 0x040F	0			Input 16 0x0010	0	Output 16 0x0410	0		
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5	Premere <b>Change Configuration (Modifica configurazione)</b> per impostare l'indirizzo IP.	 <p>KUNBUS-GW EtherNet/IP™</p> <p><b>Log Out</b></p> <p>Modbus Register 0x001 - 0x010 and 0x0401 - 0x0410 Modbus Register 0x011 - 0x020 and 0x0411 - 0x0420 Modbus Register 0x021 - 0x030 and 0x041 - 0x0430 Modbus Register 0x031 - 0x040 and 0x0431 - 0x0440</p> <p>Show / Show / Show / Show</p> <p><b>Configuration</b></p> <p>Serial number: 594 Software Version: 1.1.0.844 MAC Address: 0B:34:A7:00:0B:10 IP address: 192.168.1.8 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 DHCP: <input type="checkbox"/> active</p> <p><b>Change Configuration</b> <b>Change Password</b> <b>Reboot</b></p> <p><a href="#">Download EDR file.</a></p>															
6	Modificare l'indirizzo IP in base all'indirizzo gateway. Premere <b>Apply (Applica)</b> per confermare. Impostare tutti i DIP switch su OFF. Spegnere il gateway, quindi riavivarlo. Viene ora utilizzato il nuovo indirizzo IP.	 <p>KUNBUS-GW EtherNet/IP™</p> <p><b>Change Configuration</b></p> <table border="1"> <thead> <tr> <th></th> <th>Old Value</th> <th>New Value</th> </tr> </thead> <tbody> <tr> <td>DHCP</td> <td><input type="checkbox"/> active</td> <td><input type="checkbox"/> active</td> </tr> <tr> <td>IP Address</td> <td>192.168.1.8</td> <td>192.168.1.8</td> </tr> <tr> <td>Network Mask</td> <td>255.255.255.0</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>192.168.1.1</td> <td>192.168.1.1</td> </tr> </tbody> </table> <p><b>Apply</b> <b>Abort</b></p>		Old Value	New Value	DHCP	<input type="checkbox"/> active	<input type="checkbox"/> active	IP Address	192.168.1.8	192.168.1.8	Network Mask	255.255.255.0	255.255.255.0	Gateway	192.168.1.1	192.168.1.1
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DHCP	<input type="checkbox"/> active	<input type="checkbox"/> active															
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Gateway	192.168.1.1	192.168.1.1															

## Sezione 8 Configurazione del gateway Profinet

Punto	Descrizione	Immagine
1	<ul style="list-style-type: none"> <li>Collegare il gateway Profinet al PC con l'adattatore LAN-LAN.</li> <li>Fare riferimento a <a href="#">Introduzione</a> a pagina 93. Utilizzare il collegamento dello slave GATEWAY Profinet IRT. Seguire le istruzioni riportate nel manuale per l'utente fornito dal produttore, <i>Componente Gateway per PROFINET</i>.</li> <li>Utilizzare il software PRONETA per impostare il nome su <b>kunbus-gw-profinet</b>.</li> <li>Immettere l'<b>indirizzo IP</b> utilizzato.</li> </ul>	
2	Aprire il browser e immettere l'indirizzo IP. Dati di accesso per il primo accesso: Nome utente: Admin Password: 1701 Premere <b>Login (Accedi)</b> .	

Punto	Descrizione	Immagine																
3	Premere <b>Show (Mostra)</b> (A) per visualizzare i dati immessi.	<p style="text-align: center;"><b>KUNBUS-GW PROFINET TPS-1</b></p> <p>A</p> <p><b>Input data (from neighbour device)</b></p> <p><b>Output data (from PROFINET Controller)</b></p> <p><b>Configuration</b></p> <table> <tbody> <tr> <td>Serial number</td> <td>4581</td> </tr> <tr> <td>Software Version</td> <td>1.2</td> </tr> <tr> <td>MAC Address</td> <td>c8:3e:a7:01:2c:3a</td> </tr> <tr> <td>IP address</td> <td>192.168.0.230</td> </tr> <tr> <td>Subnet mask</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>0.0.0.0</td> </tr> <tr> <td>IO Controller state</td> <td>no AR established, access from web page possible</td> </tr> <tr> <td>PROFINET Name of Station</td> <td>kunbus-gw-profinet</td> </tr> </tbody> </table> <p><b>Change Password</b></p>	Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:2c:3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
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4	<p>Mostra tutti i dati inviati dal controller al gateway Profinet.</p> <p>Il controller e il gateway Profinet trasferiscono l'area dati 0000 - 01BF, che è un intervallo di 448 byte o 112 float o 224 integer o un insieme di essi, in base al tipo di telegramma del Modbus TCP nel controller.</p>	<p><b>KUNBUS-GW PROFINET TPS-1</b></p> <p><b>Input (from neighbour device)</b></p> <p>Main page</p> <table border="1"> <thead> <tr> <th>Address</th> <th>0</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr><td>0x0000</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> 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## Sezione 9 Risoluzione dei problemi

### 9.1 Risoluzione dei problemi per RevPi

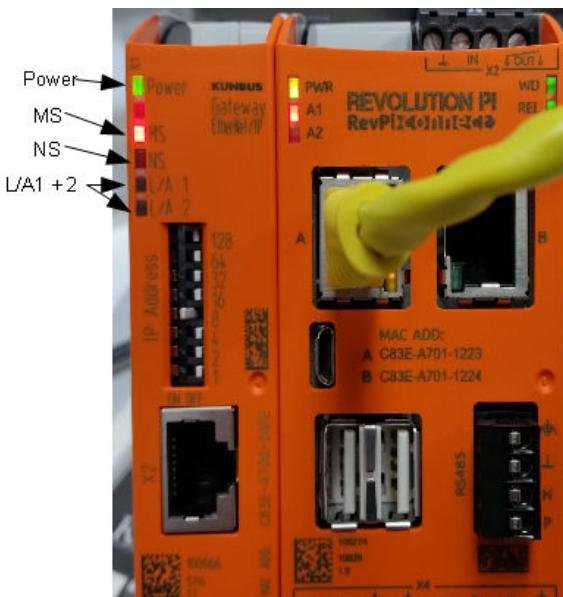
Figura 4 Modulo di base RevPi



Messaggio	Descrizione	Soluzione
Il LED A2 lampeggia in rosso.	La comunicazione è stata interrotta.	<ul style="list-style-type: none"><li>• Collegare il cavo di rete (cavo o router).</li><li>• Impostare l'indirizzo Modbus in Claros su 1.</li><li>• Impostare il Modbus TCP nel menu Claros su on.</li></ul>
Il LED A3 lampeggia lentamente in rosso.	La configurazione del gateway Profinet ed Ethernet/IP è mista.	Fare riferimento a <a href="#">Avvio della configurazione della chiavetta USB</a> a pagina 95, punto 4, e selezionare il tipo di gateway corretto: <ul style="list-style-type: none"><li>• en: Ethernet/IP</li><li>• pn: Profinet</li></ul>

## 9.2 Risoluzione dei problemi per Ethernet/IP

Figura 5 Gateway Ethernet/IP

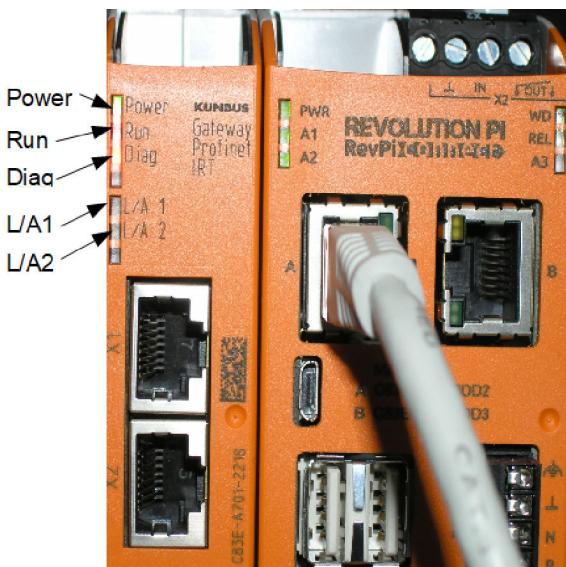


Messaggio	Descrizione	Soluzione
Il LED di alimentazione è spento.	Il gateway Ethernet/IP è disattivato.	Attivare l'alimentazione.
Il LED di alimentazione lampeggi in verde.	La procedura di avvio non è completa.	Attendere qualche minuto.
Il LED di alimentazione lampeggi in rosso.	Indica un'avvertenza.	Verificare che tutti i dispositivi siano collegati.
Il LED di alimentazione è rosso.	Indica un errore.	Il gateway Ethernet/IP è difettoso. Sostituire il gateway Ethernet/IP.
Il LED MS è spento.	Il gateway Ethernet/IP è disattivato.	Attivare l'alimentazione.
Il LED MS lampeggi in verde.	La procedura di configurazione non è completa.	Attendere qualche minuto.
Il LED MS lampeggi in rosso.	Indica un errore di configurazione.	Fare riferimento a <a href="#">Configurazione del gateway Ethernet/IP</a> a pagina 105 per verificare la configurazione.
Il LED MS è rosso.	Indica un errore.	Il gateway Ethernet/IP è difettoso. Sostituire il gateway Ethernet/IP.
Il LED MS lampeggi in rosso e verde.	Il test automatico non è completo.	Attendere qualche minuto.

Messaggio	Descrizione	Soluzione
Il LED NS è spento.	Il gateway Ethernet/IP è disattivato o non dispone di indirizzo IP.	Attivare l'alimentazione. Impostare l'indirizzo IP.
Il LED NS lampeggia in verde.	L'indirizzo IP è impostato ma la connessione CIP non è stabilita.	Attendere qualche minuto.
Il LED NS lampeggia in rosso.	La connessione CIP è stata interrotta.	Verificare se è presente un timeout.
Il LED NS è rosso.	L'indirizzo IP selezionato è utilizzato da un altro dispositivo.	Modificare l'indirizzo IP con uno univoco.
Il LED L/A 1 o 2 è spento.	Nessun collegamento ad altri dispositivi.	Eseguire il collegamento a un dispositivo.
Il LED L/A 1 o 2 lampeggia in verde.	Nessuno scambio di dati.	Attendere lo scambio di dati successivo.

### 9.3 Risoluzione dei problemi per Profinet

Figura 6 Gateway PROFINET



Messaggio	Descrizione	Soluzione
Il LED di alimentazione è spento.	Il gateway Profinet è spento.	Attivare l'alimentazione.
Il LED di alimentazione lampeggia in verde.	La procedura di avvio non è stata completata.	Attendere qualche minuto.
Il LED di alimentazione lampeggia in rosso.	Indica un'avvertenza.	Verificare che tutti i dispositivi siano installati.

Messaggio	Descrizione	Soluzione
Il LED di alimentazione è rosso.	Indica un errore.	Il gateway Profinet è difettoso. Sostituire il gateway Profinet.
Il LED di funzionamento è spento.	Nessuna connessione a una rete.	Eseguire la connessione alla rete.
Il LED di funzionamento lampeggiava in verde.	Il controller Profinet è collegato ma non avviene lo scambio di dati.	Attendere lo scambio di dati successivo.
Il LED di funzionamento lampeggiava lentamente in verde.	Stato attivato dallo strumento per l'identificazione del componente gateway.	Attendere qualche minuto.
Il LED di diagnostica lampeggiava in rosso.	Stato attivato dallo strumento per l'identificazione del componente gateway.	Attendere qualche minuto.
Il LED di diagnostica lampeggiava velocemente in rosso.	Nessuna connessione al controller. Nessun nome Profinet impostato nel modulo.	Fare riferimento a <a href="#">Configurazione del gateway Profinet</a> a pagina 108 per impostare il nome.
Il LED di diagnostica è rosso.	Un dispositivo gateway riporta i dati di diagnosi.	Fare riferimento al report diagnostico.
Il LED L/A 1 o 2 è spento.	Nessuna connessione a una rete.	Eseguire la connessione alla rete.
Il LED L/A 1 o 2 lampeggiava in verde.	Scambio di dati.	Attendere il completamento dello scambio di dati.

# Índice

- 1 Utilização prevista na página 115
- 2 Introdução na página 115
- 3 Iniciar a configuração USB na página 117
- 4 Exemplos de instalação na página 119
- 5 Configuração do telegrama Modbus TCP do controlador SC4200c na página 122
- 6 Configuração do telegrama Modbus TCP do controlador SC1500 na página 125
- 7 Configurar o gateway Ethernet/IP na página 128
- 8 Configurar o gateway Profinet na página 131
- 9 Resolução de problemas na página 134

## Secção 1 Utilização prevista

Estas instruções de configuração destinam-se a serem utilizadas por pessoas que integrem o gateway Ethernet/IP externo ou o gateway Profinet como componentes de hardware na rede Claro.

## Secção 2 Introdução

O fabricante não é responsável por quaisquer danos resultantes da aplicação incorreta ou utilização indevida deste produto, incluindo, entre outros, danos diretos, incidentais e consequenciais, não se responsabilizando por tais danos ao abrigo da lei aplicável. O utilizador é o único responsável pela identificação de riscos de aplicação críticos e pela instalação de mecanismos adequados para a proteção dos processos na eventualidade de uma avaria do equipamento.

### ▲ PERIGO



Perigo de electrocussão. Desligue sempre o equipamento antes de efectuar quaisquer ligações eléctricas.

#### Itens a preparar:

- Unidade USB formatada como FAT32
- PC com Windows<sup>1</sup> 10
- Módulo:
  - Para implementação de Ethernet/IP:
    - LXZ446.999.00001: Módulo básico GATEWAY RevPi IIoT
    - LXZ446.99.00002: GATEWAY Ethernet/IP Slave
    - LXZ446.999.00003: jumper para PiBridge
  - Para implementação Profinet:
    - LXZ446.999.00001: Módulo básico GATEWAY RevPi IIoT
    - LXZ446.999.00007: GATEWAY Profinet IRT Slave
    - LXZ446.999.00003: jumper para PiBridge

Ligue os três módulos RevPi, Slave e PiBridge à alimentação e à LAN.

Consulte as ligações na tabela que se segue para obter mais informações sobre o fabricante dos módulos.

Módulo	Ligaçāo
GATEWAY Profinet IRT Slave	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
GATEWAY Ethernet/IP Slave	<a href="https://www.kunbus.com/ethernet-ip-gateway-module.html">https://www.kunbus.com/ethernet-ip-gateway-module.html</a>

<sup>1</sup> Microsoft® Windows® é uma marca comercial registada da Microsoft Corporation nos E.U.A. e noutras países.

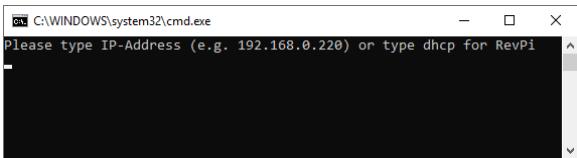
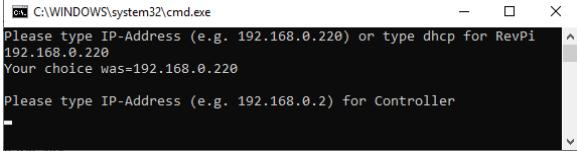
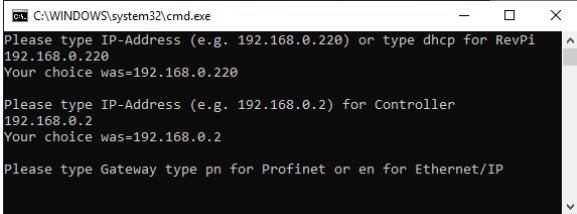
Módulo	Ligaçāo
Módulo básico RevPi GATEWAY IIoT	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>
Como ligar módulos RevPi	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>
Como instalar módulos RevPi numa calha DIN	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
Como ligar a fonte de alimentação	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

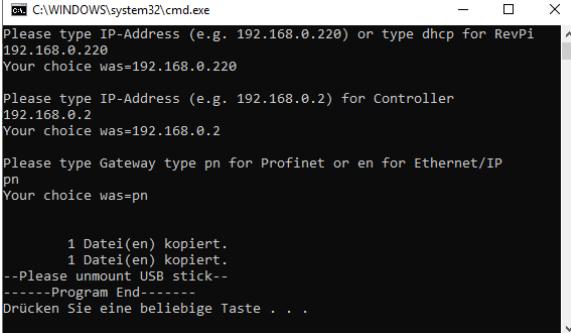
## Preparar a unidade USB

1. Introduza uma unidade USB vazia no PC.
2. Aceda a <https://www.hach.com> e procure as palavras-chave "usb ethernet/IP installation" (Instalação usb ethernet/IP) ou "usb profinet installation" (Instalação usb profinet).
3. Transfira USB\_ETHIP\_PRNET.zip.
4. Descomprima o ficheiro para o diretório raiz da unidade USB.

## Secção 3 Iniciar a configuração USB

Introduza a unidade USB preparada no PC.

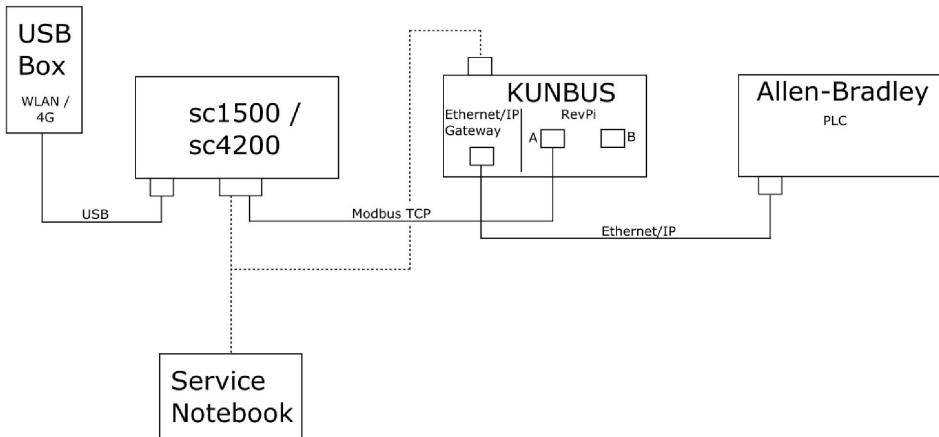
Passo	Descrição	Imagen
1	Inicie start_usb_config.bat. Abre-se uma janela de terminal. Siga o guia passo a passo.	
2	Introduza o endereço IP do módulo RevPi.	
3	Introduza o endereço IP do controlador SC. Certifique-se de que o prefixo de rede é igual ao do módulo RevPi (por exemplo, 192.168.0). Certifique-se de que o identificador do anfitrião é diferente do módulo RevPi (por exemplo, 220 RevPi, 2 Controller).	
4	Introduza o tipo de gateway: <ul style="list-style-type: none"><li>• pn - Profinet</li><li>• en - Ethernet/IP</li></ul>	

Passo	Descrição	Imagem
5	Confirme as definições com Enter. Retire a unidade USB.	
6	Introduza a unidade USB na tomada USB esquerda do módulo RevPi.	
7	<p>Descrição do LED:</p> <ul style="list-style-type: none"> <li>A1/A2 laranja: início da instalação do RevPi.</li> <li>A1 vermelho, A2 desligado: inserir unidade USB no RevPi.</li> <li>A1 verde, A2 desligado: unidade USB inserida com êxito.</li> <li>A1 desligado, A2 verde: O RevPi transfere/carrega dados a partir da unidade USB.</li> <li>A3 vermelho: reinício do RevPi.</li> </ul> <p>Quando A3 estiver vermelho, retire a unidade USB.</p>	
8	As definições do RevPi estão concluídas.	

## Secção 4 Exemplos de instalação

Figura 1 mostra uma instalação com duas ligações LAN diferentes.

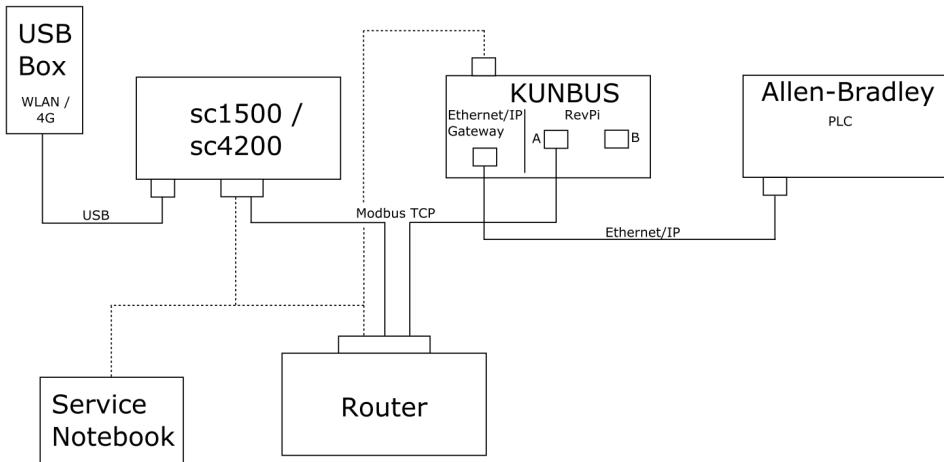
Figura 1 Exemplo 1



- Modbus TCP e Ethernet/IP utilizam duas ligações LAN diferentes.
- Todos os dispositivos têm um endereço IP estático.
- O controlador tem acesso à Internet através de ligação Wi-Fi ou rede móvel.
- Para configurar os endereços IP do controlador e do gateway Ethernet/IP, é necessário um computador portátil.

[Figura 2](#) mostra uma instalação com um router para a ligação Modbus TCP.

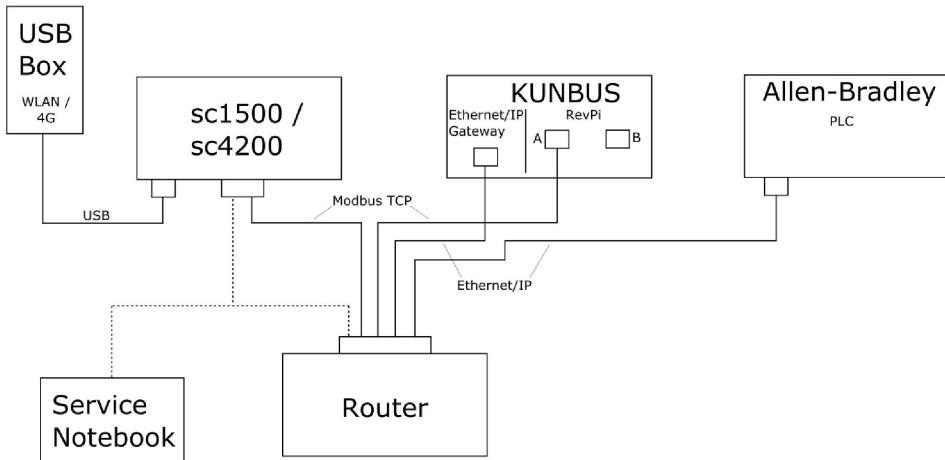
**Figura 2 Exemplo 2**



- O Modbus TCP está ligado a um router.
- Todos os dispositivos têm um endereço IP estático ou o router define o endereço IP através de DHCP.  
*Nota: Certifique-se de que o router utiliza sempre o mesmo endereço IP para os mesmos dispositivos (MAC) se for utilizado DHCP.*
- O controlador tem acesso à Internet através de ligação Wi-Fi ou rede móvel.
- Para configurar o endereço IP do controlador, o gateway Ethernet/IP e as definições do router, é necessário um computador portátil.

[Figura 3](#) mostra uma instalação com um router ou um comutador para todos os dispositivos.

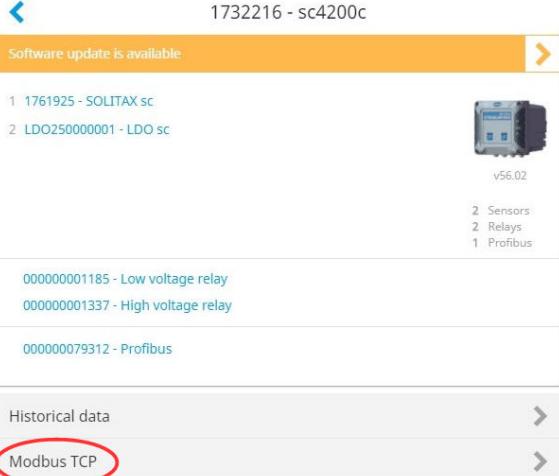
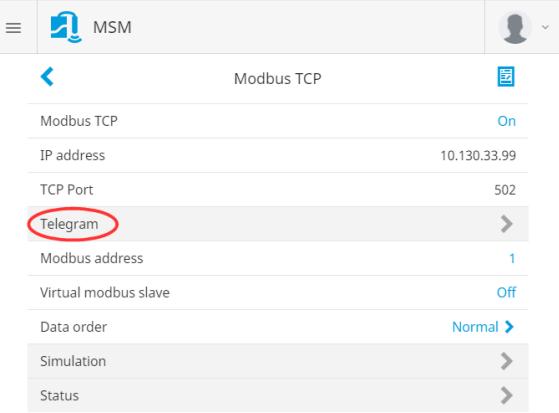
**Figura 3 Exemplo 3**

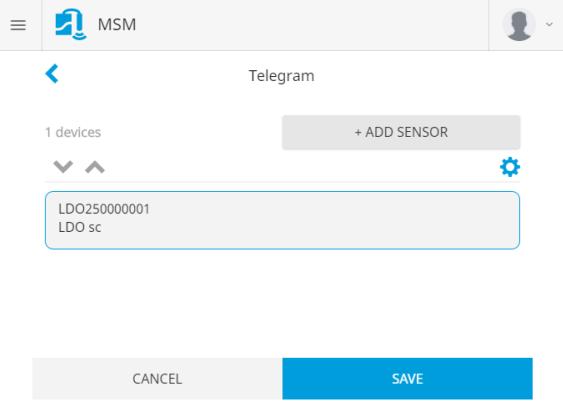
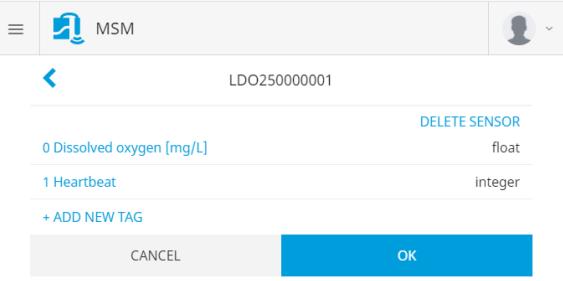


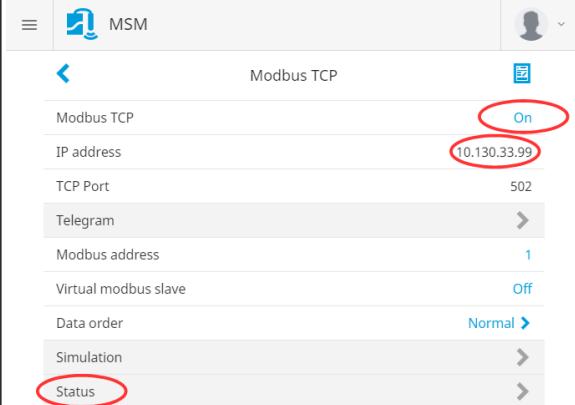
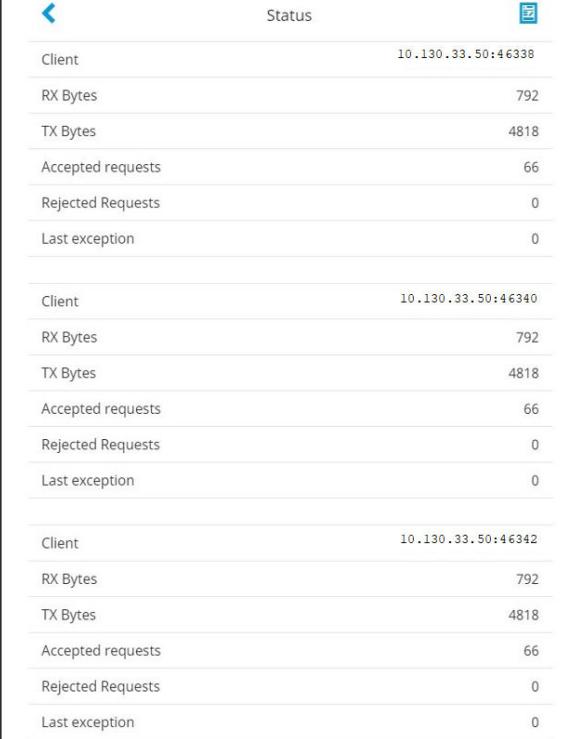
- Todos os dispositivos estão ligados com um router ou um comutador.
- Todos os dispositivos têm um endereço IP estático ou o router ou comutador define o endereço IP através de DHCP.  
*Nota: Certifique-se de que o router utiliza sempre o mesmo endereço IP para os mesmos dispositivos (MAC) se for utilizado DHCP.*
- O controlador tem acesso à Internet através de ligação Wi-Fi ou rede móvel.
- Para configurar o endereço IP do controlador e as definições do router, é necessário um computador portátil.

## Secção 5 Configuração do telegrama Modbus TCP do controlador SC4200c

Inicie a aplicação Claros e siga o guia passo a passo.

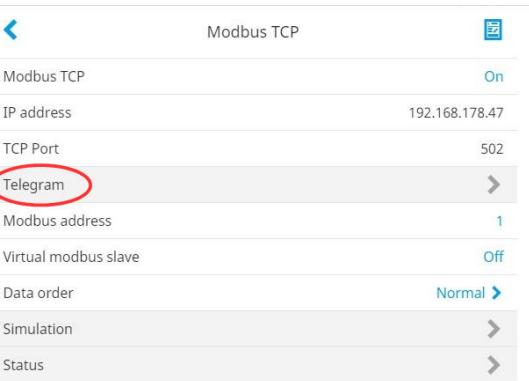
Passo	Descrição	Imagen
1	Selecione o menu do controlador e, em seguida, prima <b>Modbus TCP</b> .	
2	Selecione <b>Telegram (Telegrama)</b> para definir o telegrama Modbus TCP.	

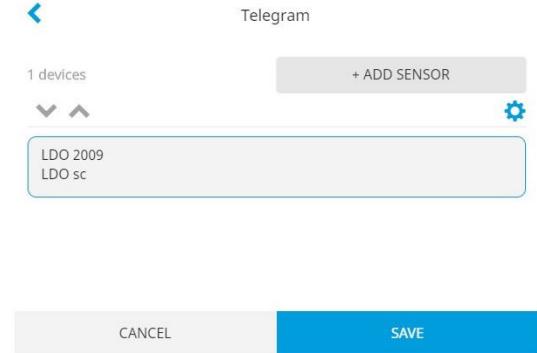
Passo	Descrição	Imagen
3	<p>O telegrama apresentado é um exemplo do sensor LDO sc. Defina o Heartbeat para inteiro. O Heartbeat é um contador que mostra a atualização do valor em incrementos de um segundo.</p> <p><b>Nota:</b> O conteúdo do telegrama Modbus TCP é igual ao telegrama Profibus.</p>	 

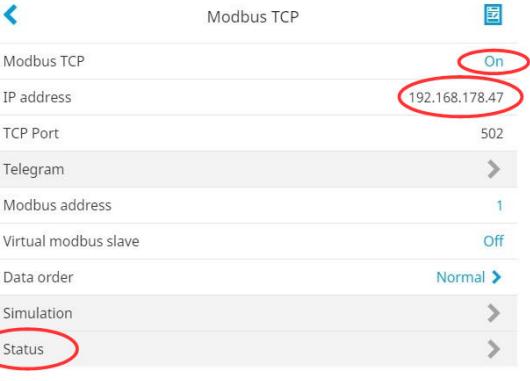
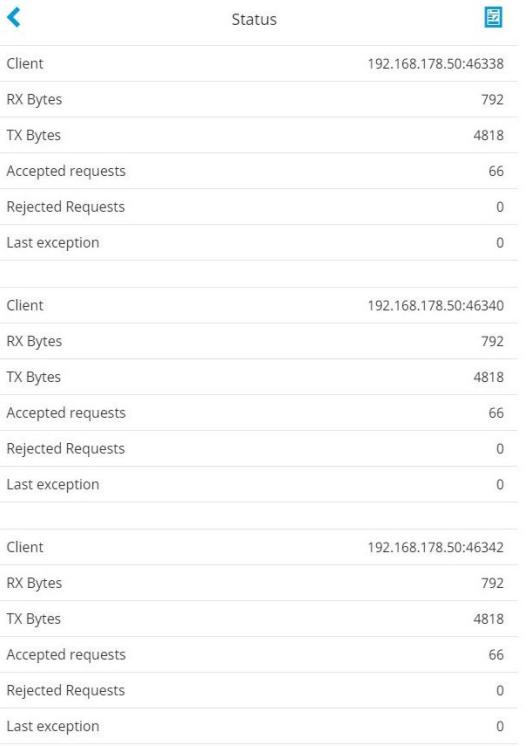
Passo	Descrição	Imagem																																				
4	<p>O menu Modbus TCP apresenta o endereço IP do controlador. <b>10.130.33.99</b> é o endereço IP definido no menu de serviço do controlador. Defina Modbus TCP como <b>On (Ligado)</b> e, em seguida, prima <b>Status (Estado)</b>.</p>																																					
5	<p>O menu Status (Estado) apresenta as estatísticas Modbus TCP. <b>10.130.33.50</b> é o endereço IP do módulo RevPi. O RevPi tem 5 Modbus TCP master.</p>	 <table border="1"> <thead> <tr> <th>Client</th> <th>10.130.33.50:46338</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Client</th> <th>10.130.33.50:46340</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Client</th> <th>10.130.33.50:46342</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table>	Client	10.130.33.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	10.130.33.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	10.130.33.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Secção 6 Configuração do telegrama Modbus TCP do controlador SC1500

Inicie a aplicação Claros e siga o guia passo a passo.

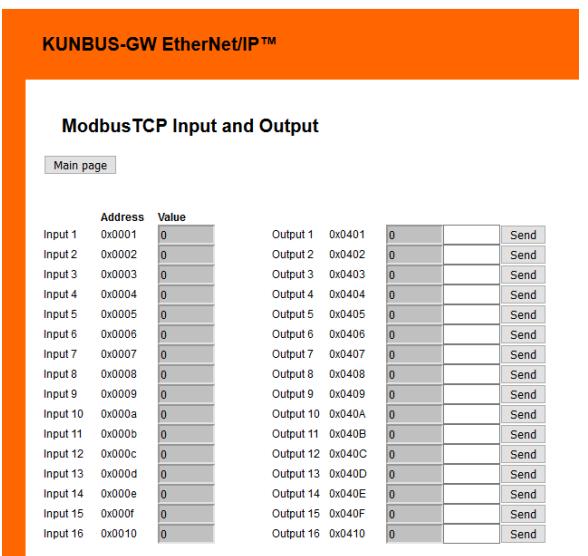
Passo	Descrição	Imagen
1	Selecione o menu do controlador e, em seguida, prima <b>Modbus TCP</b> .	 <p>The screenshot shows the SC1500 device configuration interface. At the top, it displays the identifier "1694389 - sc1500". Below this, there are three numbered options: 1 1327087 - AN-ISE sc, 2 1555058 - AN-ISE sc, and 3 LDO 2009 - LDO sc. Further down, there are two more options: 000000074854 - mA output and 000005009872 - Profibus. A section labeled "Historical data" contains two items: "Modbus TCP" and "Modbus TCP". The item "Modbus TCP" is circled in red.</p>
2	Selecione <b>Telegram</b> ( <b>Telegrama</b> ) para definir o telegrama Modbus TCP.	 <p>The screenshot shows the "Modbus TCP" configuration screen. It includes settings for IP address (192.168.178.47), TCP Port (502), and a list of parameters. The parameter "Telegram" is circled in red. Other visible parameters include Modbus address (1), Virtual modbus slave (Off), Data order (Normal), Simulation, and Status.</p>

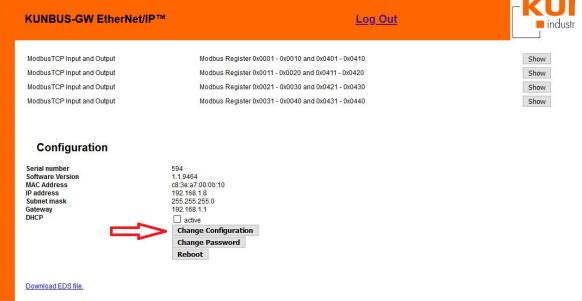
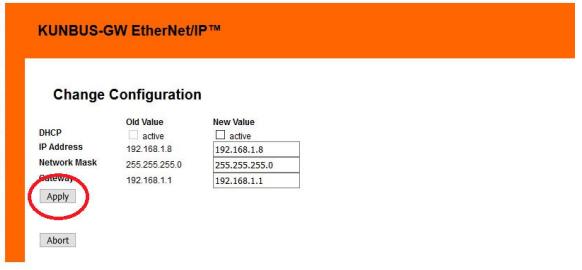
Passo	Descrição	Imagem
3	<p>O telegrama apresentado é um exemplo do sensor LDO sc.</p> <p>Defina o Heartbeat para inteiro. O Heartbeat é um contador que mostra a atualização do valor em incrementos de um segundo.</p> <p><b>Nota:</b> O conteúdo do telegrama Modbus TCP é igual ao telegrama Profibus.</p>	 

Passo	Descrição	Imagem																																				
4	O menu Modbus TCP apresenta o endereço IP do controlador. <b>192.168.178.47</b> é o endereço IP definido no menu de serviço do controlador. Defina Modbus TCP como <b>On (Ligado)</b> e, em seguida, prima <b>Status (Estado)</b> .	 <table border="1"> <tr><td>Modbus TCP</td><td>On</td></tr> <tr><td>IP address</td><td>192.168.178.47</td></tr> <tr><td>TCP Port</td><td>502</td></tr> <tr><td>Telegram</td><td></td></tr> <tr><td>Modbus address</td><td>1</td></tr> <tr><td>Virtual modbus slave</td><td>Off</td></tr> <tr><td>Data order</td><td>Normal &gt;</td></tr> <tr><td>Simulation</td><td>&gt;</td></tr> <tr><td>Status</td><td>&gt;</td></tr> </table>	Modbus TCP	On	IP address	192.168.178.47	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal >	Simulation	>	Status	>																		
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5	O menu Status (Estado) apresenta as estatísticas Modbus TCP. <b>192.168.178.50</b> é o endereço IP do módulo RevPi. O RevPi tem 7 Modbus TCP master.	 <table border="1"> <tr><td>Client</td><td>192.168.178.50:46338</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td>Client</td><td>192.168.178.50:46340</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td>Client</td><td>192.168.178.50:46342</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> </table>	Client	192.168.178.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Secção 7 Configurar o gateway Ethernet/IP

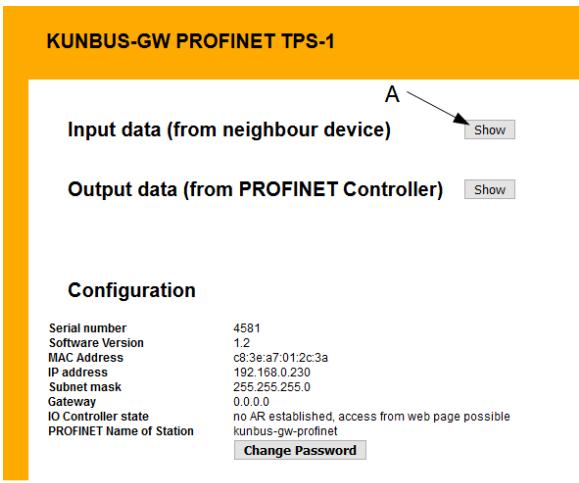
Passo	Descrição	Imagem
1	<ul style="list-style-type: none"> <li>Ligue o gateway Ethernet/IP ao PC com o cabo adaptador LAN para USB.</li> <li>Consulte <a href="#">Introdução</a> na página 115. Utilize a ligação do GATEWAY Ethernet/IP Slave. Siga as instruções no manual do utilizador do fabricante <i>Componente do gateway para Ethernet/IP</i>.</li> <li>Utilize o comutador de endereço de 8 pinos (A) para definir o identificador do anfitrião para o formato binário do gateway. <ul style="list-style-type: none"> <li>Exemplo: defina o anfitrião como 8:00010000</li> </ul> </li> <li>Abra o website <a href="http://192.168.1.X">http://192.168.1.X</a> (X = soma de todos os comutadores definidos para ON ([Ligado])).</li> </ul>	
2	<p>Abra o browser e introduza o endereço IP 192.168.1.X. Dados de início de sessão para o primeiro início de sessão:</p> <p>Utilizador: Admin Palavra-passe: 1701 Prima <b>Login (Iniciar sessão)</b>.</p>	<p>KUNBUS-GW EtherNet/IP™</p> <p>Username: <input type="text" value="Admin"/></p> <p>Password: <input type="password"/></p> <p><input type="button" value="Login"/></p> <p><a href="#">Download EDS file.</a></p>

Passo	Descrição	Imagen																																																																																																						
3	O controlador e o gateway Ethernet/IP transferem a área de dados 0000-01BF, que é um intervalo de 448 bytes ou 112 flutuantes ou 224 inteiros, ou uma combinação deles, com base no tipo de telegrama do Modbus TCP no controlador. <i>Nota: É apresentado apenas o primeiro intervalo de dados até 32 inteiros. Veja todos os dados no PLC (224 inteiros).</i> Prima Show (Mostrar).	 <p>KUNBUS-GW EtherNet/IP™</p> <p>Log Out</p> <p>Modbus Register 0x0001 - 0x0010 and 0x0401 - 0x0410      Modbus Register 0x0011 - 0x0020 and 0x0411 - 0x0420      Modbus Register 0x0021 - 0x0030 and 0x0421 - 0x0430      Modbus Register 0x0031 - 0x0040 and 0x0431 - 0x0440</p> <p>Show Show Show Show</p> <p><b>Configuration</b></p> <p>Serial number: 594      Software Version: 1.1.944      MAC Address: c8:3e:47:00:00:10      IP address: 192.168.1.8      Subnet mask: 255.255.255.0      Gateway: 192.168.1.1  <input type="checkbox"/> active  <a href="#">Change Configuration</a>  <a href="#">Change Password</a>  <a href="#">Reboot</a></p> <p><a href="#">Download EDR file.</a></p>																																																																																																						
4	É apresentada a área de dados selecionada.	 <p>KUNBUS-GW EtherNet/IP™</p> <p>Main page</p> <p><b>ModbusTCP Input and Output</b></p> <table border="1"> <thead> <tr> <th></th> <th>Address</th> <th>Value</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr><td>Input 1</td><td>0x0001</td><td>0</td><td>Output 1</td><td>0x0401</td><td>0</td></tr> <tr><td>Input 2</td><td>0x0002</td><td>0</td><td>Output 2</td><td>0x0402</td><td>0</td></tr> <tr><td>Input 3</td><td>0x0003</td><td>0</td><td>Output 3</td><td>0x0403</td><td>0</td></tr> <tr><td>Input 4</td><td>0x0004</td><td>0</td><td>Output 4</td><td>0x0404</td><td>0</td></tr> <tr><td>Input 5</td><td>0x0005</td><td>0</td><td>Output 5</td><td>0x0405</td><td>0</td></tr> <tr><td>Input 6</td><td>0x0006</td><td>0</td><td>Output 6</td><td>0x0406</td><td>0</td></tr> <tr><td>Input 7</td><td>0x0007</td><td>0</td><td>Output 7</td><td>0x0407</td><td>0</td></tr> <tr><td>Input 8</td><td>0x0008</td><td>0</td><td>Output 8</td><td>0x0408</td><td>0</td></tr> <tr><td>Input 9</td><td>0x0009</td><td>0</td><td>Output 9</td><td>0x0409</td><td>0</td></tr> <tr><td>Input 10</td><td>0x000a</td><td>0</td><td>Output 10</td><td>0x040A</td><td>0</td></tr> <tr><td>Input 11</td><td>0x000b</td><td>0</td><td>Output 11</td><td>0x040B</td><td>0</td></tr> <tr><td>Input 12</td><td>0x000c</td><td>0</td><td>Output 12</td><td>0x040C</td><td>0</td></tr> <tr><td>Input 13</td><td>0x000d</td><td>0</td><td>Output 13</td><td>0x040D</td><td>0</td></tr> <tr><td>Input 14</td><td>0x000e</td><td>0</td><td>Output 14</td><td>0x040E</td><td>0</td></tr> <tr><td>Input 15</td><td>0x000f</td><td>0</td><td>Output 15</td><td>0x040F</td><td>0</td></tr> <tr><td>Input 16</td><td>0x0010</td><td>0</td><td>Output 16</td><td>0x0410</td><td>0</td></tr> </tbody> </table>		Address	Value				Input 1	0x0001	0	Output 1	0x0401	0	Input 2	0x0002	0	Output 2	0x0402	0	Input 3	0x0003	0	Output 3	0x0403	0	Input 4	0x0004	0	Output 4	0x0404	0	Input 5	0x0005	0	Output 5	0x0405	0	Input 6	0x0006	0	Output 6	0x0406	0	Input 7	0x0007	0	Output 7	0x0407	0	Input 8	0x0008	0	Output 8	0x0408	0	Input 9	0x0009	0	Output 9	0x0409	0	Input 10	0x000a	0	Output 10	0x040A	0	Input 11	0x000b	0	Output 11	0x040B	0	Input 12	0x000c	0	Output 12	0x040C	0	Input 13	0x000d	0	Output 13	0x040D	0	Input 14	0x000e	0	Output 14	0x040E	0	Input 15	0x000f	0	Output 15	0x040F	0	Input 16	0x0010	0	Output 16	0x0410	0
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5	Prima <b>Change Configuration (Alterar configuração)</b> para definir o endereço IP.	 <p>KUNBUS-GW EtherNet/IP™</p> <p><b>Log Out</b> <b>KUI</b> indusit</p> <p>Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output</p> <p>Modbus Register 0x001 - 0x010 and 0x0401 - 0x0410 Modbus Register 0x011 - 0x020 and 0x0411 - 0x0420 Modbus Register 0x021 - 0x030 and 0x0421 - 0x0430 Modbus Register 0x031 - 0x040 and 0x0431 - 0x0440</p> <p>Show Show Show Show</p> <p><b>Configuration</b></p> <p>Serial number: 594 Software Version: 1.1.944 MAC Address: IP address: 192.168.1.8 Network Mask: 255.255.255.0 Gateway: 192.168.1.1 DHCP: <input type="checkbox"/> active</p> <p><b>Change Configuration</b> <b>Change Password</b> <b>Reboot</b></p> <p><a href="#">Download ECR file</a></p>															
6	Altere o endereço IP de acordo com o endereço do gateway.  Prima <b>Apply (Aplicar)</b> para confirmar.  Desligue todos os comutadores DIP.  Desligue a alimentação do gateway e, em seguida, reinicie. O novo endereço IP é agora utilizado.	 <p>KUNBUS-GW EtherNet/IP™</p> <p><b>Change Configuration</b></p> <table border="1"> <thead> <tr> <th></th> <th>Old Value</th> <th>New Value</th> </tr> </thead> <tbody> <tr> <td>DHCP</td> <td><input type="checkbox"/> active</td> <td><input type="checkbox"/> active</td> </tr> <tr> <td>IP Address</td> <td>192.168.1.8</td> <td>192.168.1.8</td> </tr> <tr> <td>Network Mask</td> <td>255.255.255.0</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>192.168.1.1</td> <td>192.168.1.1</td> </tr> </tbody> </table> <p><b>Apply</b> <b>Abort</b></p>		Old Value	New Value	DHCP	<input type="checkbox"/> active	<input type="checkbox"/> active	IP Address	192.168.1.8	192.168.1.8	Network Mask	255.255.255.0	255.255.255.0	Gateway	192.168.1.1	192.168.1.1
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IP Address	192.168.1.8	192.168.1.8															
Network Mask	255.255.255.0	255.255.255.0															
Gateway	192.168.1.1	192.168.1.1															

## Secção 8 Configurar o gateway Profinet

Passo	Descrição	Imagem
1	<ul style="list-style-type: none"> <li>Ligue o gateway Profinet ao PC com o adaptador LAN para LAN.</li> <li>Consulte <a href="#">Introdução</a> na página 115. Utilize a ligação GATEWAY Profinet IRT Slave. Siga as instruções no manual do utilizador do fabricante <i>Componente do gateway para PROFINET</i>.</li> <li>Utilize o software PRONETA para definir o nome como <b>kunbus-gw-profinet</b>.</li> <li>Introduza o <b>endereço IP</b> utilizado.</li> </ul>	
2	<p>Abra o browser e introduza o endereço IP. Dados de início de sessão para o primeiro início de sessão:</p> <p>Utilizador: Admin Palavra-passe: 1701 <b>Prima Login (Iniciar sessão).</b></p>	

Passo	Descrição	Imagen																
3	Prima <b>Show (Mostrar)</b> (A) para apresentar os dados de entrada.	 <p>KUNBUS-GW PROFINET TPS-1</p> <p>A</p> <p>Input data (from neighbour device) <input type="button" value="Show"/></p> <p>Output data (from PROFINET Controller) <input type="button" value="Show"/></p> <p><b>Configuration</b></p> <table> <tbody> <tr><td>Serial number</td><td>4581</td></tr> <tr><td>Software Version</td><td>1.2</td></tr> <tr><td>MAC Address</td><td>c8:3e:a7:01:c2:c3a</td></tr> <tr><td>IP address</td><td>192.168.0.230</td></tr> <tr><td>Subnet mask</td><td>255.255.255.0</td></tr> <tr><td>Gateway</td><td>0.0.0.0</td></tr> <tr><td>IO Controller state</td><td>no AR established, access from web page possible</td></tr> <tr><td>PROFINET Name of Station</td><td>kunbus-gw-profinet</td></tr> </tbody> </table> <p><input type="button" value="Change Password"/></p>	Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:c2:c3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
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## Secção 9 Resolução de problemas

### 9.1 Resolução de problemas do RevPi

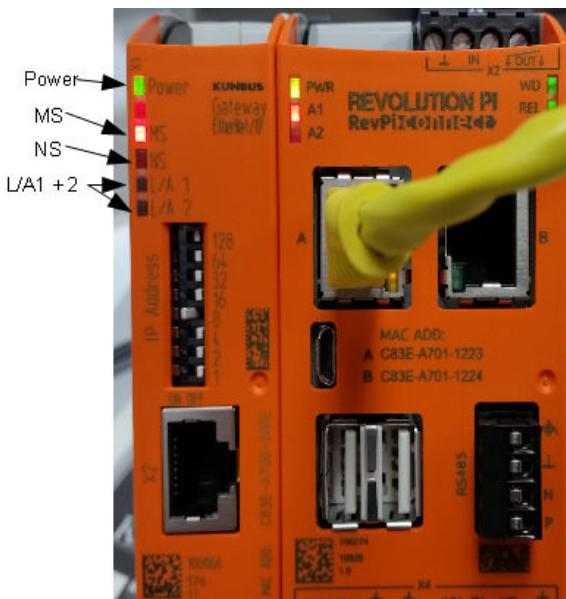
Figura 4 Módulo básico do RevPi



Mensagem	Descrição	Solução
O LED A2 pisca a vermelho.	A comunicação parou.	<ul style="list-style-type: none"><li>Ligue o cabo de rede (cablo ou router).</li><li>Especifique a definição de endereço Modbus no Claros como 1.</li><li>Defina o Modbus TCP no menu Claros como On (Ligado).</li></ul>
O LED A3 pisca lentamente a vermelho.	A configuração de Ethernet/IP e do gateway Profinet é mista.	Consulte <a href="#">Iniciar a configuração USB</a> na página 117 no passo 4 e selecione o tipo de gateway correto: <ul style="list-style-type: none"><li>en – Ethernet/IP</li><li>pn – Profinet</li></ul>

## 9.2 Resolução de problemas de Ethernet/IP

Figura 5 Gateway Ethernet/IP

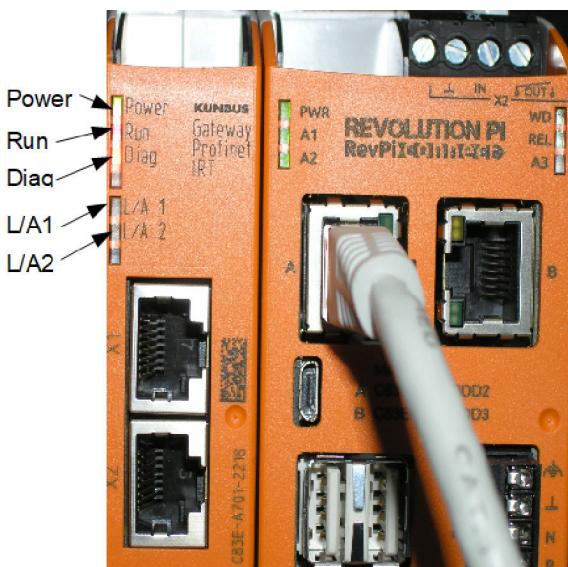


Mensagem	Descrição	Solução
O LED de alimentação está apagado.	O gateway Ethernet/IP está definido como Off (Desligado).	Ligar a alimentação.
O LED de alimentação pisca a verde.	O procedimento de arranque não está concluído.	Aguarde alguns minutos.
O LED de alimentação pisca a vermelho.	Apresenta um aviso.	Verifique se todos os dispositivos estão ligados.
O LED de alimentação está vermelho.	Apresenta um erro.	O gateway Ethernet/IP apresenta uma avaria. Substitua o gateway Ethernet/IP.
O LED MS está desligado.	O gateway Ethernet/IP está definido como Off (Desligado).	Ligue a alimentação.
O LED MS pisca a verde.	O procedimento de configuração não foi concluído.	Aguarde alguns minutos.
O LED MS pisca a vermelho.	Mostra um erro de configuração.	Consulte <a href="#">Configurar o gateway Ethernet/IP</a> na página 128 para examinar a configuração.
O LED MS está vermelho.	Apresenta um erro.	O gateway Ethernet/IP apresenta uma avaria. Substitua o gateway Ethernet/IP.

Mensagem	Descrição	Solução
O LED MS pisca a vermelho e verde.	O teste automático não foi concluído.	Aguarde alguns minutos.
O LED NS está desligado.	O gateway Ethernet/IP está definido como Off (Desligado) ou não tem endereço IP.	Ligue a alimentação. Defina o endereço IP.
O LED NS pisca a verde.	O endereço IP está definido, mas a ligação CIP não foi estabelecida.	Aguarde alguns minutos.
O LED NS pisca a vermelho.	A ligação CIP foi interrompida.	Verifique se há um limite de tempo.
O LED NS está vermelho.	O endereço IP selecionado está a ser utilizado por outro dispositivo.	Altere o endereço IP para um endereço IP exclusivo.
O LED L/A 1 ou 2 está apagado.	Não existe ligação a outros dispositivos.	Ligue a um dispositivo.
O LED L/A 1 ou 2 pisca a verde.	Sem intercâmbio de dados.	Aguarde até ao próximo intercâmbio de dados.

### 9.3 Resolução de problemas do Profinet

Figura 6 Gateway Profinet



Mensagem	Descrição	Solução
O LED de alimentação está apagado.	O gateway Profinet está desligado.	Ligue a alimentação.
O LED de alimentação pisca a verde.	O procedimento de arranque não foi concluído.	Aguarde alguns minutos.

Mensagem	Descrição	Solução
O LED de alimentação pisca a vermelho.	Apresenta um aviso.	Verifique se todos os dispositivos estão instalados.
O LED de alimentação está vermelho.	Apresenta um erro.	O gateway Profinet apresenta uma avaria. Substitua o gateway Profinet.
O LED de funcionamento está apagado.	Sem ligação a uma rede.	Ligue à rede.
O LED de funcionamento pisca a verde.	O controlador Profinet está ligado, mas não há intercâmbio de dados.	Aguarde até ao próximo intercâmbio de dados.
O LED de funcionamento pisca lentamente a verde.	Acionado pela ferramenta de identificação do componente do gateway.	Aguarde alguns minutos.
O LED de diagnóstico pisca a vermelho.	Acionado pela ferramenta de identificação do componente do gateway.	Aguarde alguns minutos.
O LED de diagnóstico pisca rapidamente a vermelho.	Sem ligação ao controlador. Nenhum nome Profinet definido no módulo.	Consulte <a href="#">Configurar o gateway Profinet</a> na página 131 para definir o nome.
O LED de diagnóstico está vermelho.	Um dispositivo Gateway comunica dados de diagnóstico.	Consulte o relatório de diagnóstico.
O LED L/A 1 ou 2 está apagado.	Sem ligação a uma rede.	Ligue à rede.
O LED L/A 1 ou 2 pisca a verde.	Intercâmbio de dados.	Aguarde até o intercâmbio de dados estar concluído.

## Indholdsfortegnelse

- 1 Tilsigtet brug på side 138
- 2 Introduktion på side 138
- 3 Start USB-konfigurationen på side 140
- 4 Eksempler på installation på side 141
- 5 Opsætning af SC4200c Modbus TCP-telegram til controlleren på side 144
- 6 Opsætning af SC1500 Modbus TCP-telegram til controlleren på side 147
- 7 Konfigurer Ethernet-/IP-gateway på side 150
- 8 Konfigurer Profinet-gatewayen på side 153
- 9 Fejlsøgning på side 156

## Sektion 1 Tilsigtet brug

Disse opsætningsinstruktioner er beregnet til at blive brugt af personer, der integrerer en ekstern Ethernet-/IP-gateway eller Profinet-gateway som hardwarekomponenter i Claros-netværket.

## Sektion 2 Introduktion

Producenten er ikke ansvarlig for eventuelle skader på grund af forkert anvendelse eller misbrug af dette produkt, herunder uden begrænsning direkte skader, hændelige skader eller følgeskader, og fraskriver sig ansvaret for sådanne skader i det fulde omfang, som tillades ifølge gældende lov. Kun brugeren er ansvarlig for at identificere alvorlige risici ved anvendelsen og installere relevante mekanismer til beskyttelse af processerne i forbindelse med en eventuel fejl på udstyret.

### ⚠ FARE



Fare for livsfarligt elektrisk stød. Frakobl altid strømmen fra instrumentet, før der udføres elektriske tilslutninger.

#### Følgende skal anvendes:

- USB-nøgle formateret som FAT32
- En pc med Windows<sup>1</sup> 10
- Modul:
  - Til implementering af Ethernet/IP:
    - LXZ446.99.00001: GATEWAY IIoT RevPi-basismodul
    - LXZ446.99.00002: GATEWAY Ethernet/IP-slave
    - LXZ446.99.00003: Jumper til PiBridge
  - Til implementering af Profinet:
    - LXZ446.99.00001: GATEWAY IIoT RevPi-basismodul
    - LXZ446.99.00007: GATEWAY Profinet IRT-slave
    - LXZ446.99.00003: Jumper til PiBridge

Slut de tre moduler RevPi, slave og PiBridge til strømmen samt LAN-forbindelsen.

Se linkene i den følgende tabel for at få flere oplysninger fra producenten af modulerne.

Modul	Link
GATEWAY Profinet IRT-slave	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
GATEWAY Ethernet/IP-slave	<a href="https://www.kunbus.com/etherne-ip-gateway-module.html">https://www.kunbus.com/etherne-ip-gateway-module.html</a>
GATEWAY IIoT RevPi-basismodul	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>

<sup>1</sup> Microsoft® Windows® er et registreret varemærke tilhørende Microsoft Corporation i USA og andre lande.

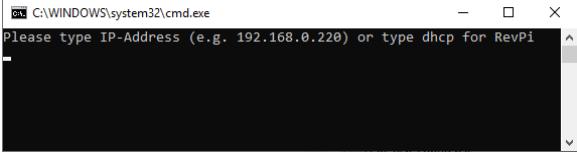
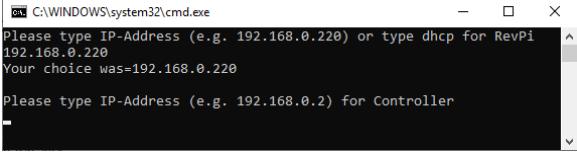
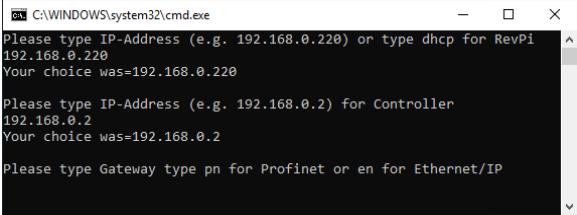
Modul	Link
Sådan tilsluttes RevPi-moduler	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>
Sådan installeres RevPi-moduler på en DIN-skinne	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
Sådan tilsluttes strømforsyningen	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

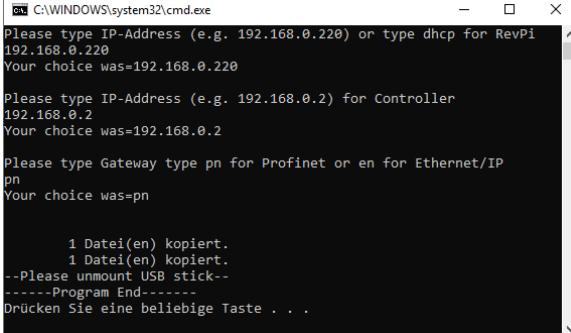
## Sådan klargøres USB-nøglen

1. Sæt en tom USB-nøgle i pc'en.
2. Gå til <https://www.hach.com>, og søg efter søgeordene "usb ethernet/IP installation" eller "usb profinet installation".
3. Download USB\_ETHIP\_PRNET.zip.
4. Pak filen ud i rodmappen på USB-nøglen.

## Sektion 3 Start USB-konfigurationen

Sæt det klargjorte USB-stik i pc'en.

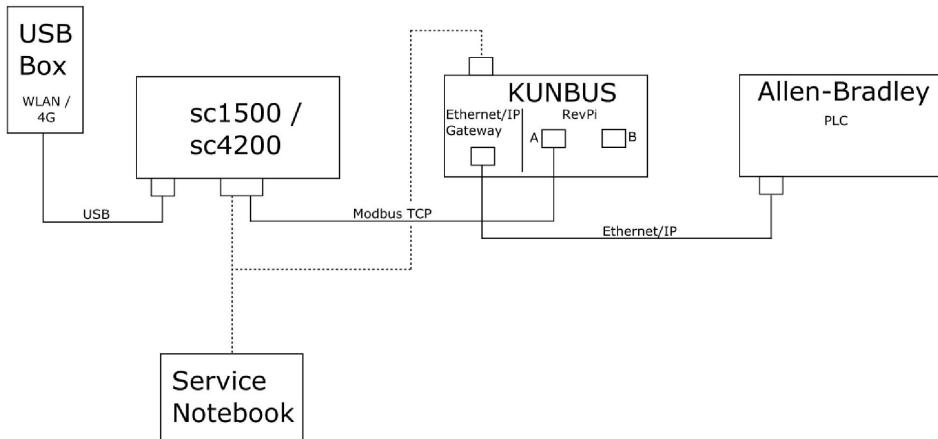
Trin	Beskrivelse	Billede
1	Start start_usb_config.bat. Der åbnes et terminalvindue. Følg den trinvise vejledning.	
2	Indtast IP-adressen på RevPi-modulet.	
3	Indtast SC-controllerens IP-adresse. Sørg for, at netværkspræfikset er det samme som i RevPi-modulet (f.eks. 192.168.0). Sørg for, at værtsidentifikatoren er forskellig fra RevPi-modulet (f.eks. 220 RevPi, 2 Controller).	
4	Indtast gatewaytypen: <ul style="list-style-type: none"><li>• pn—Profinet</li><li>• en—Ethernet/IP</li></ul>	

Trin	Beskrivelse	Billede
5	Bekræft indstillingerne med Enter. Fjern USB-nøglen.	
6	Sæt USB-nøglen i venstre USB-stik på RevPi-modulet.	
7	Beskrivelse af indikatorer: <ul style="list-style-type: none"> <li>A1/A2 orange: RevPi-installationen starter.</li> <li>A1 rød, A2 slukket: RevPi indsæt USB-nøgle.</li> <li>A1 grøn, A2 slukket: USB-nøgle isat korrekt.</li> <li>A1 slukket, A2 grøn: RevPi downloader/uploadere data fra USB-nøgle.</li> <li>A3 rød: RevPi genstarter.</li> </ul> Når A3 er rød, skal du fjerne USB-nøglen.	
8	RevPi-indstillingerne er fuldført.	

## Sektion 4 Eksempler på installation

Figur 1 viser en installation med to forskellige LAN-forbindelser.

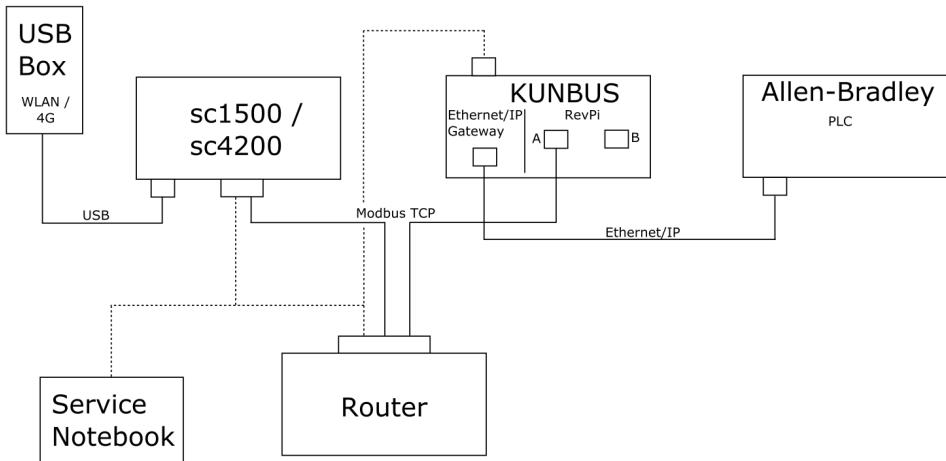
**Figur 1 Eksempel 1**



- Modbus TCP og Ethernet/IP bruger to forskellige LAN-forbindelser.
- Alle enheder har en statisk IP-adresse.
- Controlleren har internetadgang via trådløst netværk eller mobilforbindelse.
- Du skal bruge en bærbar computer til at konfigurerer IP-adresserne på controlleren og Ethernet/IP-gatewayen.

Figur 2 viser en installation med en router til Modbus TCP-forbindelsen.

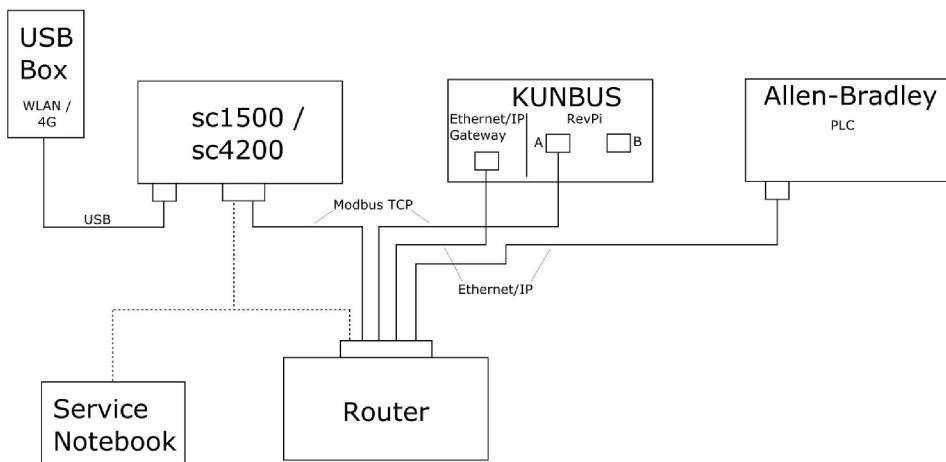
### Figur 2 Eksempel 2



- Modbus TCP er forbundet til en router.
- Alle enheder har en statisk IP-adresse, eller routeren indstiller IP-adressen via DHCP.  
**BEMÆRK:** Kontroller, at routeren altid bruger samme IP-adresse til de samme enheder (MAC), hvis der anvendes DHCP.
- Controlleren har internetadgang via trådløst netværk eller mobilforbindelse.
- Du skal bruge en bærbar computer til at konfigurerere IP-adressen på controlleren, Ethernet-/IP-gatewayen og routerindstillingerne.

Figur 3 viser en installation med en router eller switch til alle enheder.

### Figur 3 Eksempel 3

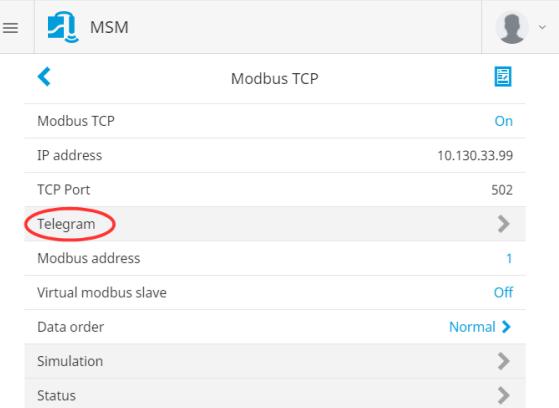


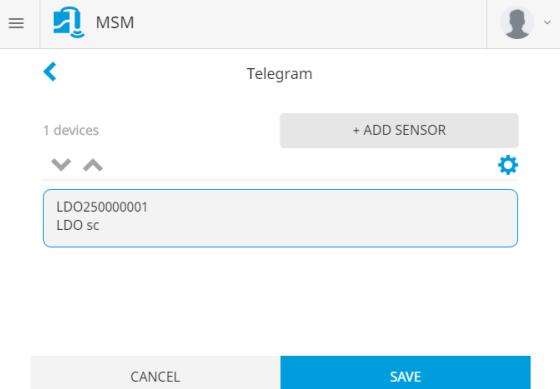
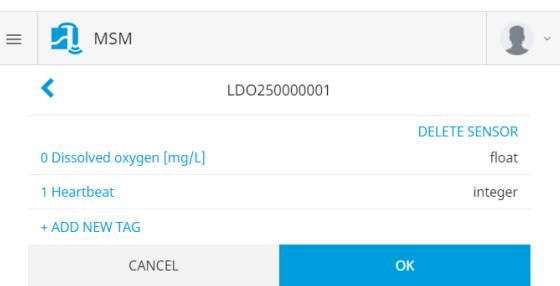
- Alle enheder er sluttet til en router eller switch.

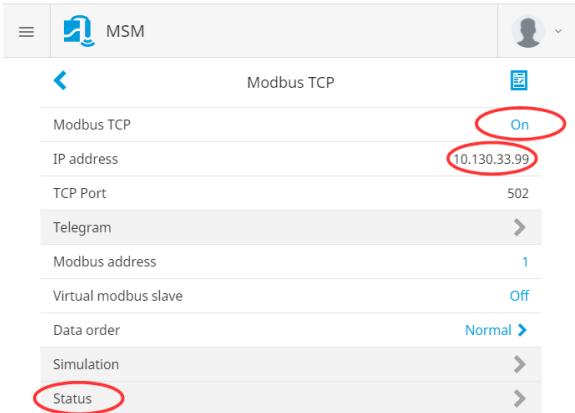
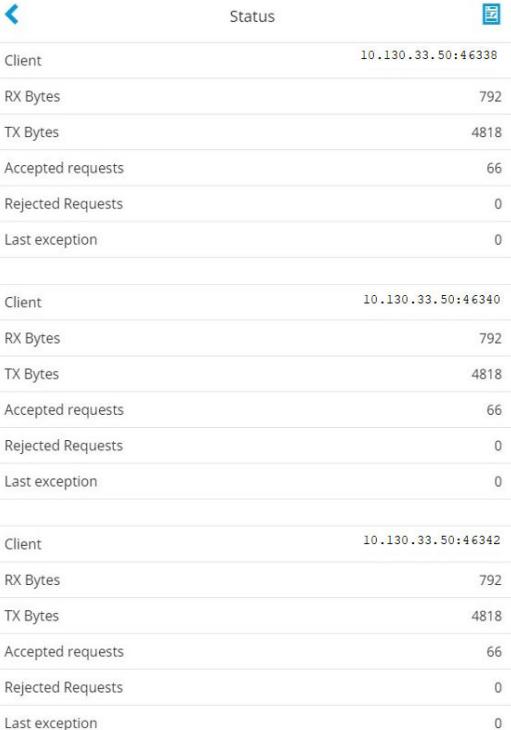
- Alle enheder har en statisk IP-adresse, eller routeren eller switchen indstiller IP-adressen via DHCP.
- BEMÆRK:** Kontroller, at routeren altid bruger samme IP-adresse til de samme enheder (MAC), hvis der anvendes DHCP.
- Controllerne har internetadgang via trådløst netværk eller mobilforbindelse.
  - Du skal bruge en bærbar computer til at konfigurere IP-adressen på controlleren og routerindstillingerne.

## Sektion 5 Opsætning af SC4200c Modbus TCP-telegram til controlleren

Start Claros-programmet, og følg den trinvisve vejledning.

Trin	Beskrivelse	Billede
1	Vælg controllerens menu, og tryk derefter på <b>Modbus TCP</b> .	 <p>1732216 - sc4200c</p> <p>Software update is available</p> <p>1 1761925 - SOLITAX sc 2 LDO250000001 - LDO sc</p> <p>v56.02</p> <p>2 Sensors 2 Relays 1 Profibus</p> <p>000000001185 - Low voltage relay 000000001337 - High voltage relay</p> <p>000000079312 - Profibus</p> <p>Historical data</p> <p>Modbus TCP</p>
2	Vælg <b>Telegram</b> for at indstille Modbus TCP-telegrammet.	 <p>MSM</p> <p>Modbus TCP</p> <p>Modbus TCP</p> <p>IP address 10.130.33.99</p> <p>TCP Port 502</p> <p>Telegram</p> <p>Modbus address 1</p> <p>Virtual modbus slave Off</p> <p>Data order Normal</p> <p>Simulation</p> <p>Status</p>

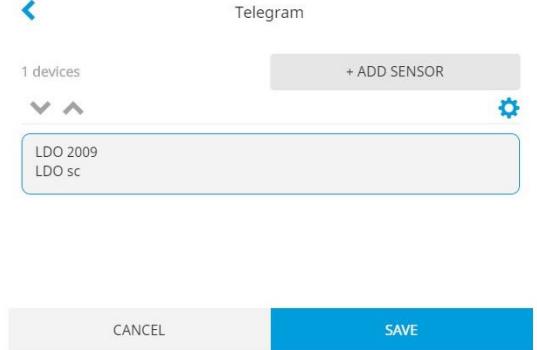
Trin	Beskrivelse	Billede
3	<p>Det viste telegram er et eksempel på LDO SC-sensoren.</p> <p>Indstil Heartbeat til heltal. Heartbeat er en tæller, der viser opdateringen af værdien i trin a et sekund.</p> <p><b>BEMÆRK:</b> Indholdet af Modbus TCP-tegrammet er det samme som Profibus-tegrammet.</p>	 

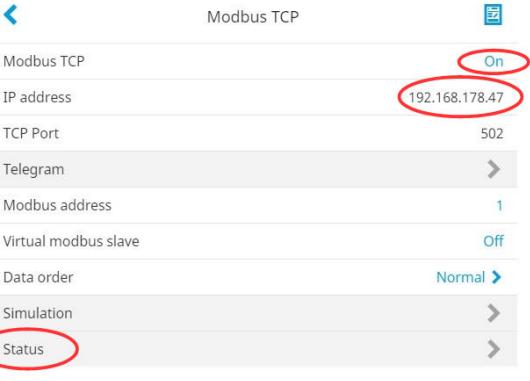
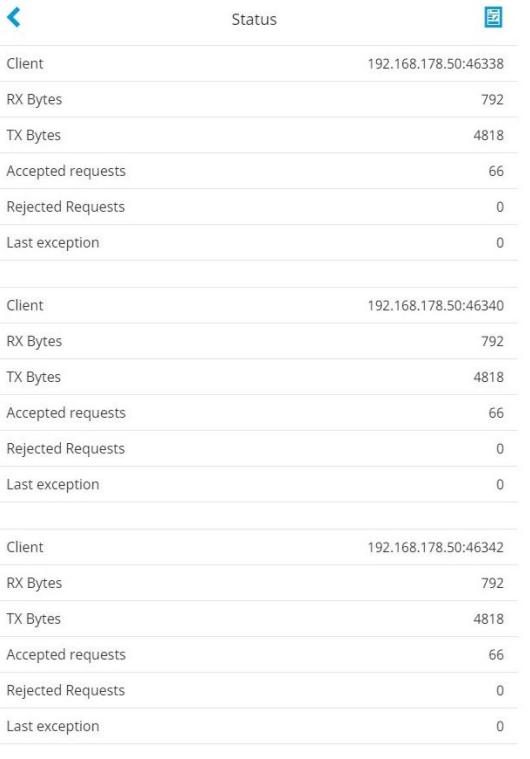
Trin	Beskrivelse	Billede																																				
4	<p>Modbus TCP-menuen viser controllerens IP-adresse. <b>10.130.33.99</b> er den IP-adresse, der er angivet i controllerens servicemenu.</p> <p>Indstil Modbus TCP til at være slæt <b>til</b>, og tryk derefter på <b>Status</b>.</p>	 <p>The screenshot shows the MSM software interface with the 'Modbus TCP' configuration screen. The 'IP address' field is highlighted with a red circle and contains the value '10.130.33.99'. The 'Status' field is also highlighted with a red circle and has the value 'On'.</p>																																				
5	<p>Menuen Status viser statistikken for Modbus TCP. <b>10.130.33.50</b> er IP-adressen på RevPi-modulet. RevPi har 5 Modbus TCP-mastere.</p>	 <p>The screenshot shows the MSM software interface with the 'Status' menu open, displaying statistics for three Modbus TCP instances. The first instance has an IP of 10.130.33.50:46338, the second has 10.130.33.50:46340, and the third has 10.130.33.50:46342. The table lists various metrics for each instance, such as RX Bytes, TX Bytes, Accepted requests, and Rejected Requests.</p> <table border="1"> <thead> <tr> <th>Client</th> <th>IP Address</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Client</th> <th>IP Address</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Client</th> <th>IP Address</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table>	Client	IP Address	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	IP Address	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	IP Address	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Sektion 6 Opsætning af SC1500 Modbus TCP-telegram til kontrolleren

Start Claros-programmet, og følg den trinvise vejledning.

Trin	Beskrivelse	Billede
1	Vælg controllerens menu, og tryk derefter på <b>Modbus TCP</b> .	<p>The screenshot shows the device configuration interface for an SC1500 unit. At the top, it displays the identifier '1694389 - sc1500'. Below this, there are three listed items: '1 1327087 - AN-ISE sc', '2 1555058 - AN-ISE sc', and '3 LDO 2009 - LDO sc'. To the right of these lists is a small image of the SC1500 device and its model number 'v20.12'. Further down, there are two more sections: '000000074854 - mA output' and '000005009872 - Profibus'. The final section, 'Modbus TCP', is highlighted with a red oval circle.</p>
2	Vælg <b>Telegram</b> for at indstille Modbus TCP-telegrammet.	<p>This screenshot shows the 'Modbus TCP' configuration screen. It includes settings for 'Modbus TCP' (status 'On'), 'IP address' (192.168.178.47), 'TCP Port' (502), and 'Telegram'. The 'Telegram' setting is circled with a red oval. Other visible settings include 'Modbus address' (1), 'Virtual modbus slave' (status 'Off'), 'Data order' (set to 'Normal'), 'Simulation' (status 'Off'), and 'Status'.</p>

Trin	Beskrivelse	Billede
3	<p>Det viste telegram er et eksempel på LDO SC-sensoren.</p> <p>Indstil Heartbeat til heltalet. Heartbeat er en tæller, der viser opdateringen af værdien i trin a et sekund.</p> <p><b>BEMÆRK:</b> Indholdet af Modbus TCP-tegrammet er det samme som Profibus-tegrammet.</p>	 

Trin	Beskrivelse	Billede																																				
4	Modbus TCP-menuen viser controllerens IP-adresse. <b>192.168.178.47</b> er den IP-adresse, der er angivet i controllerens servicemenu. Indstil Modbus TCP til at være slæt <b>til</b> , og tryk derefter på <b>Status</b> .	 <table border="1"> <tr><td>Modbus TCP</td><td>On</td><td>192.168.178.47</td></tr> <tr><td>IP address</td><td></td><td></td></tr> <tr><td>TCP Port</td><td>502</td><td></td></tr> <tr><td>Telegram</td><td></td><td></td></tr> <tr><td>Modbus address</td><td>1</td><td></td></tr> <tr><td>Virtual modbus slave</td><td></td><td>Off</td></tr> <tr><td>Data order</td><td></td><td>Normal &gt;</td></tr> <tr><td>Simulation</td><td></td><td></td></tr> <tr><td>Status</td><td></td><td></td></tr> </table>	Modbus TCP	On	192.168.178.47	IP address			TCP Port	502		Telegram			Modbus address	1		Virtual modbus slave		Off	Data order		Normal >	Simulation			Status											
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5	Menuen Status viser statistikken for Modbus TCP. <b>192.168.178.50</b> er IP-adressen på RevPi-modulet. RevPi har 7 Modbus TCP-mastere.	 <table border="1"> <tr><td>Client</td><td>192.168.178.50:46338</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td>Client</td><td>192.168.178.50:46340</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td>Client</td><td>192.168.178.50:46342</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> </table>	Client	192.168.178.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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Rejected Requests	0																																					
Last exception	0																																					

## Sektion 7 Konfigurer Ethernet-/IP-gateway

Trin	Beskrivelse	Billeder
1	<ul style="list-style-type: none"> <li>Tilslut Ethernet-/IP-gatewayen til pc'en med LAN-til-USB-adapterkablet.</li> <li>Se <a href="#">Introduktion</a> på side 138. Brug linket til GATEWAY Ethernet/IP-slave. Følg instruktionerne i producentens brugervejledning, <i>Gatewaykomponent til Ethernet/IP</i>.</li> <li>Brug den 8-bens adresse-switch (A) til at indstille værts-id'et til gatewayens binære format.           <ul style="list-style-type: none"> <li>Eksempel: Indstil værten til 8: 00010000</li> </ul> </li> <li>Åbn webstedet <a href="http://192.168.1.X">http://192.168.1.X</a> (X = summen af alle switches, der er slæt TIL).</li> </ul>	
2	<p>Åbn browseren, og indtast IP-adressen 192.168.1.X.</p> <p>Login-data til første login:</p> <p>Bruger: Admin</p> <p>Afgangskode: 1701</p> <p>Tryk på <b>Log ind.</b></p>	

Trin	Beskrivelse	Billede																																																																		
3	<p>Controlleren og Ethernet-/IP-gatewayen overfører dataområdet 0000-01BF, som er et område på 448 byte eller 112 float eller 224 heltal eller en blanding af disse, baseret på telegramtypen af Modbus TCP i controlleren.</p> <p><b>BEMÆRK:</b> Kun det første dataområde op til 32 heltal vises. Vis alle data i PLC'en (224 heltal).</p> <p>Tryk på <b>Vis</b>.</p>	<table border="1"> <thead> <tr> <th>Address</th> <th>Value</th> </tr> </thead> <tbody> <tr><td>Input 1 0x0001</td><td>0</td></tr> <tr><td>Input 2 0x0002</td><td>0</td></tr> <tr><td>Input 3 0x0003</td><td>0</td></tr> <tr><td>Input 4 0x0004</td><td>0</td></tr> <tr><td>Input 5 0x0005</td><td>0</td></tr> <tr><td>Input 6 0x0006</td><td>0</td></tr> <tr><td>Input 7 0x0007</td><td>0</td></tr> <tr><td>Input 8 0x0008</td><td>0</td></tr> <tr><td>Input 9 0x0009</td><td>0</td></tr> <tr><td>Input 10 0x000a</td><td>0</td></tr> <tr><td>Input 11 0x000b</td><td>0</td></tr> <tr><td>Input 12 0x000c</td><td>0</td></tr> <tr><td>Input 13 0x000d</td><td>0</td></tr> <tr><td>Input 14 0x000e</td><td>0</td></tr> <tr><td>Input 15 0x000f</td><td>0</td></tr> <tr><td>Input 16 0x0010</td><td>0</td></tr> <tr><td>Output 1 0x0401</td><td>0</td></tr> <tr><td>Output 2 0x0402</td><td>0</td></tr> <tr><td>Output 3 0x0403</td><td>0</td></tr> <tr><td>Output 4 0x0404</td><td>0</td></tr> <tr><td>Output 5 0x0405</td><td>0</td></tr> <tr><td>Output 6 0x0406</td><td>0</td></tr> <tr><td>Output 7 0x0407</td><td>0</td></tr> <tr><td>Output 8 0x0408</td><td>0</td></tr> <tr><td>Output 9 0x0409</td><td>0</td></tr> <tr><td>Output 10 0x040A</td><td>0</td></tr> <tr><td>Output 11 0x040B</td><td>0</td></tr> <tr><td>Output 12 0x040C</td><td>0</td></tr> <tr><td>Output 13 0x040D</td><td>0</td></tr> <tr><td>Output 14 0x040E</td><td>0</td></tr> <tr><td>Output 15 0x040F</td><td>0</td></tr> <tr><td>Output 16 0x0410</td><td>0</td></tr> </tbody> </table>	Address	Value	Input 1 0x0001	0	Input 2 0x0002	0	Input 3 0x0003	0	Input 4 0x0004	0	Input 5 0x0005	0	Input 6 0x0006	0	Input 7 0x0007	0	Input 8 0x0008	0	Input 9 0x0009	0	Input 10 0x000a	0	Input 11 0x000b	0	Input 12 0x000c	0	Input 13 0x000d	0	Input 14 0x000e	0	Input 15 0x000f	0	Input 16 0x0010	0	Output 1 0x0401	0	Output 2 0x0402	0	Output 3 0x0403	0	Output 4 0x0404	0	Output 5 0x0405	0	Output 6 0x0406	0	Output 7 0x0407	0	Output 8 0x0408	0	Output 9 0x0409	0	Output 10 0x040A	0	Output 11 0x040B	0	Output 12 0x040C	0	Output 13 0x040D	0	Output 14 0x040E	0	Output 15 0x040F	0	Output 16 0x0410	0
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5	Tryk på <b>Skift konfiguration</b> for at indstille IP-adressen.	<p>KUNBUS-GW EtherNet/IP™</p> <p><a href="#">Log Out</a></p> <p>Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output</p> <p>Modbus Register 0x001 - 0x010 and 0x0401 - 0x0410 Modbus Register 0x011 - 0x020 and 0x0411 - 0x0420 Modbus Register 0x021 - 0x030 and 0x0421 - 0x0430 Modbus Register 0x031 - 0x040 and 0x0431 - 0x0440</p> <p>Show Show Show Show</p> <p><b>Configuration</b></p> <p>Serial number: 594 Software Version: 1.1.344 MAC Address: c8:3e:37:00:0b:10 IP address: 192.168.1.8 Network Mask: 255.255.255.0 Gateway: 192.168.1.1 DHCP: <input type="checkbox"/> active</p> <p><a href="#">Download EDF file</a></p> <p><b>Change Configuration</b> <b>Change Password</b> <b>Reboot</b></p>															
6	<p>Skift IP-adressen i overensstemmelse med gatewayadressen.</p> <p>Tryk på <b>Anvend</b> for at bekræfte.</p> <p>Indstil alle DIP-kontakter til at være slået fra.</p> <p>Indstil strømmen til gatewayen til at være slået fra, og genstart derefter. Nu bruges den nye IP-adresse.</p>	<p>KUNBUS-GW EtherNet/IP™</p> <p><b>Change Configuration</b></p> <table border="1"> <thead> <tr> <th></th> <th>Old Value</th> <th>New Value</th> </tr> </thead> <tbody> <tr> <td>DHCP</td> <td><input type="checkbox"/> active</td> <td><input type="checkbox"/> active</td> </tr> <tr> <td>IP Address</td> <td>192.168.1.8</td> <td>192.168.1.8</td> </tr> <tr> <td>Network Mask</td> <td>255.255.255.0</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>192.168.1.1</td> <td>192.168.1.1</td> </tr> </tbody> </table> <p><b>Apply</b> (Circled) <b>Abort</b></p>		Old Value	New Value	DHCP	<input type="checkbox"/> active	<input type="checkbox"/> active	IP Address	192.168.1.8	192.168.1.8	Network Mask	255.255.255.0	255.255.255.0	Gateway	192.168.1.1	192.168.1.1
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## Sektion 8 Konfigurer Profinet-gatewayen

Trin	Beskrivelse	Billede
1	<ul style="list-style-type: none"> <li>Slut Profinet-gatewayen til pc'en med LAN-til-LAN-adapteren.</li> <li>Se <a href="#">Introduktion</a> på side 138. Brug linket til GATEWAY Profinet IRT-slave. Følg instruktionerne i producentens brugervejledning, <i>Gatewaykomponent til PROFINET</i>.</li> <li>Brug softwaren PRONETA til at indstille navnet til <b>kunbus-gw-profinet</b>.</li> <li>Indtast den anvendte <b>IP-adresse</b>.</li> </ul>	<p>The screenshot shows the Siemens PRONETA software interface. On the left, there's a graphical view of a device labeled 'de-3dyn42-p PRONETA'. On the right, a table titled 'Geräteabelle - Online' lists one device: '1 8-3e-a7-00-26-05 KUNBUS-GW Profinet TPS-1'. Below the table, two arrows point from the text 'kunbus-gw-profinet' and 'IP-Address' to the respective fields in the table row.</p>
2	<p>Åbn browseren, og indtast IP-adressen. Login-data til første login: Bruger: Admin Adgangskode: 1701 Tryk på <b>Log ind</b>.</p>	<p>The screenshot shows a login form for the Kunbus-GW Profinet TPS-1. It has fields for 'Username' (Admin) and 'Password' (four dots), and a 'Login' button.</p>

Trin	Beskrivelse	Billede																
3	Tryk på <b>Vis</b> (A) for at få vist inputdata.	<p>KUNBUS-GW PROFINET TPS-1</p> <p>A</p> <p>Input data (from neighbour device) <input type="button" value="Show"/></p> <p>Output data (from PROFINET Controller) <input type="button" value="Show"/></p> <p><b>Configuration</b></p> <table> <tbody> <tr><td>Serial number</td><td>4581</td></tr> <tr><td>Software Version</td><td>1.2</td></tr> <tr><td>MAC Address</td><td>c8:3e:a7:01:c2:c3a</td></tr> <tr><td>IP address</td><td>192.168.0.230</td></tr> <tr><td>Subnet mask</td><td>255.255.255.0</td></tr> <tr><td>Gateway</td><td>0.0.0.0</td></tr> <tr><td>IO Controller state</td><td>no AR established, access from web page possible</td></tr> <tr><td>PROFINET Name of Station</td><td>kunbus-gw-profinet</td></tr> </tbody> </table> <p><input type="button" value="Change Password"/></p>	Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:c2:c3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
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4	<p>Viser alle data, der er sendt fra controlleren til Profinet-gatewayen.</p> <p>Controlleren og Profinet-gatewayen overfører dataområdet 0000-01BF, som er et område på 448 byte eller 112 float eller 224 heltal eller en blanding af disse, baseret på telegramtypen af Modbus TCP i controlleren.</p>	<p><b>KUNBUS-GW PROFINET TPS-1</b></p> <p><b>Input (from neighbour device)</b></p> <p>Main page</p> <table border="1"> <thead> <tr> <th>Address</th> <th>0</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>F</th> </tr> </thead> <tbody> <tr><td>0x0000</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> 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## Sektion 9 Fejlsøgning

### 9.1 Fejlfinding af RevPi

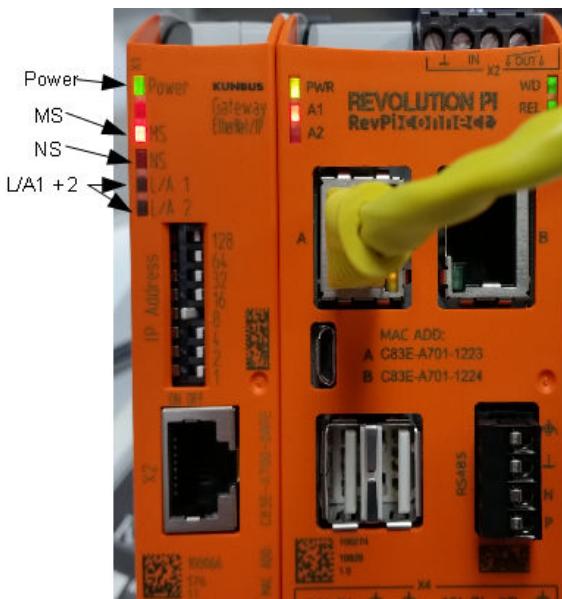
Figur 4 RevPi-basismodul



Meddelelse	Beskrivelse	Løsning
Indikator A2 blinker rødt.	Kommunikationen er stoppet.	<ul style="list-style-type: none"><li>Tilslut netværkskablet (kabel eller router).</li><li>Indstil Modbus-adresseindstillingen i Claros til 1.</li><li>Indstil Modbus TCP i Claros-menuen som slættet til.</li></ul>
Indikator A3 blinker langsomt rødt.	Konfigurationen af Ethernet-/IP- og Profinet-gateway er blandet sammen.	Se <a href="#">Start USB-konfigurationen</a> på side 140, trin 4, og vælg den korrekte gatewaytype: <ul style="list-style-type: none"><li>en – Ethernet/IP</li><li>pn – Profinet</li></ul>

## 9.2 Fejlfinding af Ethernet/IP

Figur 5 Ethernet-/IP-gateway

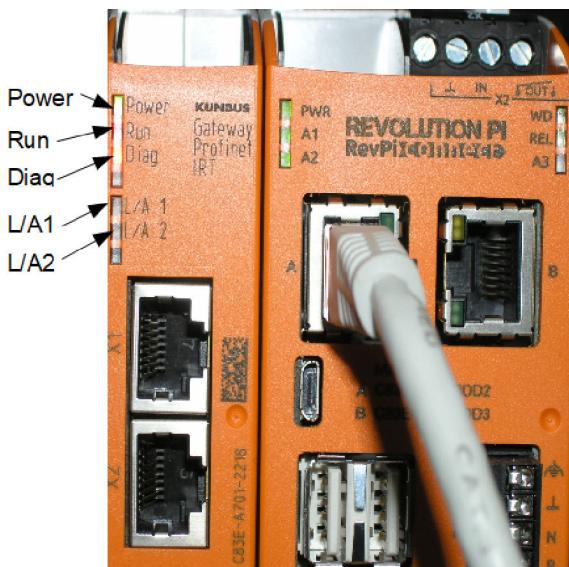


Meddelelse	Beskrivelse	Løsning
Strømindikatoren er slukket.	Ethernet-/IP-gatewayen er slået fra.	Slå strømmen til.
Strømindikatoren blinker grønt.	Opstartsproceduren er ikke fuldført.	Vent et par minutter.
Strømindikatoren blinker rødt.	Viser en advarsel.	Undersøg, om alle enhederne er tilsluttet.
Strømindikatoren lyser rødt.	Viser en fejl.	Ethernet-/IP-gatewayen er defekt. Udskift Ethernet-/IP-gatewayen.
MS-indikatoren er slukket.	Ethernet-/IP-gatewayen er slået fra.	Slå strømmen til.
MS-indikatoren blinker grønt.	Konfigurationsproceduren er ikke fuldført.	Vent et par minutter.
MS-indikatoren blinker rødt.	Viser en konfigurationsfejl.	Se <a href="#">Konfigurer Ethernet-/IP-gateway</a> på side 150 for at undersøge konfigurationen.
MS-indikatoren lyser rødt.	Viser en fejl.	Ethernet-/IP-gatewayen er defekt. Udskift Ethernet-/IP-gatewayen.
MS-indikatoren blinker rødt og grønt.	Selvtesten er ikke fuldført.	Vent et par minutter.

Meddelelse	Beskrivelse	Løsning
NS-indikatoren er slukket.	Ethernet/IP-gatewayen er indstillet som slæt fra eller har ingen IP-adresse.	Slå strømmen til. Konfigurer IP-adressen.
NS-indikatoren blinker grønt.	IP-adressen er indstillet, men CIP-forbindelsen er ikke oprettet.	Vent et par minutter.
NS-indikatoren blinker rødt.	CIP-forbindelsen er stoppet.	Undersøg, om der er timeout.
NS-lysdioden lyser rødt	Den valgte IP-adresse bruges af en anden enhed.	Skift IP-adressen til en unik IP-adresse.
L/A 1 eller 2 indikatorer er slukket.	Der er ingen forbindelse til andre enheder.	Opret forbindelse til en enhed.
L/A 1 eller 2 indikatorer blinker grønt.	Ingen dataudveksling.	Vent til næste dataudveksling.

### 9.3 Fejlfinding af Profinet

Figur 6 Profinet-gateway



Meddelelse	Beskrivelse	Løsning
Strømindikatoren er slukket.	Profinet-gatewayen er slukket.	Slå strømmen til.
Strømindikatoren blinker grønt.	Opstartsproceduren er ikke afsluttet.	Vent et par minutter.
Strømindikatoren blinker rødt.	Viser en advarsel.	Undersøg, om alle enhederne er installeret.

Meddelelse	Beskrivelse	Løsning
Stromindikatoren lyser rødt.	Viser en fejl.	Profinet-gatewayen er defekt. Udskift Profinet-gatewayen.
RUN-indikatoren er slukket.	Ingen forbindelse til et netværk.	Opret forbindelse til netværk.
Run-indikatoren blinker grønt.	Profinet-controlleren er tilsluttet, men der er ingen dataudveksling.	Vent til næste dataudveksling.
Run-indikatoren langsomt grønt.	Udløses af værkøjetojet til identifikation af gatewaykomponenten.	Vent et par minutter.
Diagnoseindikatoren blinker rødt.	Udløses af værkøjetojet til identifikation af gatewaykomponenten.	Vent et par minutter.
Diagnoseindikatoren blinker hurtigt rødt.	Ingen forbindelse til controlleren. Der er ikke angivet noget navn for Profinet i modulet.	Se <a href="#">Konfigurer Profinet-gatewayen</a> på side 153 for at indstille navnet.
Diagnoseindikatoren lyser rødt.	En gatewayenhed rapporterer diagnosticeringsdata.	Se diagnosticeringsrapporten.
L/A 1 eller 2 indikatorer er slukket.	Ingen forbindelse til et netværk.	Opret forbindelse til netværk.
L/A 1 eller 2 indikatorer blinker grønt.	Dataudveksling.	Vent, indtil dataudvekslingen er fuldført.

# Inhoudsopgave

- 1 Gebruiksdoel op pagina 160
- 2 Inleiding op pagina 160
- 3 De USB-configuratie starten op pagina 162
- 4 Voorbeelden voor installatie op pagina 163
- 5 Instellen van Modbus TCP-telegram voor SC4200c-controller op pagina 166
- 6 Instellen van Modbus TCP-telegram voor SC1500-controller op pagina 169
- 7 De Ethernet/IP-gateway configureren op pagina 172
- 8 De Profinet-gateway configureren op pagina 175
- 9 Problemen oplossen op pagina 178

## Hoofdstuk 1 Gebruiksdoel

Deze installatie-instructies zijn bedoeld voor personen die een externe Ethernet/IP-gateway of Profinet-gateway als hardwarecomponenten in het Claros-netwerk integreren.

## Hoofdstuk 2 Inleiding

De fabrikant is niet verantwoordelijk voor enige schade door onjuist toepassen of onjuist gebruik van dit product met inbegrip van, zonder beperking, directe, incidentele en gevolgschade, en vrijwaart zich volledig voor dergelijke schade voor zover dit wettelijk is toegestaan. Uitsluitend de gebruiker is verantwoordelijk voor het identificeren van kritische toepassingsrisico's en het installeren van de juiste mechanismen om processen te beschermen bij een mogelijk onjuist functioneren van apparatuur.

### ▲ GEVAAR



Elektrocutiegevaar. Koppel altijd het instrument los van de netvoeding voordat u elektrische aansluiting tot stand brengt.

### Te verzamelen items:

- USB-stick geformateerd als FAT32
- PC met Windows<sup>1</sup> 10
- Optionele modules:
  - Voor Ethernet/IP-implementatie:
    - LXZ446.99.00001: GATEWAY IIoT RevPi-basismodule
    - LXZ446.99.00002: GATEWAY Ethernet/IP-slave
    - LXZ446.99.00003: Jumper voor PiBridge
  - Voor Profinet-implementatie:
    - LXZ446.99.00001: GATEWAY IIoT RevPi-basismodule
    - LXZ446.99.00007: GATEWAY Profinet IRT-slave
    - LXZ446.99.00003: Jumper voor PiBridge

Sluit de drie modules RevPi, Slave en PiBridge aan op voeding en LAN.

Raadpleeg de links in de volgende tabel voor meer informatie van de fabrikant van de modules.

Optionele modules	Koppeling
GATEWAY Profinet IRT-slave	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
GATEWAY Ethernet/IP-slave	<a href="https://www.kunbus.com/ethernet-ip-gateway-module.html">https://www.kunbus.com/ethernet-ip-gateway-module.html</a>

<sup>1</sup> Microsoft® Windows® is een gedeponeerd handelsmerk van Microsoft Corporation in de Verenigde Staten en andere landen.

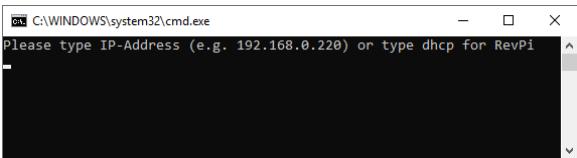
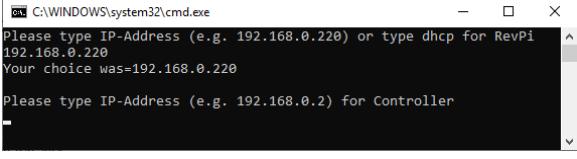
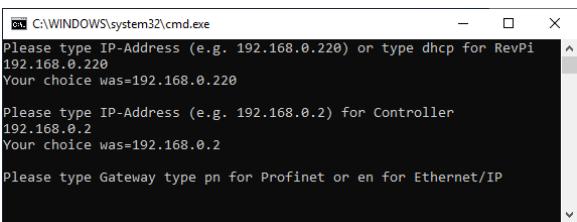
Optionele modules	Koppeling
GATEWAY IIoT RevPi-basismodule	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>
RevPi-modules aansluiten	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>
RevPi-modules op een DIN-rail installeren	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
De stroomvoorziening aansluiten	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

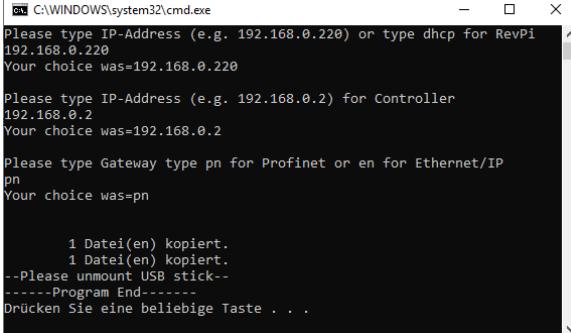
## De USB-stick voorbereiden

1. Plaats een lege USB-stick in de PC.
2. Ga naar <https://www.hach.com> en zoek naar de trefwoorden "usb Ethernet/IP installation" (USB-installatie Ethernet/IP) of "usb profinet installation" (USB-installatie profinet).
3. Download USB\_ETHIP\_PRNET.zip.
4. Pak het bestand uit in de hoofdmap van de USB-stick.

## Hoofdstuk 3 De USB-configuratie starten

Plaats de voorbereide USB-stick in de PC.

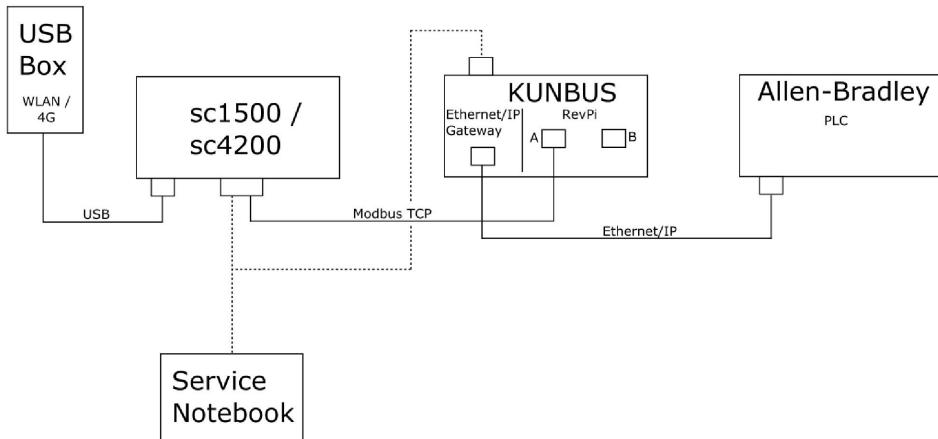
Stap	Beschrijving	Beeld
1	Start start_usb_config.bat. Er wordt een terminalvenster geopend. Volg de stapsgewijze handleiding.	
2	Voer het IP-adres van de RevPi-module in.	
3	Voer het IP-adres van de SC-controller in. Zorg ervoor dat het netwerkvoorvoegsel hetzelfde is als dat van de RevPi-module (bijv. 192.168.0).  Zorg ervoor dat de host-id verschilt van de RevPi-module (bijv. 220 RevPi, 2 Controller).	
4	Voer het type gateway in: <ul style="list-style-type: none"><li>• pn—Profinet</li><li>• en—Ethernet/IP</li></ul>	

Stap	Beschrijving	Beeld
5	Bevestig de instellingen met Enter. Verwijder de USB-stick.	
6	Plaats de USB-stick in de linker USB-aansluiting van de RevPi-module.	
7	LED-beschrijving: <ul style="list-style-type: none"><li>A1/A2 oranje: RevPi-installatie wordt gestart.</li><li>A1 rood, A2 uit: plaats USB-stick in RevPi.</li><li>A1 groen, A2 uit: USB-stick geplaatst.</li><li>A1 uit, A2 groen: RevPi downloadt/uploadt gegevens van USB-stick.</li><li>A3 rood: RevPi start opnieuw op.</li></ul> Als A3 rood is, verwijdert u de USB-stick.	
8	De RevPi-instellingen zijn voltooid.	

## Hoofdstuk 4 Voorbeelden voor installatie

Afbeelding 1 toont een installatie met twee verschillende LAN-verbindingen.

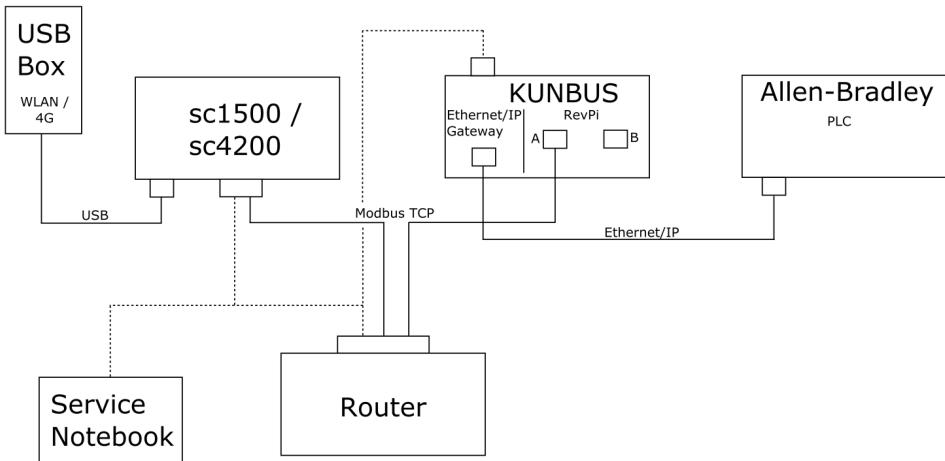
Afbeelding 1 Voorbeeld 1



- Modbus TCP en Ethernet/IP maken gebruik van twee verschillende LAN-verbindingen.
- Alle apparaten hebben een statisch IP-adres.
- De controller heeft internettoegang via WiFi of een mobiele verbinding.
- Om de IP-adressen van de controller en de Ethernet/IP-gateway in te stellen, hebt u een laptop nodig.

Afbeelding 2 toont een installatie met een router voor de Modbus TCP-verbinding.

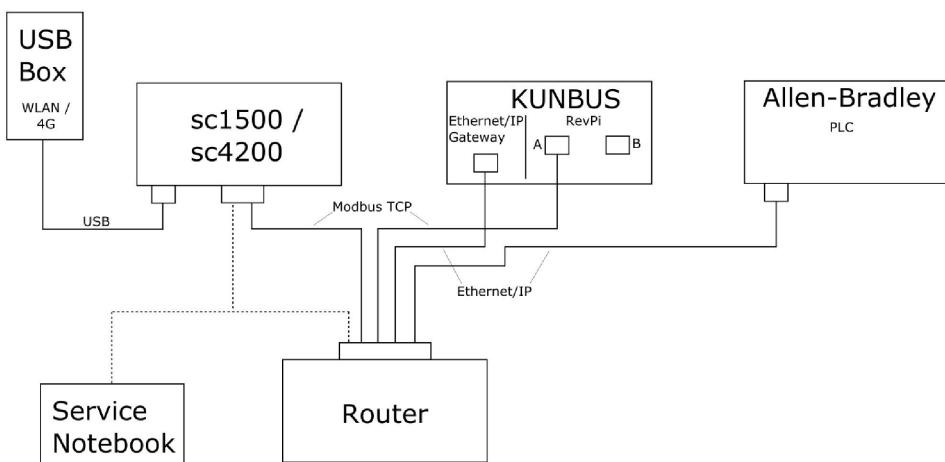
Afbeelding 2 Voorbeeld 2



- De Modbus TCP is verbonden met een router.
- Alle apparaten hebben een statisch IP-adres of de router stelt het IP-adres in via DHCP.  
*Opmerking: Controleer of de router altijd hetzelfde IP-adres gebruikt voor dezelfde apparaten (MAC) als DHCP wordt gebruikt.*
- De controller heeft internettoegang via WiFi of een mobiele verbinding.
- Om het IP-adressen van de controller, de Ethernet/IP-gateway en de routerinstellingen in te stellen, hebt u een laptop nodig.

Afbeelding 3 toont een installatie met een router of switch voor alle apparaten.

Afbeelding 3 Voorbeeld 3

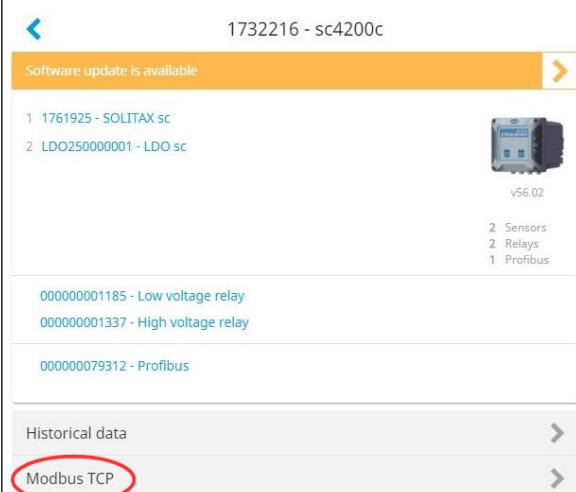
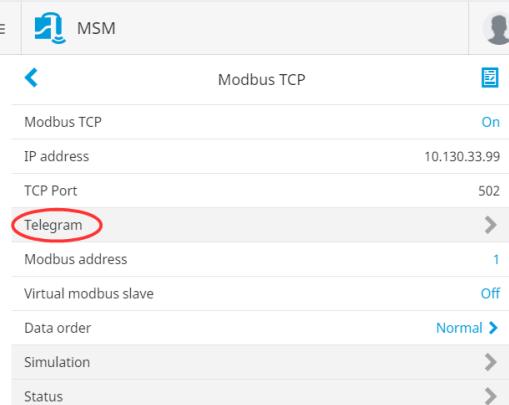


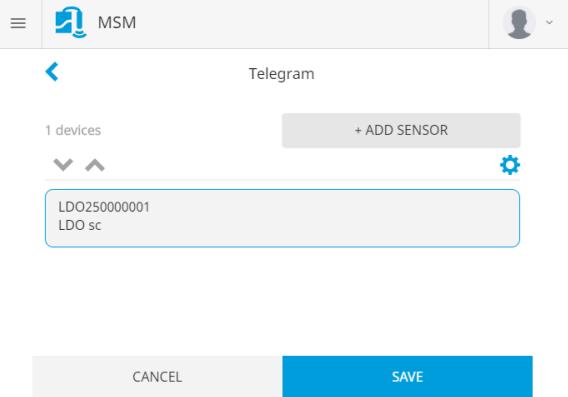
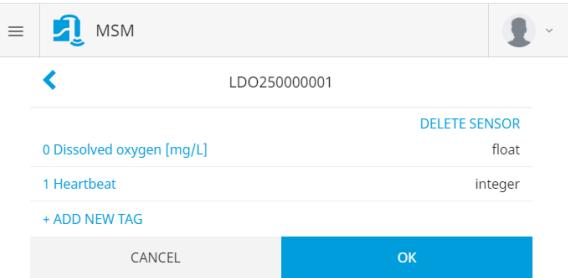
- Alle apparaten zijn verbonden met een router of switch.

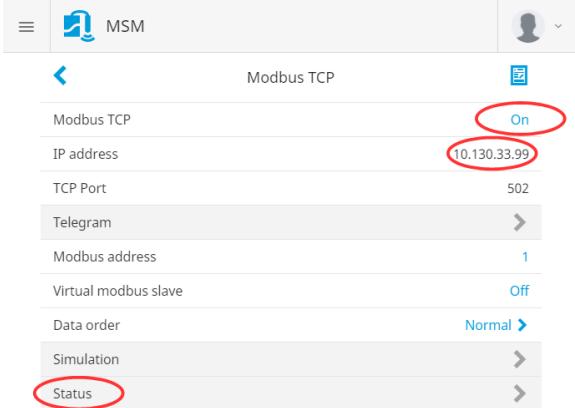
- Alle apparaten hebben een statisch IP-adres of de router of switch stelt het IP-adres in via DHCP.
- Opmerking:** Controleer of de router altijd hetzelfde IP-adres gebruikt voor dezelfde apparaten (MAC) als DHCP wordt gebruikt.
- De controller heeft internettoegang via WiFi of een mobiele verbinding.
  - Om het IP-adres van de controller en de routerinstellingen in te stellen, hebt u een laptop nodig.

## Hoofdstuk 5 Instellen van Modbus TCP-telegram voor SC4200c-controller

Start de Claros-toepassing en volg de stapsgewijze handleiding.

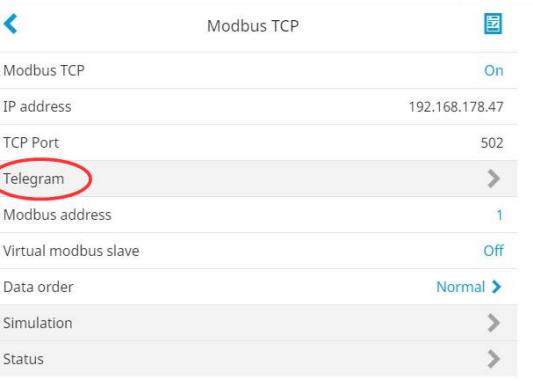
Stap	Beschrijving	Beeld
1	Selecteer het controllermenu en druk vervolgens op <b>Modbus TCP</b> .	 <p>1732216 - sc4200c</p> <p>Software update is available</p> <p>1 1761925 - SOLITAX sc 2 LDO250000001 - LDO sc</p> <p>v56.02</p> <p>2 Sensors 2 Relays 1 Profibus</p> <p>000000001185 - Low voltage relay 000000001337 - High voltage relay</p> <p>000000079312 - Profibus</p> <p>Historical data</p> <p>Modbus TCP</p>
2	Selecteer <b>Telegram</b> om het Modbus TCP-telegram in te stellen.	 <p>MSM</p> <p>Modbus TCP</p> <p>IP address 10.130.33.99</p> <p>TCP Port 502</p> <p>Modbus address 1</p> <p>Virtual modbus slave Off</p> <p>Data order Normal</p> <p>Simulation</p> <p>Status</p>

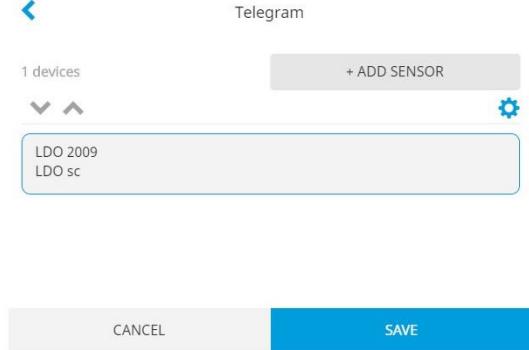
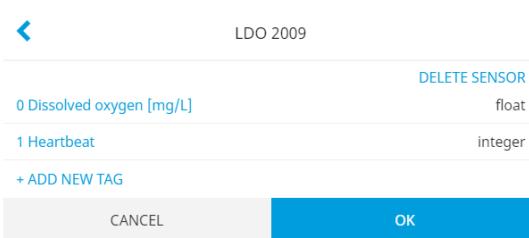
Stap	Beschrijving	Beeld
3	<p>Het getoonde telegram is een voorbeeld voor de LDO sc-sensor.</p> <p>Stel de hartslag in op hele getallen. De hartslag is een teller die de update van de waarde toont in stappen van één seconde.</p> <p><i>Opmerking: De inhoud van het Modbus TCP-telegram is gelijk aan die van het Profibus-telegram.</i></p>	 

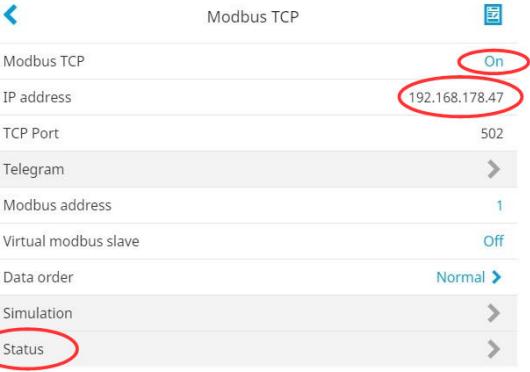
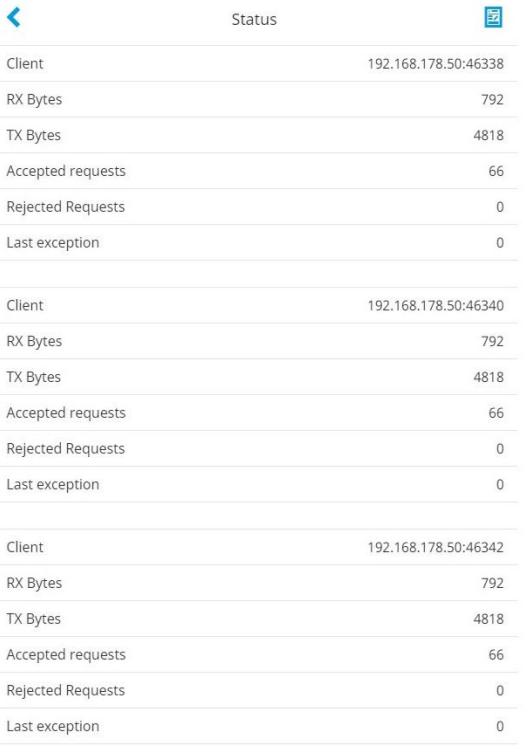
Stap	Beschrijving	Beeld																																				
4	<p>Het Modbus TCP-menu toont het IP-adres van de controller.</p> <p><b>10.130.33.99</b> is het IP-adres dat is ingesteld in het servicemenu van de controller.</p> <p>Stel Modbus TCP in op <b>On (Aan)</b> en druk vervolgens op <b>Status</b>.</p>																																					
5	<p>Het menu Status toont de Modbus TCP-statistieken.</p> <p><b>10.130.33.50</b> is het IP-adres van de RevPi-module. De RevPi heeft 5 Modbus TCP-master.</p>	 <table border="1"> <thead> <tr> <th>Client</th> <th>10.130.33.50:46338</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Client</th> <th>10.130.33.50:46340</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Client</th> <th>10.130.33.50:46342</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table>	Client	10.130.33.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	10.130.33.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	10.130.33.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Hoofdstuk 6 Instellen van Modbus TCP-telegram voor SC1500-controller

Start de Claros-toepassing en volg de stapsgewijze handleiding.

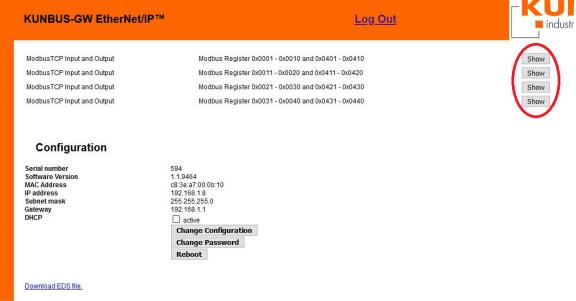
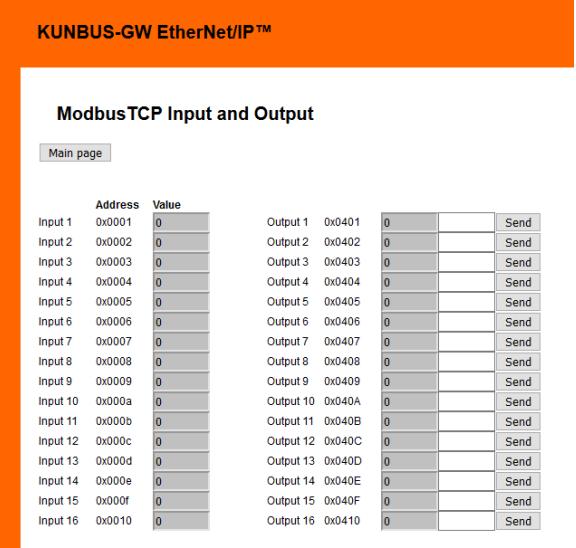
Stap	Beschrijving	Beeld																		
1	Selecteer het controllermenu en druk vervolgens op <b>Modbus TCP</b> .	 <p>1694389 - sc1500</p> <p>1 1327087 - AN-ISE sc 2 1555058 - AN-ISE sc 3 LDO 2009 - LDO sc</p> <p>v20.12 3 Sensors 1 Outputs 1 Profibus</p> <p>000000074854 - mA output</p> <p>000005009872 - Profibus</p> <p>Historical data &gt; Modbus TCP &gt;</p>																		
2	Selecteer <b>Telegram</b> om het Modbus TCP-telegram in te stellen.	 <p>Modbus TCP</p> <table><tr><td>Modbus TCP</td><td>On</td></tr><tr><td>IP address</td><td>192.168.178.47</td></tr><tr><td>TCP Port</td><td>502</td></tr><tr><td>Telegram</td><td>&gt;</td></tr><tr><td>Modbus address</td><td>1</td></tr><tr><td>Virtual modbus slave</td><td>Off</td></tr><tr><td>Data order</td><td>Normal &gt;</td></tr><tr><td>Simulation</td><td>&gt;</td></tr><tr><td>Status</td><td>&gt;</td></tr></table>	Modbus TCP	On	IP address	192.168.178.47	TCP Port	502	Telegram	>	Modbus address	1	Virtual modbus slave	Off	Data order	Normal >	Simulation	>	Status	>
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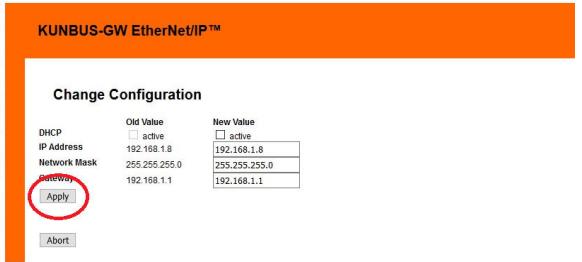
Stap	Beschrijving	Beeld
3	<p>Het getoonde telegram is een voorbeeld voor de LDO sc-sensor.</p> <p>Stel de hartslag in op hele getallen. De hartslag is een teller die de update van de waarde toont in stappen van één seconde.</p> <p><i>Opmerking: De inhoud van het Modbus TCP-telegram is gelijk aan die van het Profibus-telegram.</i></p>	 

Stap	Beschrijving	Beeld																																				
4	<p>Het Modbus TCP-menu toont het IP-adres van de controller.</p> <p><b>192.168.178.47</b> is het IP-adres dat is ingesteld in het servicemenu van de controller.</p> <p>Stel Modbus TCP in op <b>On (Aan)</b> en druk vervolgens op <b>Status</b>.</p>	 <table border="1"> <tr><td>Modbus TCP</td><td>On</td></tr> <tr><td>IP address</td><td>192.168.178.47</td></tr> <tr><td>TCP Port</td><td>502</td></tr> <tr><td>Telegram</td><td></td></tr> <tr><td>Modbus address</td><td>1</td></tr> <tr><td>Virtual modbus slave</td><td>Off</td></tr> <tr><td>Data order</td><td>Normal &gt;</td></tr> <tr><td>Simulation</td><td></td></tr> <tr><td>Status</td><td></td></tr> </table>	Modbus TCP	On	IP address	192.168.178.47	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal >	Simulation		Status																			
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5	<p>Het menu Status toont de Modbus TCP-statistieken.</p> <p><b>192.168.178.50</b> is het IP-adres van de RevPi-module. De RevPi heeft 7 Modbus TCP-master.</p>	 <table border="1"> <tr><td>Client</td><td>192.168.178.50:46338</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td>Client</td><td>192.168.178.50:46340</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td>Client</td><td>192.168.178.50:46342</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> </table>	Client	192.168.178.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Hoofdstuk 7 De Ethernet/IP-gateway configureren

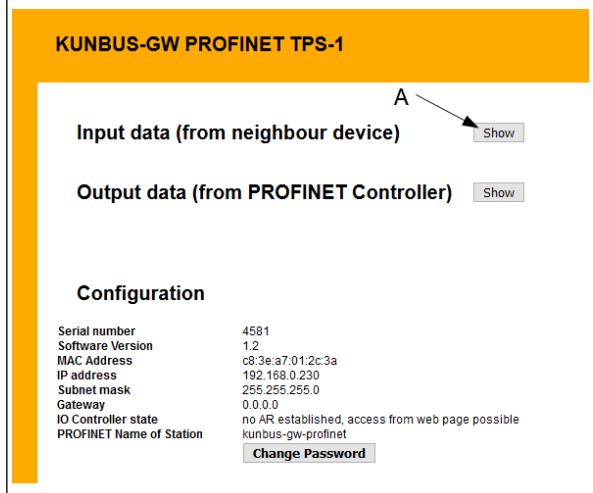
Stap	Beschrijving	Beeld
1	<ul style="list-style-type: none"> <li>Sluit de Ethernet/IP-gateway aan op de PC met de LAN-naar-USB-adapterkabel.</li> <li>Raadpleeg <a href="#">Inleiding</a> op pagina 160. Gebruik de link van de GATEWAY Ethernet/IP-slave. Volg de instructies in de gebruikershandleiding van de fabrikant, <i>Gateway component for Ethernet/IP (Gateway-onderdeel voor EtherNet/IP)</i>.</li> <li>Gebruik de 8-pins adressschakelaar (A) om de host-id in te stellen op de binaire indeling van de gateway. <ul style="list-style-type: none"> <li>Voorbeeld: Stel de host in op 8: 00010000</li> </ul> </li> <li>Open de website <a href="http://192.168.1.X">http://192.168.1.X</a> (X=som van alle schakelaars die AAN zijn gezet).</li> </ul>	
2	<p>Open de browser en voer het IP-adres 192.168.1.X in. Inloggegevens voor de eerste aanmelding: Gebruiker: Admin Wachtwoord: 1701 Druk op <b>(Log in) Inloggen</b>.</p>	

Stap	Beschrijving	Beeld																																																																																					
3	De controller en de Ethernet/IP-gateway verzenden het gegevensgebied 0000 - 01BF, dat een bereik van 448 byte of 112 float of 224 hele getallen is, of een combinatie hiervan, op basis van het telegramtype van de Modbus TCP in de controller. <i>Opmerking:</i> Alleen het eerste gegevensbereik tot 32 hele getallen wordt weergegeven. Bekijk alle gegevens in de PLC (224 hele getallen). Druk op Show (Weergeven).	 <p>KUNBUS-GW EtherNet/IP™</p> <p>Log Out</p> <p>Modbus Register 0x0001 - 0x0010 and 0x0401 - 0x0410      Modbus Register 0x0011 - 0x0020 and 0x0411 - 0x0420      Modbus Register 0x0021 - 0x0030 and 0x0421 - 0x0430      Modbus Register 0x0031 - 0x0040 and 0x0431 - 0x0440</p> <p>Show Show Show Show</p> <p><b>Configuration</b></p> <p>Serial number: 594      Software Version: 1.1.944      MAC Address: c8:3e:47:00:00:10      IP address: 192.168.1.8      Subnet mask: 255.255.255.0      Gateway: 192.168.1.1  <input type="checkbox"/> active      Change Configuration      Change Password      Reboot</p> <p><a href="#">Download EDR file.</a></p>																																																																																					
4	Het geselecteerde gegevensgebied wordt weergegeven.	 <p>KUNBUS-GW EtherNet/IP™</p> <h3>ModbusTCP Input and Output</h3> <p>Main page</p> <table border="1"> <thead> <tr> <th></th> <th>Address</th> <th>Value</th> <th></th> <th></th> </tr> </thead> <tbody> <tr><td>Input 1</td><td>0x0001</td><td>0</td><td>Output 1</td><td>0x0401</td></tr> <tr><td>Input 2</td><td>0x0002</td><td>0</td><td>Output 2</td><td>0x0402</td></tr> <tr><td>Input 3</td><td>0x0003</td><td>0</td><td>Output 3</td><td>0x0403</td></tr> <tr><td>Input 4</td><td>0x0004</td><td>0</td><td>Output 4</td><td>0x0404</td></tr> <tr><td>Input 5</td><td>0x0005</td><td>0</td><td>Output 5</td><td>0x0405</td></tr> <tr><td>Input 6</td><td>0x0006</td><td>0</td><td>Output 6</td><td>0x0406</td></tr> <tr><td>Input 7</td><td>0x0007</td><td>0</td><td>Output 7</td><td>0x0407</td></tr> <tr><td>Input 8</td><td>0x0008</td><td>0</td><td>Output 8</td><td>0x0408</td></tr> <tr><td>Input 9</td><td>0x0009</td><td>0</td><td>Output 9</td><td>0x0409</td></tr> <tr><td>Input 10</td><td>0x000a</td><td>0</td><td>Output 10</td><td>0x040A</td></tr> <tr><td>Input 11</td><td>0x000b</td><td>0</td><td>Output 11</td><td>0x040B</td></tr> <tr><td>Input 12</td><td>0x000c</td><td>0</td><td>Output 12</td><td>0x040C</td></tr> <tr><td>Input 13</td><td>0x000d</td><td>0</td><td>Output 13</td><td>0x040D</td></tr> <tr><td>Input 14</td><td>0x000e</td><td>0</td><td>Output 14</td><td>0x040E</td></tr> <tr><td>Input 15</td><td>0x000f</td><td>0</td><td>Output 15</td><td>0x040F</td></tr> <tr><td>Input 16</td><td>0x0010</td><td>0</td><td>Output 16</td><td>0x0410</td></tr> </tbody> </table>		Address	Value			Input 1	0x0001	0	Output 1	0x0401	Input 2	0x0002	0	Output 2	0x0402	Input 3	0x0003	0	Output 3	0x0403	Input 4	0x0004	0	Output 4	0x0404	Input 5	0x0005	0	Output 5	0x0405	Input 6	0x0006	0	Output 6	0x0406	Input 7	0x0007	0	Output 7	0x0407	Input 8	0x0008	0	Output 8	0x0408	Input 9	0x0009	0	Output 9	0x0409	Input 10	0x000a	0	Output 10	0x040A	Input 11	0x000b	0	Output 11	0x040B	Input 12	0x000c	0	Output 12	0x040C	Input 13	0x000d	0	Output 13	0x040D	Input 14	0x000e	0	Output 14	0x040E	Input 15	0x000f	0	Output 15	0x040F	Input 16	0x0010	0	Output 16	0x0410
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Stap	Beschrijving	Beeld																	
5	Druk op <b>Change Configuration (Configuratie wijzigen)</b> om het IP-adres in te stellen.	 <p>KUNBUS-GW EtherNet/IP™</p> <p><b>Log Out</b> <b>KUI</b> indust</p> <p>ModbusTCP Input and Output ModbusTCP Input and Output ModbusTCP Input and Output ModbusTCP Input and Output</p> <p>Modbus Register 0x001 - 0x010 and 0x0401 - 0x0410 Modbus Register 0x011 - 0x020 and 0x0411 - 0x0420 Modbus Register 0x021 - 0x030 and 0x0421 - 0x0430 Modbus Register 0x031 - 0x040 and 0x0431 - 0x0440</p> <p>Show Show Show Show</p> <p><b>Configuration</b></p> <p>Serial number: 594 Software Version: 1.1.944 MAC Address: c8:3e:37:00:0b:10 IP address: 192.168.1.8 Network Mask: 255.255.255.0 Gateway: 192.168.1.1 DHCP: <input type="checkbox"/> active</p> <p><b>Change Configuration</b> <b>Change Password</b> <b>Reboot</b></p> <p><a href="#">Download ECF file</a></p>																	
6	Wijzig het IP-adres in overeenstemming met het gateway-adres.  Druk op <b>Apply (Toepassen)</b> om te bevestigen.  Zet alle DIP-schakelaars op uit.  Schakel de gateway uit en start opnieuw op. Het nieuwe IP-adres wordt nu gebruikt.	 <p>KUNBUS-GW EtherNet/IP™</p> <p><b>Change Configuration</b></p> <table border="1"> <tr> <td>DHCP</td> <td><input type="checkbox"/> active</td> <td>Old Value</td> <td><input type="checkbox"/> active</td> <td>New Value</td> </tr> <tr> <td>IP Address</td> <td>192.168.1.8</td> <td>192.168.1.8</td> <td>192.168.1.8</td> </tr> <tr> <td>Network Mask</td> <td>255.255.255.0</td> <td>255.255.255.0</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>192.168.1.1</td> <td>192.168.1.1</td> <td>192.168.1.1</td> </tr> </table> <p><b>Apply</b> <b>Abort</b></p>	DHCP	<input type="checkbox"/> active	Old Value	<input type="checkbox"/> active	New Value	IP Address	192.168.1.8	192.168.1.8	192.168.1.8	Network Mask	255.255.255.0	255.255.255.0	255.255.255.0	Gateway	192.168.1.1	192.168.1.1	192.168.1.1
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Gateway	192.168.1.1	192.168.1.1	192.168.1.1																

## Hoofdstuk 8 De Profinet-gateway configureren

Stap	Beschrijving	Beeld
1	<ul style="list-style-type: none"> <li>Sluit de Profinet-gateway aan op de PC met de LAN-naar-LAN-adapter.</li> <li>Raadpleeg <a href="#">Inleiding</a> op pagina 160. Gebruik de link van de GATEWAY Profinet IRT-slave. Volg de instructies in de gebruikershandleiding van de fabrikant, <i>Gateway Component for PROFINET (Gateway-onderdeel voor PROFINET)</i>.</li> <li>Gebruik de PRONETA-software om de naam in te stellen op <b>kunbus-gw-profinet</b>.</li> <li>Voer het gebruikte <b>IP-adres</b> in.</li> </ul>	<p>The screenshot shows the Siemens PRONETA software interface. On the left, there's a tree view with 'de-3dynet-p' selected. In the center, there's a 'Grafische Ansicht - Online' window showing a network diagram with nodes like 'kunbus-gw-profinet' and 'db-3e-a7-00-26-05'. On the right, a 'Geräteabelle - Online' table lists a single device: '1-8-3e-a7-00-26-05' (Hardware-ID) and 'KUNBUS-GW Profinet TPS-1' (Gerätetyp). Below the table, the IP-Address '192.168.1.10' is highlighted with a red oval and an arrow pointing to it from the text in the adjacent column.</p>
2	<p>Open de browser en voer het IP-adres in. Inloggegevens voor de eerste aanmelding: Gebruiker: Admin Wachtwoord: 1701 Druk op (<b>Log in</b>) Inloggen.</p>	<p>The screenshot shows a login page for the KUNBUS-GW PROFINET TPS-1. The title 'KUNBUS-GW PROFINET TPS-1' is at the top. Below it is a form with fields for 'Username' (Admin) and 'Password' (represented by four dots). A 'Login' button is at the bottom right.</p>

Stap	Beschrijving	Beeld																		
3	Druk op <b>Show (Tonen)</b> (A) om de invoergegevens weer te geven.	 <table border="1" data-bbox="471 425 941 552"> <thead> <tr> <th colspan="2">Configuration</th> </tr> </thead> <tbody> <tr> <td>Serial number</td> <td>4581</td> </tr> <tr> <td>Software Version</td> <td>1.2</td> </tr> <tr> <td>MAC Address</td> <td>c8:3e:a7:01:2c:3a</td> </tr> <tr> <td>IP address</td> <td>192.168.0.230</td> </tr> <tr> <td>Subnet mask</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>0.0.0.0</td> </tr> <tr> <td>IO Controller state</td> <td>no AR established, access from web page possible</td> </tr> <tr> <td>PROFINET Name of Station</td> <td>kunbus-gw-profinet</td> </tr> </tbody> </table> <p data-bbox="661 552 792 568"><b>Change Password</b></p>	Configuration		Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:2c:3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
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# Hoofdstuk 9 Problemen oplossen

## 9.1 Problemen met RevPi oplossen

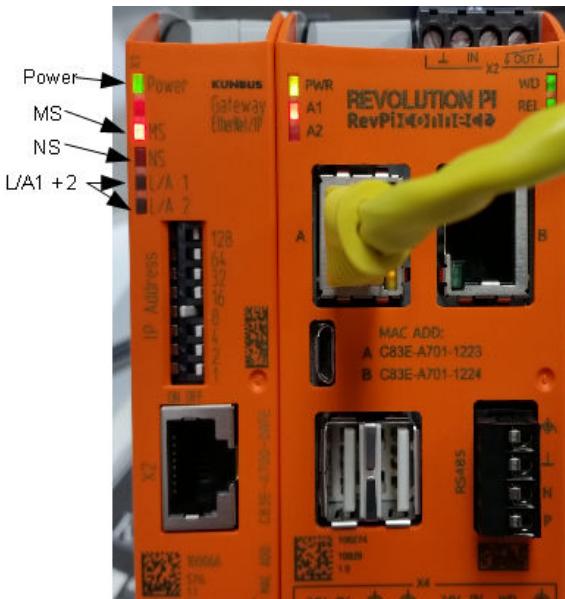
Afbeelding 4 RevPi-basismodule



Bericht	Beschrijving	Oplossing
LED A2 knippert rood.	De communicatie is gestopt.	<ul style="list-style-type: none"><li>Sluit de netwerkkabel (kabel of router) aan.</li><li>Stel het Modbus-adres in Claros in op 1.</li><li>Stel het Modbus TCP in het Claros-menu in op aan.</li></ul>
LED A3 knippert langzaam rood.	De configuratie van de Ethernet/IP- en Profinet-gateway loopt door elkaar.	Raadpleeg <a href="#">De USB-configuratie starten</a> op pagina 162, stap 4 en selecteer het juiste type gateway: <ul style="list-style-type: none"><li>en – Ethernet/IP</li><li>pn – Profinet</li></ul>

## 9.2 Problemen met Ethernet/IP oplossen

Afbeelding 5 Ethernet/IP-gateway

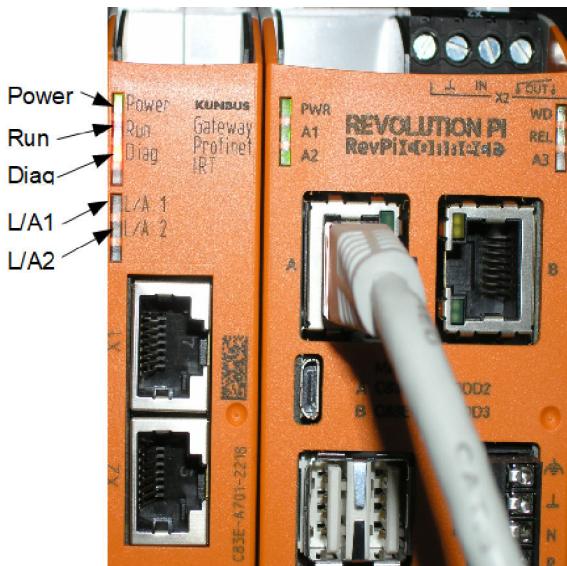


Bericht	Beschrijving	Oplossing
De voedings-LED is uit.	De Ethernet/IP-gateway is uitgeschakeld.	Schakel de stroom in.
De voedings-LED knippert groen.	De opstartprocedure is niet voltooid.	Wacht enkele minuten.
De voedings-LED knippert rood.	Geeft een waarschuwing weer.	Controleer of alle apparaten zijn aangesloten.
De voedings-LED brandt rood.	Geeft een fout weer.	De Ethernet/IP-gateway is defect. Vervang de Ethernet/IP-gateway.
De MS-LED is uit.	De Ethernet/IP-gateway is uitgeschakeld.	Schakel de stroom in.
De MS-LED knippert groen.	De configuratieprocedure is niet voltooid.	Wacht enkele minuten.
De MS-LED knippert rood.	Geeft een configuratiefout weer.	Raadpleeg <a href="#">De Ethernet/IP-gateway configureren</a> op pagina 172 om de configuratie te onderzoeken.
De MS-LED brandt rood.	Geeft een fout weer.	De Ethernet/IP-gateway is defect. Vervang de Ethernet/IP-gateway.
De MS-LED knippert rood en groen.	De zelftest is niet voltooid.	Wacht enkele minuten.

Bericht	Beschrijving	Oplossing
De NS-LED is uit.	De Ethernet/IP-gateway is uitgeschakeld of heeft geen IP-adres.	Schakel de stroom in. Stel het IP-adres in.
De NS-LED knippert groen.	Het IP-adres is ingesteld, maar de CIP-verbinding is niet tot stand gebracht.	Wacht enkele minuten.
De NS-LED knippert rood.	De CIP-verbinding is verbroken.	Controleer of er een time-out is.
De NS-LED brandt rood.	Het geselecteerde IP-adres wordt gebruikt door een ander apparaat.	Wijzig het IP-adres in een uniek IP-adres.
L/A 1 of 2 LED is uit.	Er is geen verbinding met andere apparaten.	Sluit een apparaat aan.
L/A 1 of 2 LED knippert groen.	Geen gegevensuitwisseling.	Wacht tot de volgende gegevensuitwisseling.

### 9.3 Problemen met Profinet oplossen

Afbeelding 6 Profinet-gateway



Bericht	Beschrijving	Oplossing
De voedings-LED is uit.	De Profinet-gateway is uitgeschakeld.	Schakel de stroom in.
De voedings-LED knippert groen.	De opstartprocedure is niet voltooid.	Wacht enkele minuten.
De voedings-LED knippert rood.	Geeft een waarschuwing weer.	Controleer of alle apparaten zijn geïnstalleerd.

Bericht	Beschrijving	Oplossing
De voedings-LED brandt rood.	Geeft een fout weer.	De Profinet-gateway is defect. Vervang de Profinet-gateway.
De run-LED is uit.	Geen verbinding met een netwerk.	Maak verbinding met het netwerk.
De run-LED knippert groen.	De Profinet-controller is aangesloten, maar er is geen gegevensuitwisseling.	Wacht tot de volgende gegevensuitwisseling.
De run-LED knippert langzaam groen.	Geactiveerd door hulpmiddel voor identificatie van het gatewayonderdeel.	Wacht enkele minuten.
De diag-LED knippert rood.	Geactiveerd door hulpmiddel voor identificatie van het gatewayonderdeel.	Wacht enkele minuten.
De diag-LED knippert snel rood.	Geen verbinding met de controller. Geen Profinet-naam ingesteld in de module.	Raadpleeg <a href="#">De Profinet-gateway configureren</a> op pagina 175 om de naam in te stellen.
De diag-LED brandt rood.	Een Gateway-apparaat rapporteert diagnosegegevens.	Raadpleeg het diagnoserapport.
L/A 1 of 2 LED is uit.	Geen verbinding met een netwerk.	Maak verbinding met het netwerk.
L/A 1 of 2 LED knippert groen.	Gegevensuitwisseling.	Wacht tot de gegevensuitwisseling is voltooid.

# Съдържание

- |   |  |
|---|--|
| 1 Предназначение на страница 182  | 6 Настройка на телеграма на Modbus TCP на контролер SC1500 на страница 191 |
| 2 Въведение на страница 182   | 7 Конфигуриране на Ethernet/IP шлюза на страница 194                       |
| 3 Стартрайте конфигурацията с USB на страница 184                           | 8 Конфигуриране на Profinet шлюза на страница 197                          |
| 4 Примери за инсталация на страница 186                                     | 9 Отстраняване на повреди на страница 200                                  |
| 5 Настройка на телеграма на Modbus TCP на контролер SC4200c на страница 188 |  |

## Раздел 1 Предназначение

Тези инструкции за настройка са предназначени за използване от лица, които интегрират външен Ethernet/IP шлюз или Profinet шлюз като хардуерни компоненти в мрежата Claros.

## Раздел 2 Въведение

Производителят не носи отговорност за никакви повреди, възникнали в резултат на погрешно приложение или използване на този продукт, включително, без ограничения, преки, случайни или възникнали впоследствие щети, и се отхвърля всяка отговорност към такива щети в пълната позволяна степен от действащото законодателство. Потребителят носи пълна отговорност за установяване на критични за приложението рискове и монтаж на подходящите механизми за подсигуряване на процесите по време на възможна неизправност на оборудването.

### ▲ ОПАСНОСТ



Опасност от токов удар по потребителя. Винаги изключвате захранването на инструмента преди изграждане на електрически връзки.

#### Елементи за осигуряване:

- USB памет, форматирана като FAT32
- Компютър с Windows<sup>1</sup> 10
- Модул:
  - За Ethernet/IP внедряване:
    - LXZ446.99.00001: GATEWAY IIoT RevPi основен модул
    - LXZ446.99.00002: GATEWAY Ethernet/IP подчинен възел
    - LXZ446.99.00003: джъмпер за PiBridge
  - За Profinet внедряване:
    - LXZ446.99.00001: GATEWAY IIoT RevPi основен модул
    - LXZ446.99.00007: GATEWAY Profinet IRT подчинен възел
    - LXZ446.99.00003: джъмпер за PiBridge

Свързва трите модула – RevPi, подчинен възел и PiBridge, към захранването и LAN.

Направете справка с връзките в таблицата, която следва, за повече информация от производителя на модулите.

<sup>1</sup> Microsoft® Windows® е регистрирана търговска марка на Microsoft Corporation в Съединените щати и други държави.

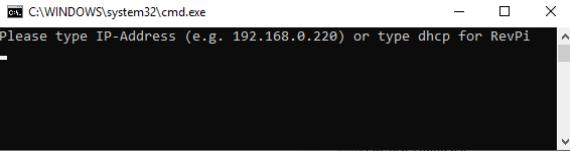
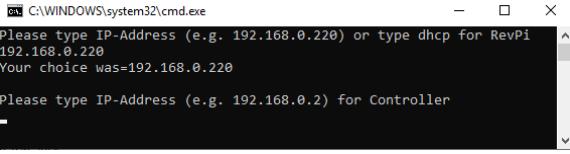
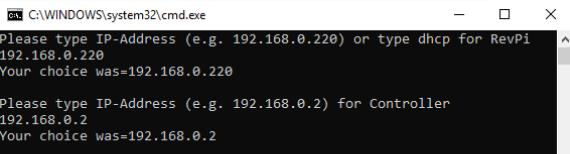
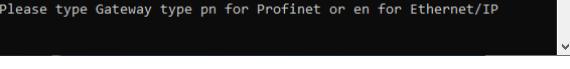
Модул	Връзка
GATEWAY Profinet IRT подчинен възел	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
GATEWAY Ethernet/IP подчинен възел	<a href="https://www.kunbus.com/ethernet-ip-gateway-module.html">https://www.kunbus.com/ethernet-ip-gateway-module.html</a>
GATEWAY IIoT RevPi основен модул	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>
Как се свързват RevPi модули	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>
Как се инсталират RevPi модули на DIN шина	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
Как се свързва електрозахранването	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

## Подгответе USB паметта

1. Вкарайте празна USB памет в компютъра.
2. Преминете към <https://www.hach.com> и търсете за ключовите думи „usb ethernet/IP installation“ или „usb profinet installation“.
3. Изтеглете USB\_ETHIP\_PRNET.zip.
4. Разархивирайте файла в основната директория на USB паметта.

## Раздел 3 Стартрайте конфигурацията с USB

Вкарайте подгответената USB памет в компютъра.

Стъпка	Описание	Илюстрация
1	Стартрайте start_usb_config.bat. Отваря се терминален прозорец. Следвайте ръководството стъпка по стъпка.	
2	Въведете IP адреса на RevPi модула.	
3	Въведете IP адреса на контролера SC. Уверете се, че представката за Network (Мрежа) е същата, както от RevPi модула (напр. 192.168.0). Уверете се, че идентификаторът на хоста е различен спрямо RevPi модула (напр. 220 RevPi, 2 контролер).	 
4	Въведете типа на шлюза: <ul style="list-style-type: none"><li>• pn—Profinet</li><li>• en—Ethernet/IP</li></ul>	 

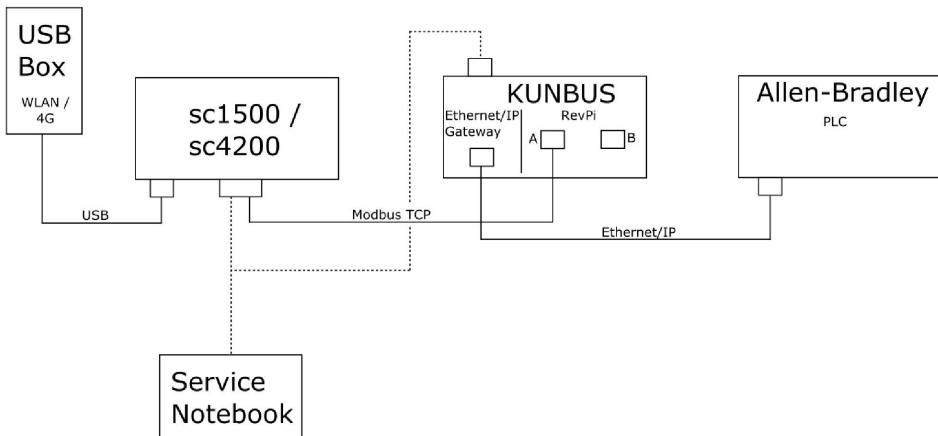
Стъпка	Описание	Илюстрация
5	Потвърдете настройките с Enter. Извадете USB паметта.	<pre>C:\WINDOWS\system32\cmd.exe Please type IP-Address (e.g. 192.168.0.220) or type dhcp for RevPi 192.168.0.220 Your choice was=192.168.0.220  Please type IP-Address (e.g. 192.168.0.2) for Controller 192.168.0.2 Your choice was=192.168.0.2  Please type Gateway type pn for Profinet or en for Ethernet/IP pn Your choice was=pn  1 Datei(en) kopiert. 1 Datei(en) kopiert. --Please ummount USB stick-- -----Program End----- Drücken Sie eine beliebige Taste . . .  </pre>
6	Поставете USB паметта в лявото USB гнездо на RevPi модула.	

Стъпка	Описание	Илюстрация
7	<p>Описание на светодиодите:</p> <ul style="list-style-type: none"> <li>• A1/A2 оранжев: започва инсталацието на RevPi.</li> <li>• A1 червено, A2 изключено: вкарайте USB памет в RevPi.</li> <li>• A1 зелено, A2 изключено: USB памет вкарана успешно.</li> <li>• A1 изключено, A2 зелено: RevPi тегли/качва данни от USB памет.</li> <li>• A3 червено: RevPi се рестартира.</li> </ul> <p>Когато A3 е червено, извадете USB паметта.</p>	
8	Настройките на RevPi са завършени.	

## Раздел 4 Примери за инсталация

Фигура 1 показва инсталация с две различни LAN връзки.

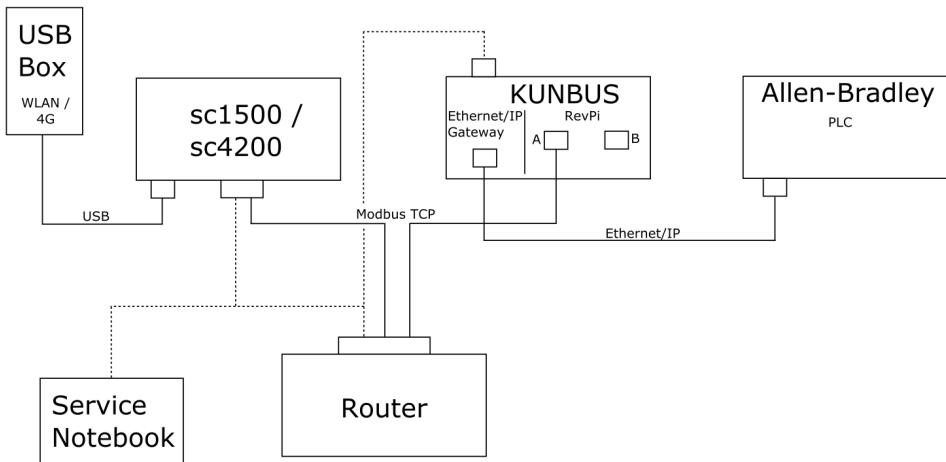
Фигура 1 Пример 1



- Modbus TCP и Ethernet/IP използват две различни LAN връзки.
- Всички устройства имат статичен IP адрес.
- Контролерът има достъп до интернет с WiFi или клетъчна връзка.
- Необходим е лаптоп, за да се настройт IP адресите на контролера и Ethernet/IP шлюзът.

[Фигура 2](#) показва инсталация с рутер за връзката Modbus TCP.

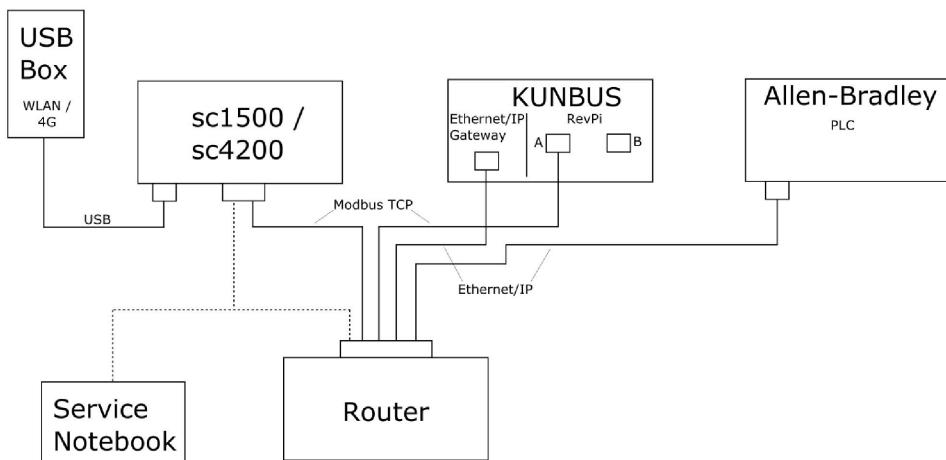
### Фигура 2 Пример 2



- Modbus TCP е свързан към рутер.
- Всички устройства имат статичен IP адрес или рутерът задава IP адреса чрез DHCP.  
*Забележка: Уверете се, че рутерът винаги използва същия IP адрес за същите устройства (MAC), ако се използва DHCP.*
- Контролерът има достъп до интернет с WiFi или клетъчна връзка.
- Необходим е лаптоп, за да се настройт IP адресът на контролера, Ethernet/IP шлюзът и настройките на рутера.

[Фигура 3](#) показва инсталация с рутер или комутатор за всички устройства.

### Фигура 3 Пример 3

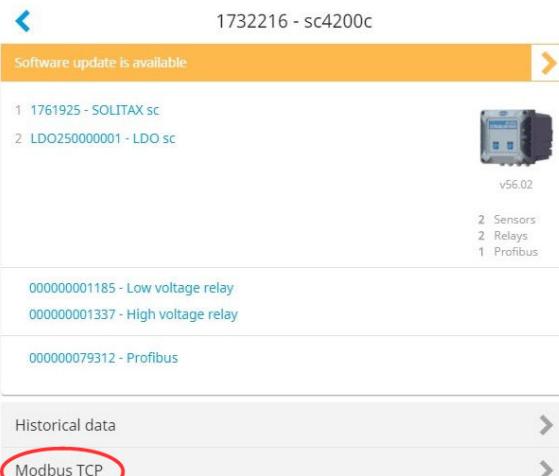
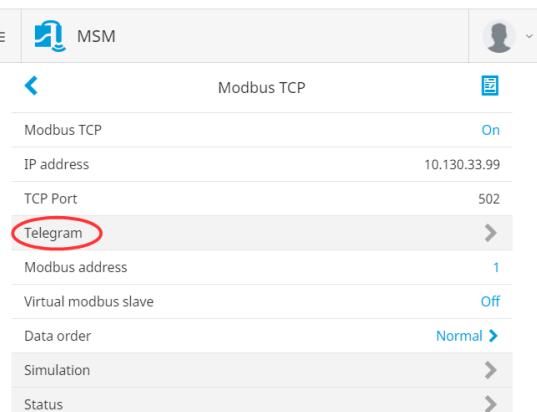


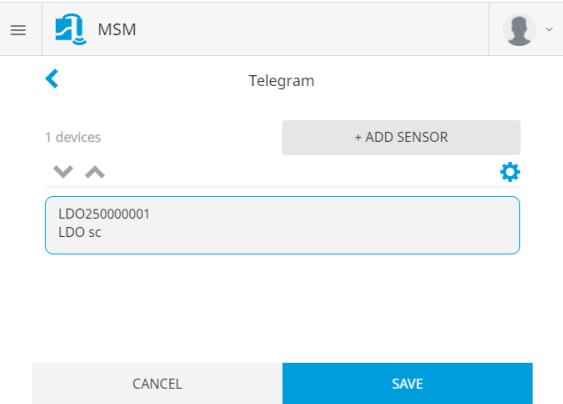
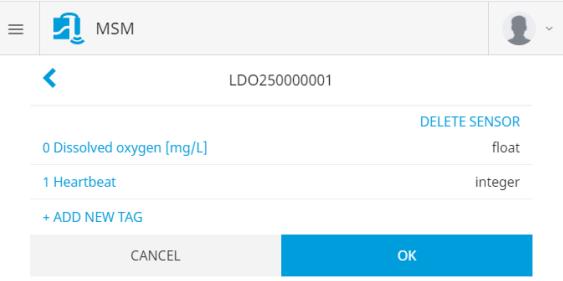
- Всички устройства са свързани с рутер или комутатор.

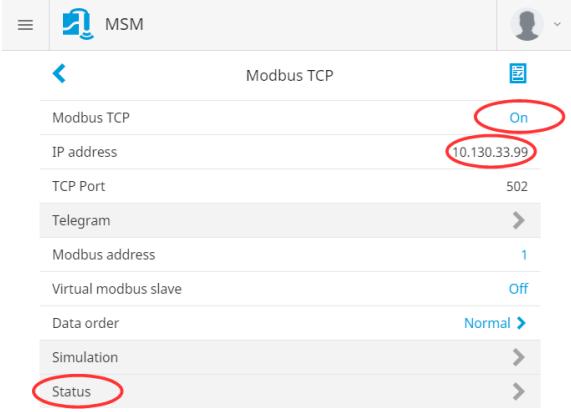
- Всички устройства имат статичен IP адрес или рутерът или комутаторът задава IP адреса чрез DHCP.
- Забележка:** Уверете се, че рутерът винаги използва същия IP адрес за същите устройства (MAC), ако се използва DHCP.
- Контролерът има достъп до интернет с WiFi или клетъчна връзка.
- Необходим е лаптоп, за да се настройт IP адресът на контролера и настройките на рутера.

## Раздел 5 Настройка на телеграма на Modbus TCP на контролер SC4200c

Стартирайте приложението Claros и следвайте ръководството стъпка по стъпка.

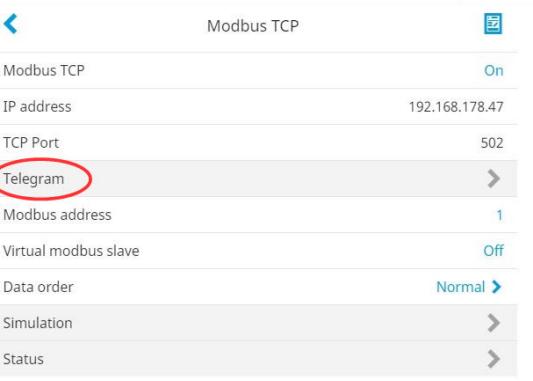
Стъпка	Описание	Илюстрация
1	Изберете менюто на контролера, след това натиснете <b>Modbus TCP</b> .	 <p>1732216 - sc4200c</p> <p>Software update is available</p> <p>1 1761925 - SOLITAX sc 2 LDO25000001 - LDO sc</p> <p>000000001185 - Low voltage relay 000000001337 - High voltage relay</p> <p>000000079312 - Profibus</p> <p>Historical data</p> <p>Modbus TCP</p>
2	Изберете <b>Telegram</b> (Телеграма), за да зададете телеграмата на Modbus TCP.	 <p>MSM</p> <p>Modbus TCP</p> <p>IP address 10.130.33.99</p> <p>TCP Port 502</p> <p>Telegram</p> <p>Modbus address 1</p> <p>Virtual modbus slave Off</p> <p>Data order Normal</p> <p>Simulation</p> <p>Status</p>

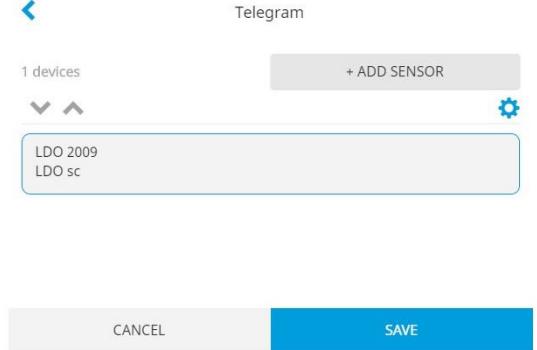
Стъпка	Описание	Илюстрация
3	<p>Показаната телеграма е пример за сензор LDO sc.</p> <p>Задайте Heartbeat (Пулс) на цяло число. Пулсът е брояч, който показва актуализацията на стойността с нараствания от една секунда.</p> <p><b>Забележка:</b> Съдържанието на телеграмата на Modbus TCP е същото като на телеграмата на Profibus.</p>	 

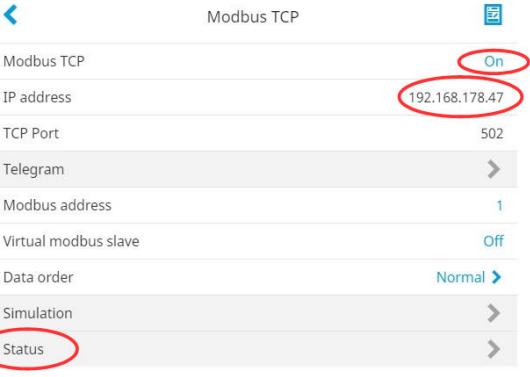
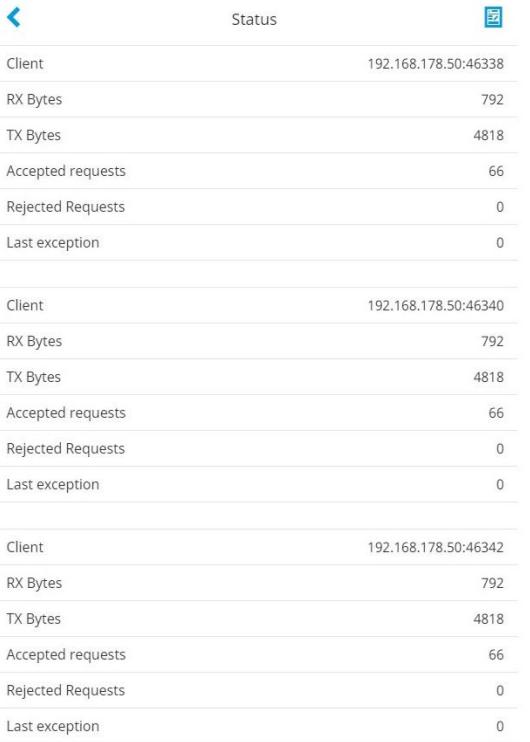
Стъпка	Описание	Илюстрация
4	<p>Менюто на Modbus TCP показва IP адреса на контролера. <b>10.130.33.99</b> е IP адресът, зададен в сервисното меню на контролера.</p> <p>Задайте Modbus TCP на <b>On (Вкл.)</b>, след това натиснете <b>Status (Състояние)</b>.</p>	
5	<p>В менюто Status (Състояние) се показва статистиката на Modbus TCP. <b>10.130.33.50</b> е IP адресът на RevPi модула. RevPi има 5 Modbus TCP водещи възела.</p>	

## Раздел 6 Настройка на телеграма на Modbus TCP на контролер SC1500

Стартирайте приложението Claros и следвайте ръководството стъпка по стъпка.

Стъпка	Описание	Илюстрация
1	Изберете менюто на контролера, след това натиснете <b>Modbus TCP</b> .	 <p>1694389 - sc1500</p> <p>1 1327087 - AN-ISE sc 2 1555058 - AN-ISE sc 3 LDO 2009 - LDO sc</p> <p>v20.12 3 Sensors 1 Outputs 1 Profibus</p> <p>000000074854 - mA output</p> <p>000005009872 - Profibus</p> <p>Historical data &gt; Modbus TCP &gt;</p>
2	Изберете <b>Telegram</b> (Телеграма), за да зададете телеграмата на Modbus TCP.	 <p>Modbus TCP</p> <p>Modbus TCP On</p> <p>IP address 192.168.178.47</p> <p>TCP Port 502</p> <p>Telegram &gt;</p> <p>Modbus address 1</p> <p>Virtual modbus slave Off</p> <p>Data order Normal &gt;</p> <p>Simulation &gt;</p> <p>Status &gt;</p>

Стъпка	Описание	Илюстрация
3	<p>Показаната телеграма е пример за сензор LDO sc.</p> <p>Задайте Heartbeat (Пулс) на цяло число. Пулстът е брояч, който показва актуализацията на стойността с нарастващия от една секунда.</p> <p><b>Забележка:</b> Съдържанието на телеграмата на Modbus TCP е същото като на телеграмата на Profibus.</p>	 

Стъпка	Описание	Илюстрация																																				
4	<p>Менюто на Modbus TCP показва IP адреса на контролера. <b>192.168.178.47</b> е IP адресът, зададен в сервисното меню на контролера.</p> <p>Задайте Modbus TCP на <b>On (Вкл.)</b>, след това натиснете <b>Status (Състояние)</b>.</p>	 <table border="1"> <tr><td>Modbus TCP</td><td>On</td></tr> <tr><td>IP address</td><td>192.168.178.47</td></tr> <tr><td>TCP Port</td><td>502</td></tr> <tr><td>Telegram</td><td></td></tr> <tr><td>Modbus address</td><td>1</td></tr> <tr><td>Virtual modbus slave</td><td>Off</td></tr> <tr><td>Data order</td><td>Normal &gt;</td></tr> <tr><td>Simulation</td><td></td></tr> <tr><td>Status</td><td></td></tr> </table>	Modbus TCP	On	IP address	192.168.178.47	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal >	Simulation		Status																			
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Virtual modbus slave	Off																																					
Data order	Normal >																																					
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Status																																						
5	<p>В менюто Status (Състояние) се показва статистиката на Modbus TCP. <b>192.168.178.50</b> е IP адресът на RevPi модула. RevPi има 7 Modbus TCP водещи възела.</p>	 <table border="1"> <tr><td>Client</td><td>192.168.178.50:46338</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td>Client</td><td>192.168.178.50:46340</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td>Client</td><td>192.168.178.50:46342</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> </table>	Client	192.168.178.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Раздел 7 Конфигуриране на Ethernet/IP шлюза

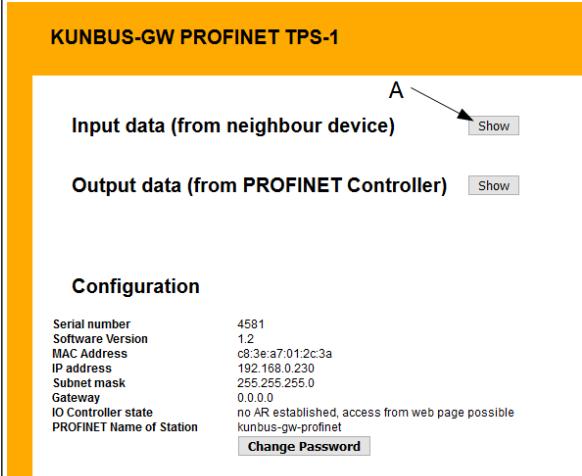
Стъпка	Описание	Илюстрация
1	<ul style="list-style-type: none"> <li>Свържете Ethernet/IP шлюза към компютъра с кабел на адаптер LAN към USB.</li> <li>Направете справка с <a href="#">Въведение</a> на страница 182. Използвайте връзката на GATEWAY Ethernet/IP подчинения възел. Следвайте инструкцията в ръководството на потребителя от производителя, <i>Компонент на шлюз за EtherNet/IP</i>.</li> <li>Използвайте комутатор за адрес с 8 извода (A), за да зададете идентификатора на хоста на двоичния формат на шлюза. <ul style="list-style-type: none"> <li>Пример: задайте хоста на 8: 00010000</li> </ul> </li> <li>Отворете уебсайта <a href="http://192.168.1.X">http://192.168.1.X</a> (X = сума от всички комутатори, зададени на ON (ВКЛ.).)</li> </ul>	

Стъпка	Описание	Илюстрация														
2	<p>Отворете браузъра и въведете IP адреса 192.168.1.X.</p> <p>Данни за влизане за първото влизане:</p> <p>Потребител: Admin Парола: 1701</p> <p><b>Натиснете Login (Вход).</b></p>	<p>KUNBUS-GW EtherNet/IP™</p> <p>Username: Admin</p> <p>Password:</p> <p>Login</p> <p><a href="#">Download EDS file.</a></p>														
3	<p>Контролерът и Ethernet/IP шлюзът прехвърлят зоната с данни 0000 - 01BF, което е диапазон от 448 байта или 112 с плаваща запетайка или 224 цяло число или комбинация от тях, на базата на типа Modbus TCP в контролера.</p> <p><b>Забележка:</b> Показва се само първият диапазон от данни до 32 цяло число. Прегледайте всички данни в програмиращия логически контролер (PLC) (224 цяло число).</p> <p><b>Натиснете Show (Показване).</b></p>	<p>KUNBUS-GW EtherNet/IP™</p> <p>Log Out</p> <p>KUI indusr</p> <p>Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output</p> <p>Modbus Register 0x0001 - 0x0010 and 0x0401 - 0x0410 Modbus Register 0x0011 - 0x0020 and 0x0411 - 0x0420 Modbus Register 0x0021 - 0x0030 and 0x0421 - 0x0430 Modbus Register 0x0031 - 0x0040 and 0x0431 - 0x0440</p> <p>Configuration</p> <table border="1"> <tr><td>Serial number</td><td>504</td></tr> <tr><td>Software Version</td><td>1.1.9454</td></tr> <tr><td>Mac Address</td><td>08:00:80:00:00:10</td></tr> <tr><td>IP address</td><td>192.168.1.8</td></tr> <tr><td>Subnet mask</td><td>255.255.255.0</td></tr> <tr><td>Gateway</td><td>192.168.1.1</td></tr> <tr><td>DHCP</td><td><input type="checkbox"/> active</td></tr> </table> <p>Show Show Show</p> <p><a href="#">Download EDS file.</a></p>	Serial number	504	Software Version	1.1.9454	Mac Address	08:00:80:00:00:10	IP address	192.168.1.8	Subnet mask	255.255.255.0	Gateway	192.168.1.1	DHCP	<input type="checkbox"/> active
Serial number	504															
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Subnet mask	255.255.255.0															
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Стъпка	Описание	Илюстрация																																																																				
4	Показва се избраната зона с данни.	<table border="1"> <thead> <tr> <th>Address</th> <th>Value</th> <th>Address</th> <th>Value</th> </tr> </thead> <tbody> <tr><td>Input 1 0x0001</td><td>0</td><td>Output 1 0x0401</td><td>0</td></tr> <tr><td>Input 2 0x0002</td><td>0</td><td>Output 2 0x0402</td><td>0</td></tr> <tr><td>Input 3 0x0003</td><td>0</td><td>Output 3 0x0403</td><td>0</td></tr> <tr><td>Input 4 0x0004</td><td>0</td><td>Output 4 0x0404</td><td>0</td></tr> <tr><td>Input 5 0x0005</td><td>0</td><td>Output 5 0x0405</td><td>0</td></tr> <tr><td>Input 6 0x0006</td><td>0</td><td>Output 6 0x0406</td><td>0</td></tr> <tr><td>Input 7 0x0007</td><td>0</td><td>Output 7 0x0407</td><td>0</td></tr> <tr><td>Input 8 0x0008</td><td>0</td><td>Output 8 0x0408</td><td>0</td></tr> <tr><td>Input 9 0x0009</td><td>0</td><td>Output 9 0x0409</td><td>0</td></tr> <tr><td>Input 10 0x000a</td><td>0</td><td>Output 10 0x040A</td><td>0</td></tr> <tr><td>Input 11 0x000b</td><td>0</td><td>Output 11 0x040B</td><td>0</td></tr> <tr><td>Input 12 0x000c</td><td>0</td><td>Output 12 0x040C</td><td>0</td></tr> <tr><td>Input 13 0x000d</td><td>0</td><td>Output 13 0x040D</td><td>0</td></tr> <tr><td>Input 14 0x000e</td><td>0</td><td>Output 14 0x040E</td><td>0</td></tr> <tr><td>Input 15 0x000f</td><td>0</td><td>Output 15 0x040F</td><td>0</td></tr> <tr><td>Input 16 0x0010</td><td>0</td><td>Output 16 0x0410</td><td>0</td></tr> </tbody> </table>	Address	Value	Address	Value	Input 1 0x0001	0	Output 1 0x0401	0	Input 2 0x0002	0	Output 2 0x0402	0	Input 3 0x0003	0	Output 3 0x0403	0	Input 4 0x0004	0	Output 4 0x0404	0	Input 5 0x0005	0	Output 5 0x0405	0	Input 6 0x0006	0	Output 6 0x0406	0	Input 7 0x0007	0	Output 7 0x0407	0	Input 8 0x0008	0	Output 8 0x0408	0	Input 9 0x0009	0	Output 9 0x0409	0	Input 10 0x000a	0	Output 10 0x040A	0	Input 11 0x000b	0	Output 11 0x040B	0	Input 12 0x000c	0	Output 12 0x040C	0	Input 13 0x000d	0	Output 13 0x040D	0	Input 14 0x000e	0	Output 14 0x040E	0	Input 15 0x000f	0	Output 15 0x040F	0	Input 16 0x0010	0	Output 16 0x0410	0
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5	Натиснете <b>Change Configuration</b> (Промяна на конфигурацията), за да зададете IP адреса.	<p>KUNBUS-GW EtherNet/IP™</p> <p>Log Out </p> <p>ModbusTCP Input and Output ModbusTCP Input and Output ModbusTCP Input and Output ModbusTCP Input and Output</p> <p>Show Show Show Show</p> <p>Modbus Register 0x0001 - 0x0010 and 0x0401 - 0x0410 Modbus Register 0x0011 - 0x0020 and 0x0411 - 0x0420 Modbus Register 0x0021 - 0x0030 and 0x0421 - 0x0430 Modbus Register 0x0031 - 0x0040 and 0x0431 - 0x0440</p> <p>Show Show Show Show</p> <p>Configuration</p> <p>Serial number: 994 Software Version: 1.1.9454 MAC Address: c8:3a:21:00:b0:10 Network Address: 192.168.1.8 Subnet mask: 255.255.255.0 Gateway: 192.168.1.1 <input type="checkbox"/> active</p> <p>Change Configuration Change Password Reboot</p> <p>Download EDI file</p>																																																																				
6	<p>Променете IP адреса според адреса на шлюза.</p> <p>Натиснете <b>Apply</b> (Прилагане), за да потвърдите.</p> <p>Задайте всички двупозиционни (dip) комутатори на изключено положение.</p> <p>Задайте захранването на шлюза на изключено, след това рестартирайте. Вече се използва новият IP адрес.</p>	<p>KUNBUS-GW EtherNet/IP™</p> <p>Change Configuration</p> <table border="1"> <tr> <td>DHCP</td> <td><input type="checkbox"/> active</td> <td>New Value</td> <td><input type="checkbox"/> active</td> </tr> <tr> <td>IP Address</td> <td>192.168.1.8</td> <td>192.168.1.8</td> <td></td> </tr> <tr> <td>Network Mask</td> <td>255.255.255.0</td> <td>255.255.255.0</td> <td></td> </tr> <tr> <td>Gateway</td> <td>192.168.1.1</td> <td>192.168.1.1</td> <td></td> </tr> </table> <p>Apply Abort</p>	DHCP	<input type="checkbox"/> active	New Value	<input type="checkbox"/> active	IP Address	192.168.1.8	192.168.1.8		Network Mask	255.255.255.0	255.255.255.0		Gateway	192.168.1.1	192.168.1.1																																																					
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## Раздел 8 Конфигуриране на Profinet шлюза

Стъпка	Описание	Илюстрация
1	<ul style="list-style-type: none"> <li>Свържете Profinet шлюза към компютъра с кабел на адаптер LAN към LAN.</li> <li>Направете справка с <b>Въведение</b> на страница 182. Използвайте връзката на GATEWAY Profinet IRT подчинен възел. Следвате инструкцията в ръководството на потребителя от производителя, <i>Компонент на шлюз за PROFINET</i>.</li> <li>Използвайте софтуера PRONETA, за да зададете името на <b>kunbus-gw-profinet</b>.</li> <li>Въведете използвания IP адрес.</li> </ul>	
2	<p>Отворете браузъра и въведете IP адреса. Данни за влизане за първо влизане:</p> <p>Потребител: Admin Парола: 1701 Натиснете <b>Login</b> (Вход).</p>	

Стъпка	Описание	Илюстрация																
3	Натиснете <b>Show (Показване)</b> (A), за да покажете въведените данни.	<p><b>KUNBUS-GW PROFINET TPS-1</b></p>  <p><b>Input data (from neighbour device)</b></p> <p><b>Output data (from PROFINET Controller)</b> <input type="button" value="Show"/></p> <p><b>Configuration</b></p> <table> <tbody> <tr><td>Serial number</td><td>4581</td></tr> <tr><td>Software Version</td><td>1.2</td></tr> <tr><td>MAC Address</td><td>c8:3e:a7:01:c2:c3a</td></tr> <tr><td>IP address</td><td>192.168.0.230</td></tr> <tr><td>Subnet mask</td><td>255.255.255.0</td></tr> <tr><td>Gateway</td><td>0.0.0.0</td></tr> <tr><td>IO Controller state</td><td>no AR established, access from web page possible</td></tr> <tr><td>PROFINET Name of Station</td><td>kunbus-gw-profinet</td></tr> </tbody> </table> <p><input type="button" value="Change Password"/></p>	Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:c2:c3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
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4	<p>Показва всички данни, изпратени от контролера към Profinet шлюза.</p> <p>Контролерът и Profinet шлюзът прехвърлят зоната с данни 0000 - 01BF, което е диапазон от 448 байта или 112 с плаваща запетайка или 224 цяло число или комбинация от тях, на базата на типа Modbus TCP в контролера.</p>	<p><b>KUNBUS-GW PROFINET TPS-1</b></p> <p><b>Input (from neighbour device)</b></p> <p>Main page</p> <table border="1"> <thead> <tr> <th>Address</th> <th>0</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr><td>0x0000</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> 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## Раздел 9 Отстраняване на повреди

### 9.1 Отстраняване на неизправности на RevPi

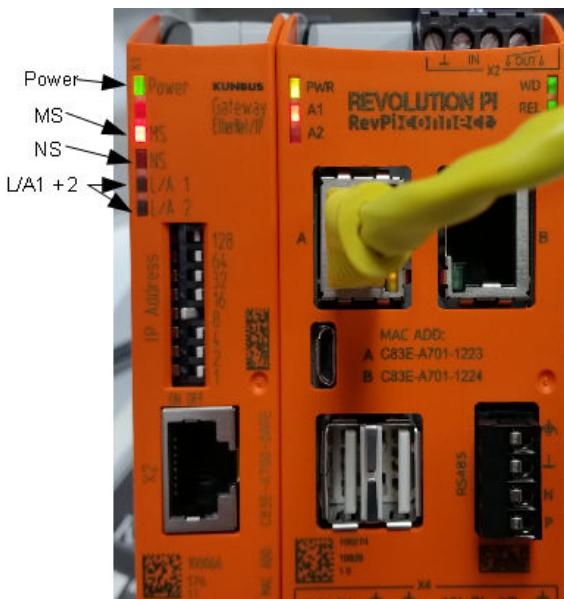
Фигура 4 RevPi основен модул



Съобщение	Описание	Решение
Светодиодът за A2 мига в червено.	Комуникацията е спряла.	<ul style="list-style-type: none"><li>Свържете мрежовия кабел (кабел или рутер).</li><li>Задайте настройката на адрес на Modbus в Claros на 1.</li><li>Задайте Modbus TCP в менюто на Claros на включено.</li></ul>
Светодиодът за A3 мига бавно в червено.	Конфигурацията на Ethernet/IP и Profinet шлюза е грешна.	Направете справка с <a href="#">Стартирайте конфигурацията с USB</a> на страница 184, стъпка 4, и изберете правилния тип шлюз: <ul style="list-style-type: none"><li>en – Ethernet/IP</li><li>pn – Profinet</li></ul>

## 9.2 Отстраняване на неизправности на Ethernet/IP

Фигура 5 Ethernet/IP шлюз

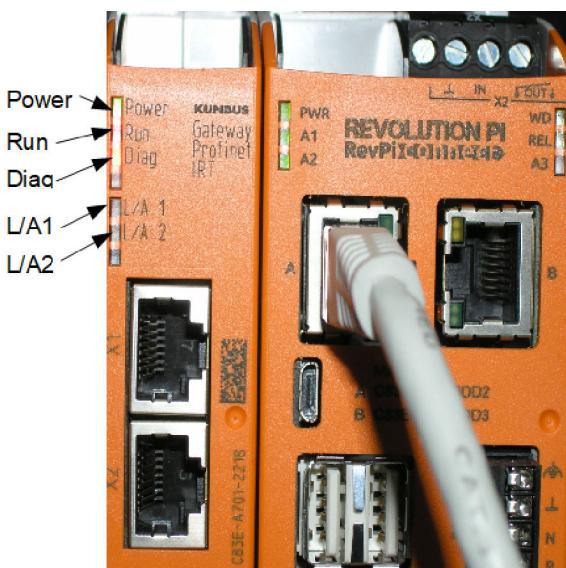


Съобщение	Описание	Решение
Светодиодът за захранването е изключен.	Ethernet/IP шлюзът е зададен на изключено положение.	Включете захранването.
Светодиодът за захранването мига в зелено.	Процедурата за стартиране не е завършила.	Изчакайте няколко минути.
Светодиодът за захранването мига в червено.	Показва предупреждение.	Проверете дали всички устройства са свързани.
Светодиодът за захранването е червен.	Показва грешка.	Ethernet/IP шлюзът е дефектен. Подменете Ethernet/IP шлюза.
Светодиодът за MS е изключен.	Ethernet/IP шлюзът е зададен на изключено положение.	Включете захранването.
Светодиодът за MS мига в зелено.	Процедурата за конфигуриране не е завършила.	Изчакайте няколко минути.
Светодиодът за MS мига в червено.	Показва грешка в конфигурацията.	Направете справка с <a href="#">Конфигуриране на Ethernet/IP шлюза</a> на страница 194 за проверка на конфигурацията.
Светодиодът за MS е червен.	Показва грешка.	Ethernet/IP шлюзът е дефектен. Подменете Ethernet/IP шлюза.

Съобщение	Описание	Решение
Светодиодът за MS мига в червено и зелено.	Самотестването не е завършило.	Изчакайте няколко минути.
Светодиодът за NS е изключен.	Ethernet/IP шлюзът е зададен на изключено положение или няма IP адрес.	Включете захранването. Задайте IP адреса.
Светодиодът за NS мига в зелено.	IP адресът е зададен, но връзката CIP не е установена.	Изчакайте няколко минути.
Светодиодът за NS мига в червено.	Връзката със CIP е спряла.	Проверете дали има период на изчакване.
Светодиодът за NS е червен.	Избраният IP адрес се използва от друго устройство.	Променете IP адреса на уникален IP адрес.
Светодиодът L/A 1 или 2 е изключен.	Няма връзка с други устройства.	Свържете към устройство.
Светодиодът L/A 1 или 2 мига в зелено.	Няма обмен на данни.	Изчакайте до следващия обмен на данни.

### 9.3 Отстраняване на неизправности при Profinet

Фигура 6 Profinet шлюз



Съобщение	Описание	Решение
Светодиодът за захранването е изключен.	Profinet шлюзът е изключен.	Включете захранването.
Светодиодът за захранването мига в зелено.	Процедурата за стартиране не е завършена.	Изчакайте няколко минути.

Съобщение	Описание	Решение
Светодиодът за захранването мига в червено.	Показва предупреждение.	Проверете дали всички устройства са инсталирани.
Светодиодът за захранването е червен.	Показва грешка.	Profinet шлюзът е дефектен. Заменете Profinet шлюза.
Светодиодът за цикъл е изключен.	Няма връзка с мрежа.	Свържете с мрежа.
Светодиодът за цикъл мига в зелено.	Контролерът Profinet е свързан, но няма обмен на данни.	Изчакайте до следващия обмен на данни.
Светодиодът за цикъл мига бавно в зелено.	Задействан от инструмент за идентификация на компонент на шлюза.	Изчакайте няколко минути.
Светодиодът за диагностика мига в червено.	Задействан от инструмент за идентификация на компонент на шлюза.	Изчакайте няколко минути.
Светодиодът за диагностика мига бързо в червено.	Няма връзка с контролера. Няма име на Profinet, зададено в модула.	Направете справка с <a href="#">Конфигуриране на Profinet шлюза</a> на страница 197 за задаване на името.
Светодиодът за диагностика е червен.	Устройството на шлюза отчита диагностични данни.	Направете справка с диагностичния отчет.
Светодиодът L/A 1 или 2 е изключен.	Няма връзка с мрежа.	Свържете с мрежа.
Светодиодът L/A 1 или 2 мига в зелено.	Обмен на данни.	Изчакайте обменът на данни да завърши.

# Obsah

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|---|--|
| 1 Intended use on page 204  | 7 Configure the Ethernet/IP Gateway on page 216        |
| 2 Introduction on page 204  | 8 Configure the Profinet Gateway on page 219           |
| 3 Start the USB configuration on page 206                         | 9 Poruchy, jejich příčiny a odstraňování na straně 222 |
| 4 Examples for installation on page 207                           |  |
| 5 Setup of the SC4200c Controller Modbus TCP telegram on page 210 |  |
| 6 Setup of the SC1500 Controller Modbus TCP telegram on page 213  |  |

## Section 1 Intended use

These setup instructions are intended for use by persons who integrate external Ethernet/IP Gateway or Profinet Gateway as hardware components in the Claros network.

## Section 2 Introduction

The manufacturer is not responsible for any damages due to misapplication or misuse of this product including, without limitation, direct, incidental and consequential damages, and disclaims such damages to the full extent permitted under applicable law. The user is solely responsible to identify critical application risks and install appropriate mechanisms to protect processes during a possible equipment malfunction.

### **DANGER**



Nebezpečí smrtelného úrazu elektrickým proudem. Před jakýmkoli pracemi na elektrickém zapojení odpojte přístroj od zdroje napájení.

### Items to collect:

- USB stick formatted as FAT32
- PC with Windows<sup>1</sup> 10
- Module:
  - For Ethernet/IP implementation:
    - LXZ446.99.00001: GATEWAY IIoT RevPi Basic Module
    - LXZ446.99.00002: GATEWAY Ethernet/IP Slave
    - LXZ446.99.00003: Jumper for PiBridge
  - For Profinet implementation:
    - LXZ446.99.00001: GATEWAY IIoT RevPi Basic Module
    - LXZ446.99.00007: GATEWAY Profinet IRT Slave
    - LXZ446.99.00003: Jumper for PiBridge

Connect the three modules RevPi, Slave and PiBridge to power and LAN.

Refer to the links in the table that follows for more information from the manufacturer of the modules.

Module	Link
GATEWAY Profinet IRT Slave	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
GATEWAY Ethernet/IP Slave	<a href="https://www.kunbus.com/ethernet-ip-gateway-module.html">https://www.kunbus.com/ethernet-ip-gateway-module.html</a>

<sup>1</sup> Microsoft® Windows® is a registered trademark of Microsoft Corporation in the United States and other countries.

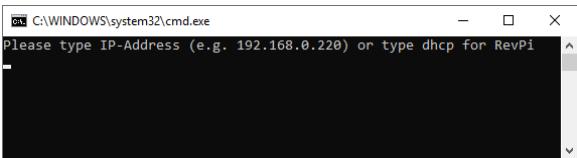
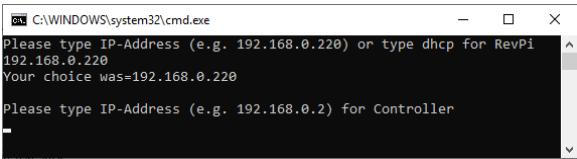
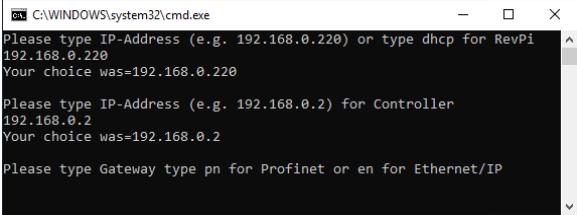
Module	Link
GATEWAY IIoT RevPi Basic Module	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>
How to connect RevPi Modules	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>
How to install RevPi Modules on a DIN rail	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
How to connect the power supply	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

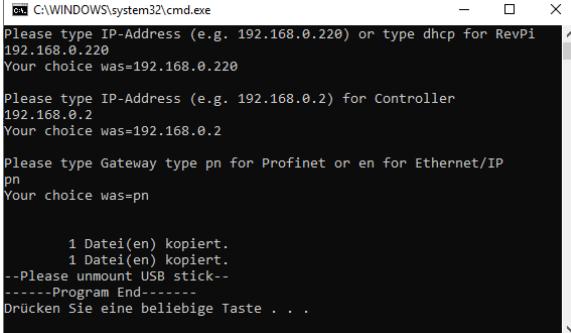
## Prepare the USB stick

1. Insert an empty USB stick in the PC.
2. Go to <https://www.hach.com> and search for the keywords "usb ethernet/IP installation" or "usb profinet installation".
3. Download USB\_ETHIP\_PRNET.zip.
4. Unzip the file into the root directory of the USB stick.

## Section 3 Start the USB configuration

Insert the prepared USB stick in the PC.

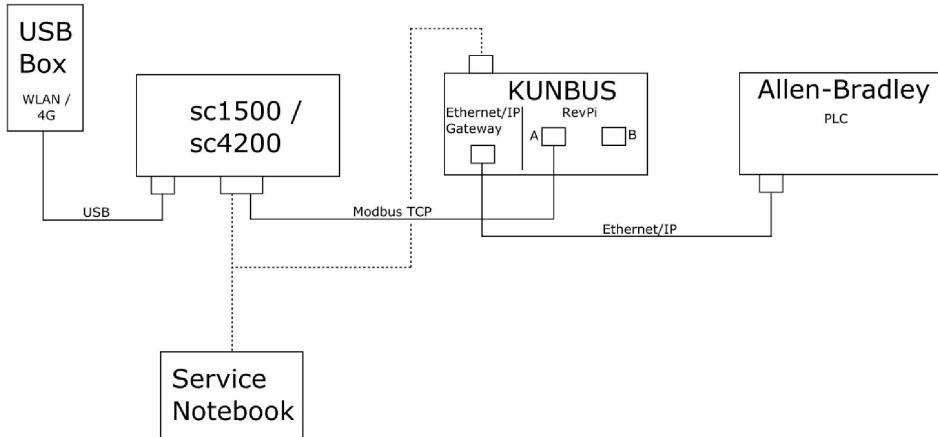
Step	Description	Picture
1	Start start_usb_config.bat. A terminal window opens. Follow the step-by-step guide.	
2	Enter the IP address of the RevPi module.	
3	Enter the IP address of the SC controller. Make sure that the Network prefix is the same as from the RevPi module (e.g., 192.168.0). Make sure that the host identifier is different to the RevPi module (e.g., 220 RevPi, 2 Controller).	
4	Enter the Gateway type: <ul style="list-style-type: none"><li>• pn—Profinet</li><li>• en—Ethernet/IP</li></ul>	

Step	Description	Picture
5	Confirm the settings with Enter. Remove the USB stick.	
6	Insert the USB stick in the left USB socket of the RevPi Module.	
7	LED description: <ul style="list-style-type: none"><li>A1/A2 orange: RevPi installation starts.</li><li>A1 red, A2 off: RevPi insert USB stick.</li><li>A1 green, A2 off: USB stick inserted successfully.</li><li>A1 off, A2 green: RevPi downloads/uploads data from USB stick.</li><li>A3 red: RevPi reboots.</li></ul> When A3 is red, remove the USB stick.	
8	The RevPi settings are complete.	

## Section 4 Examples for installation

Figure 1 shows an installation with two different LAN connections.

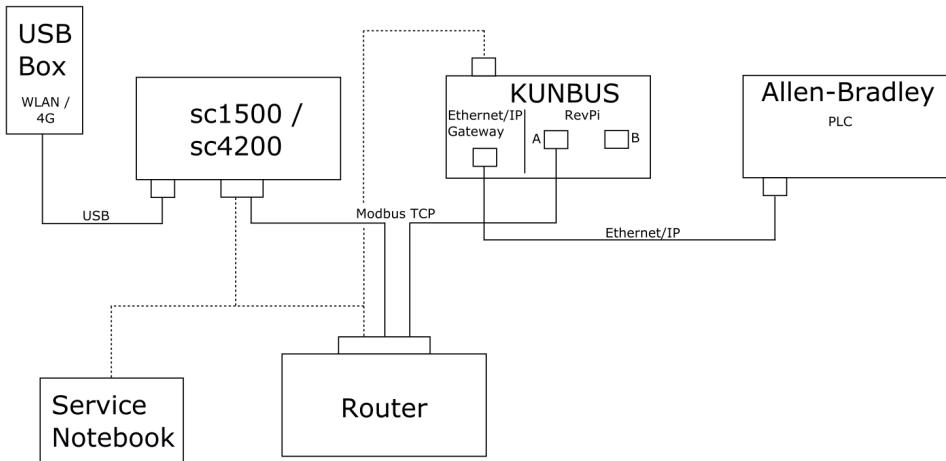
**Figure 1 Example 1**



- Modbus TCP and Ethernet/IP use two different LAN connections.
- All of the devices have a static IP address.
- The controller has internet access with WiFi or cellular connection.
- To set up the IP addresses of the controller and the Ethernet/IP gateway, a laptop is necessary.

Figure 2 shows an installation with a router for the Modbus TCP connection.

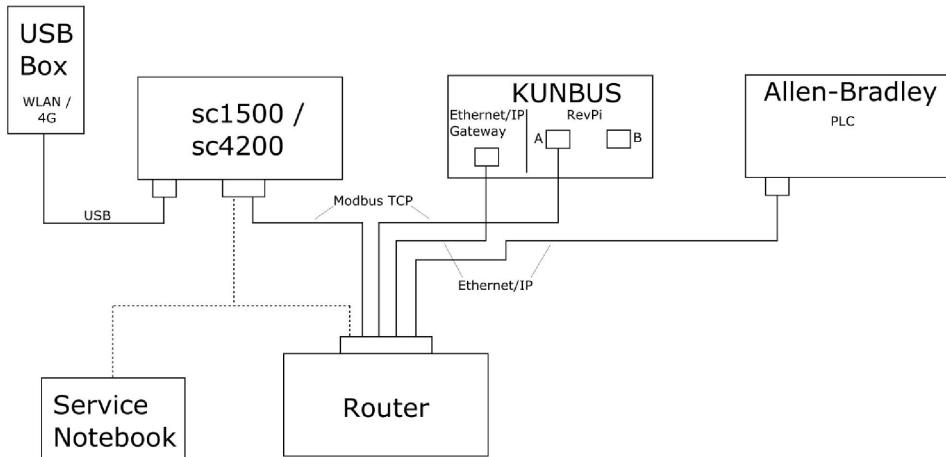
Figure 2 Example 2



- The Modbus TCP is connected to a router.
- All of the devices have a static IP address or the router sets the IP address through DHCP.  
*Note: Make sure that the router always uses the same IP address for the same devices (MAC) if DHCP is used.*
- The controller has internet access with WiFi or cellular connection.
- To set up the IP address of the controller, the Ethernet/IP gateway and the router settings, a laptop is necessary.

Figure 3 shows an installation with a router or switch for all devices.

Figure 3 Example 3



- All of the devices are connected with a router or switch.
- All of the devices have a static IP address or the router or switch sets the IP address through DHCP.

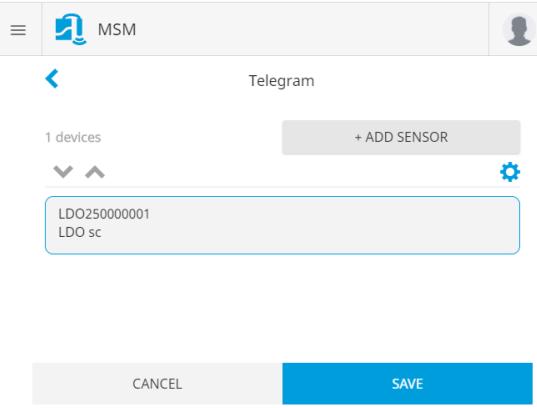
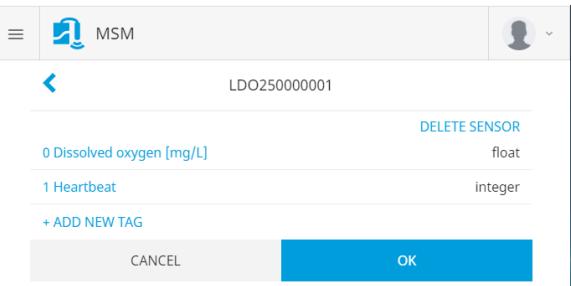
**Note:** Make sure that the router always uses the same IP address for the same devices (MAC) if DHCP is used.

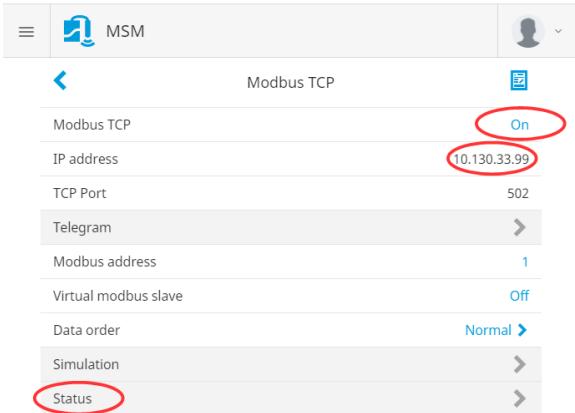
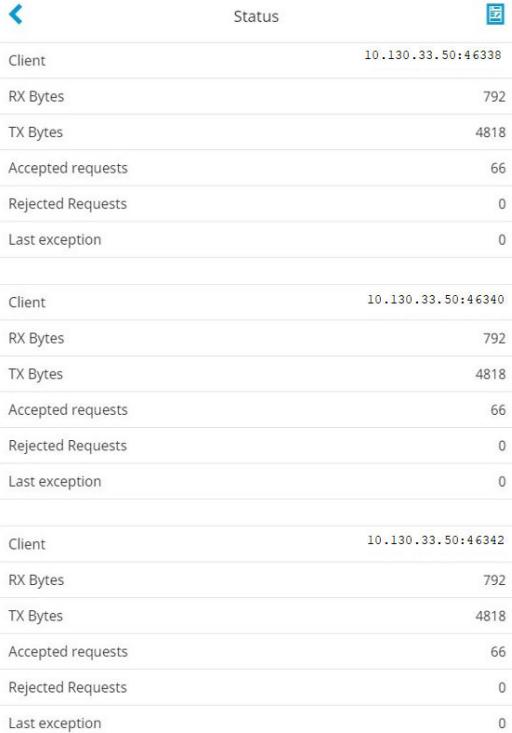
- The controller has internet access with WiFi or cellular connection.
- To set up the IP address of the controller and the router settings, a laptop is necessary.

## Section 5 Setup of the SC4200c Controller Modbus TCP telegram

Start the Claros application and follow the step-by-step guide.

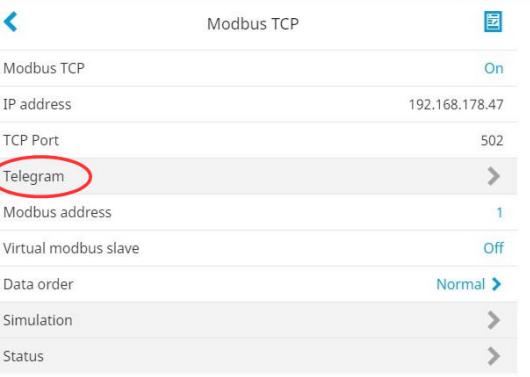
Step	Description	Picture
1	Select the controller menu, then push <b>Modbus TCP</b> .	<p>The screenshot shows the SC4200c Controller software interface. At the top, there is a message "Software update is available". Below it, a list of components: 1 1761925 - SOLITAX sc and 2 LDO250000001 - LDO sc. To the right, there is a small image of the controller with the version v56.02 and a status bar showing 2 Sensors, 2 Relays, and 1 Profibus. Further down, there are sections for "000000001185 - Low voltage relay", "000000001337 - High voltage relay", and "000000079312 - Profibus". Below these, under "Historical data", there is a section for "Modbus TCP" which is circled in red.</p>
2	Select <b>Telegram</b> to set the Modbus TCP telegram.	<p>The screenshot shows the "Modbus TCP" configuration screen. It includes fields for "IP address" (10.130.33.99), "TCP Port" (502), and "Modbus address" (1). The "Telegram" section is highlighted with a red circle. Other visible options include "Virtual modbus slave" (Off), "Data order" (Normal), "Simulation", and "Status".</p>

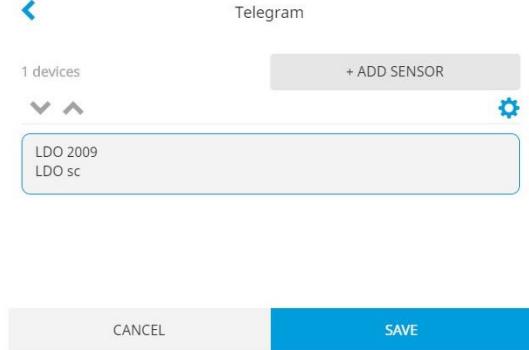
Step	Description	Picture
3	<p>The shown telegram is an example for the LDO sc sensor. Set the Heartbeat to integer. The heartbeat is a counter that shows the update of the value at one second increments.</p> <p><i>Note: The content of the Modbus TCP telegram is the same as the Profibus telegram.</i></p>	 

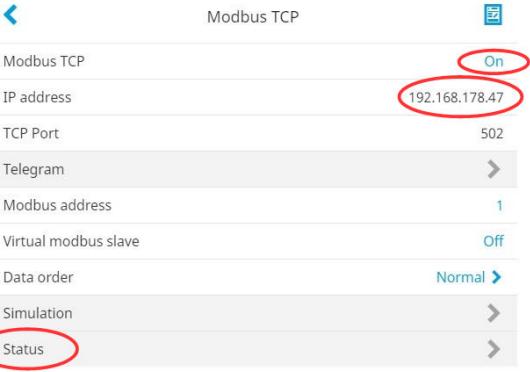
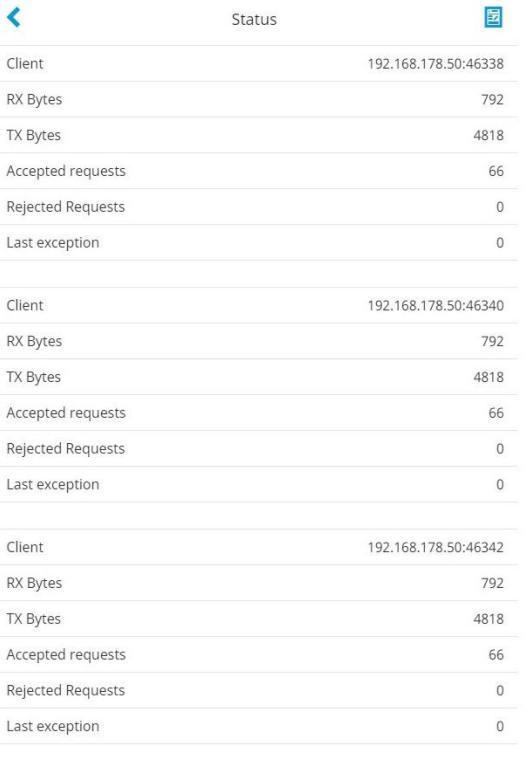
Step	Description	Picture																																								
4	<p>The Modbus TCP menu shows the IP address of the controller. <b>10.130.33.99</b> is the IP address set in the controller service menu.</p> <p>Set Modbus TCP to <b>On</b>, then push <b>Status</b>.</p>	 <table border="1"> <tr> <td>Modbus TCP</td> <td>On</td> </tr> <tr> <td>IP address</td> <td>10.130.33.99</td> </tr> <tr> <td>TCP Port</td> <td>502</td> </tr> <tr> <td>Telegram</td> <td></td> </tr> <tr> <td>Modbus address</td> <td>1</td> </tr> <tr> <td>Virtual modbus slave</td> <td>Off</td> </tr> <tr> <td>Data order</td> <td>Normal ▶</td> </tr> <tr> <td>Simulation</td> <td></td> </tr> <tr> <td>Status</td> <td></td> </tr> </table>	Modbus TCP	On	IP address	10.130.33.99	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal ▶	Simulation		Status																							
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5	<p>The Status menu shows the Modbus TCP statistics. <b>10.130.33.50</b> is the IP address of the RevPi Module. The RevPi has 5 Modbus TCP master.</p>	 <table border="1"> <tr> <td>Client</td> <td>10.130.33.50:46338</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td>Client</td> <td>10.130.33.50:46340</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td>Client</td> <td>10.130.33.50:46342</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </table>	Client	10.130.33.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0			Client	10.130.33.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0			Client	10.130.33.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Section 6 Setup of the SC1500 Controller Modbus TCP telegram

Start the Claros application and follow the step-by-step guide.

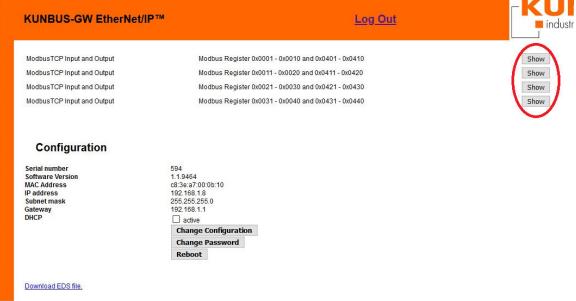
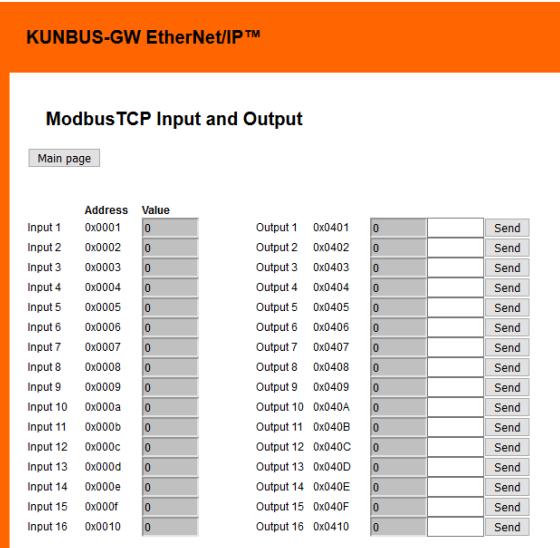
Step	Description	Picture
1	Select the controller menu, then push <b>Modbus TCP</b> .	 <p>1694389 - sc1500</p> <p>1 1327087 - AN-ISE sc 2 1555058 - AN-ISE sc 3 LDO 2009 - LDO sc</p> <p>v20.12 3 Sensors 1 Outputs 1 Profibus</p> <p>000000074854 - mA output</p> <p>000005009872 - Profibus</p> <p>Historical data &gt; Modbus TCP &gt;</p>
2	Select <b>Telegram</b> to set the Modbus TCP telegram.	 <p>Modbus TCP</p> <p>Modbus TCP On</p> <p>IP address 192.168.178.47</p> <p>TCP Port 502</p> <p>Telegram &gt;</p> <p>Modbus address 1</p> <p>Virtual modbus slave Off</p> <p>Data order Normal &gt;</p> <p>Simulation &gt;</p> <p>Status &gt;</p>

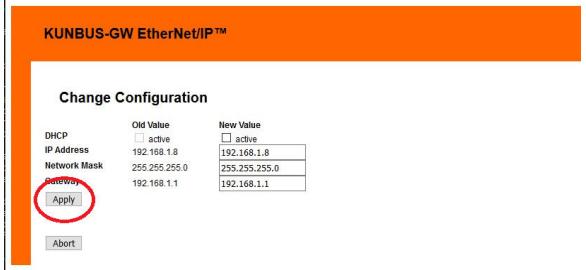
Step	Description	Picture
3	<p>The shown telegram is an example for the LDO sc sensor.</p> <p>Set the Heartbeat to integer. The heartbeat is a counter that shows the update of the value at one second increments.</p> <p><b>Note:</b> The content of the Modbus TCP telegram is the same as the Profibus telegram.</p>	 

Step	Description	Picture								
4	The Modbus TCP menu shows the IP address of the controller. <b>192.168.178.47</b> is the IP address set in the controller service menu. Set Modbus TCP to <b>On</b> , then push <b>Status</b> .	 <p>Modbus TCP</p> <p>IP address: 192.168.178.47 (circled) Modbus TCP (Status circled)</p>								
5	The Status menu shows the Modbus TCP statistics. <b>192.168.178.50</b> is the IP address of the RevPi Module. The RevPi has 7 Modbus TCP master.	 <table border="1"> <thead> <tr> <th>Client</th> <th>Statistics</th> </tr> </thead> <tbody> <tr> <td>192.168.178.50:46338</td> <td>RX Bytes: 792, TX Bytes: 4818, Accepted requests: 66, Rejected Requests: 0, Last exception: 0</td> </tr> <tr> <td>192.168.178.50:46340</td> <td>RX Bytes: 792, TX Bytes: 4818, Accepted requests: 66, Rejected Requests: 0, Last exception: 0</td> </tr> <tr> <td>192.168.178.50:46342</td> <td>RX Bytes: 792, TX Bytes: 4818, Accepted requests: 66, Rejected Requests: 0, Last exception: 0</td> </tr> </tbody> </table>	Client	Statistics	192.168.178.50:46338	RX Bytes: 792, TX Bytes: 4818, Accepted requests: 66, Rejected Requests: 0, Last exception: 0	192.168.178.50:46340	RX Bytes: 792, TX Bytes: 4818, Accepted requests: 66, Rejected Requests: 0, Last exception: 0	192.168.178.50:46342	RX Bytes: 792, TX Bytes: 4818, Accepted requests: 66, Rejected Requests: 0, Last exception: 0
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192.168.178.50:46342	RX Bytes: 792, TX Bytes: 4818, Accepted requests: 66, Rejected Requests: 0, Last exception: 0									

## Section 7 Configure the Ethernet/IP Gateway

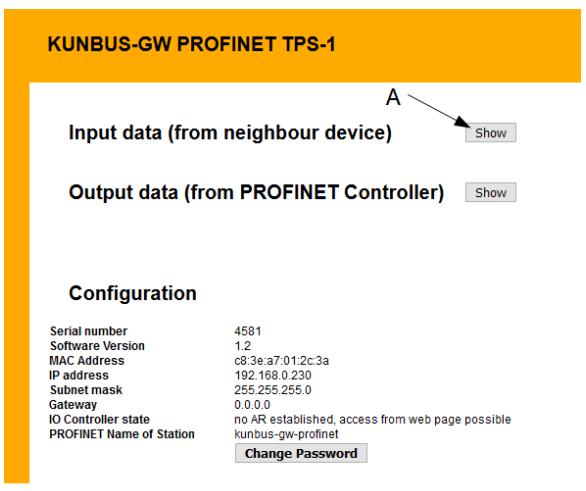
Step	Description	Picture
1	<ul style="list-style-type: none"> <li>Connect the Ethernet/IP Gateway to the PC with the LAN-to-USB adapter cable.</li> <li>Refer to <a href="#">Introduction</a> on page 204. Use the link of the GATEWAY Ethernet/IP Slave. Follow the instruction in the manufacturer's user manual, <i>Gateway component for EtherNet/IP</i>.</li> <li>Use the 8-pin address switch (A) to set the host identifier to the binary format of the Gateway.           <ul style="list-style-type: none"> <li>Example: Set the host to 8: 00010000</li> </ul> </li> <li>Open the website <a href="http://192.168.1.X">http://192.168.1.X</a> (X=Sum of all switches set to ON).</li> </ul>	
2	<p>Open the browser and enter the IP address 192.168.1.X. Login data for the first login:</p> <p>User: Admin Password: 1701 Push <b>Login</b>.</p>	

Step	Description	Picture																																																																																					
3	The controller and Ethernet/IP Gateway transfers the data area 0000 - 01BF, which is a range of 448 byte or 112 float or 224 integer or a mix of them, based on the telegram type of the Modbus TCP in the controller. <i>Note: Only the first data range to 32 integer show. View all data in the PLC (224 integer).</i> Push Show.	 <p>KUNBUS-GW EtherNet/IP™</p> <p>Log Out</p> <p>Modbus Register 0x0001 - 0x0010 and 0x0401 - 0x0410      Modbus Register 0x0011 - 0x0020 and 0x0411 - 0x0420      Modbus Register 0x0021 - 0x0030 and 0x0421 - 0x0430      Modbus Register 0x0031 - 0x0040 and 0x0431 - 0x0440</p> <p>Show Show Show Show</p> <p><b>Configuration</b></p> <p>Serial number: 594      Software Version: 1.1.9444      MAC Address: c8:3e:47:00:00:10      IP address: 192.168.1.8      Subnet Mask: 255.255.255.0      Gateway: 192.168.1.1  <input type="checkbox"/> active      Change Configuration      Change Password      Reboot</p> <p><a href="#">Download EDR file.</a></p>																																																																																					
4	The selected data area is shown.	 <p>KUNBUS-GW EtherNet/IP™</p> <h3>ModbusTCP Input and Output</h3> <p>Main page</p> <table border="1"> <thead> <tr> <th></th> <th>Address</th> <th>Value</th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Input 1</td> <td>0x0001</td> <td>0</td> <td>Output 1</td> <td>0x0401</td> </tr> <tr> <td>Input 2</td> <td>0x0002</td> <td>0</td> <td>Output 2</td> <td>0x0402</td> </tr> <tr> <td>Input 3</td> <td>0x0003</td> <td>0</td> <td>Output 3</td> <td>0x0403</td> </tr> <tr> <td>Input 4</td> <td>0x0004</td> <td>0</td> <td>Output 4</td> <td>0x0404</td> </tr> <tr> <td>Input 5</td> <td>0x0005</td> <td>0</td> <td>Output 5</td> <td>0x0405</td> </tr> <tr> <td>Input 6</td> <td>0x0006</td> <td>0</td> <td>Output 6</td> <td>0x0406</td> </tr> <tr> <td>Input 7</td> <td>0x0007</td> <td>0</td> <td>Output 7</td> <td>0x0407</td> </tr> <tr> <td>Input 8</td> <td>0x0008</td> <td>0</td> <td>Output 8</td> <td>0x0408</td> </tr> <tr> <td>Input 9</td> <td>0x0009</td> <td>0</td> <td>Output 9</td> <td>0x0409</td> </tr> <tr> <td>Input 10</td> <td>0x000a</td> <td>0</td> <td>Output 10</td> <td>0x040A</td> </tr> <tr> <td>Input 11</td> <td>0x000b</td> <td>0</td> <td>Output 11</td> <td>0x040B</td> </tr> <tr> <td>Input 12</td> <td>0x000c</td> <td>0</td> <td>Output 12</td> <td>0x040C</td> </tr> <tr> <td>Input 13</td> <td>0x000d</td> <td>0</td> <td>Output 13</td> <td>0x040D</td> </tr> <tr> <td>Input 14</td> <td>0x000e</td> <td>0</td> <td>Output 14</td> <td>0x040E</td> </tr> <tr> <td>Input 15</td> <td>0x000f</td> <td>0</td> <td>Output 15</td> <td>0x040F</td> </tr> <tr> <td>Input 16</td> <td>0x0010</td> <td>0</td> <td>Output 16</td> <td>0x0410</td> </tr> </tbody> </table>		Address	Value			Input 1	0x0001	0	Output 1	0x0401	Input 2	0x0002	0	Output 2	0x0402	Input 3	0x0003	0	Output 3	0x0403	Input 4	0x0004	0	Output 4	0x0404	Input 5	0x0005	0	Output 5	0x0405	Input 6	0x0006	0	Output 6	0x0406	Input 7	0x0007	0	Output 7	0x0407	Input 8	0x0008	0	Output 8	0x0408	Input 9	0x0009	0	Output 9	0x0409	Input 10	0x000a	0	Output 10	0x040A	Input 11	0x000b	0	Output 11	0x040B	Input 12	0x000c	0	Output 12	0x040C	Input 13	0x000d	0	Output 13	0x040D	Input 14	0x000e	0	Output 14	0x040E	Input 15	0x000f	0	Output 15	0x040F	Input 16	0x0010	0	Output 16	0x0410
	Address	Value																																																																																					
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Input 4	0x0004	0	Output 4	0x0404																																																																																			
Input 5	0x0005	0	Output 5	0x0405																																																																																			
Input 6	0x0006	0	Output 6	0x0406																																																																																			
Input 7	0x0007	0	Output 7	0x0407																																																																																			
Input 8	0x0008	0	Output 8	0x0408																																																																																			
Input 9	0x0009	0	Output 9	0x0409																																																																																			
Input 10	0x000a	0	Output 10	0x040A																																																																																			
Input 11	0x000b	0	Output 11	0x040B																																																																																			
Input 12	0x000c	0	Output 12	0x040C																																																																																			
Input 13	0x000d	0	Output 13	0x040D																																																																																			
Input 14	0x000e	0	Output 14	0x040E																																																																																			
Input 15	0x000f	0	Output 15	0x040F																																																																																			
Input 16	0x0010	0	Output 16	0x0410																																																																																			

Step	Description	Picture																	
5	Push <b>Change Configuration</b> to set the IP address.	 <p>KUNBUS-GW EtherNet/IP™</p> <p><a href="#">Log Out</a></p> <p>Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output</p> <p>Modbus Register 0x001 - 0x010 and 0x0401 - 0x0410 Modbus Register 0x011 - 0x020 and 0x0411 - 0x0420 Modbus Register 0x021 - 0x030 and 0x0421 - 0x0430 Modbus Register 0x031 - 0x040 and 0x0431 - 0x0440</p> <p>Show Show Show Show</p> <p><b>Configuration</b></p> <p>Serial number: 594 Software Version: 1.1.944 MAC Address: c8:3e:37:00:0b:10 IP address: 192.168.1.8 Network Mask: 255.255.255.0 Gateway: 192.168.1.1 <input type="checkbox"/> active</p> <p><b>Change Configuration</b> <b>Change Password</b> <b>Reboot</b></p> <p><a href="#">Download ECF file</a></p>																	
6	<p>Change the IP address according to the gateway address.</p> <p>Push <b>Apply</b> to confirm.</p> <p>Set all dip switches to off.</p> <p>Set the power of the gateway to off, then restart. The new IP Address is now used.</p>	 <p>KUNBUS-GW EtherNet/IP™</p> <p><b>Change Configuration</b></p> <table border="1"> <tr> <td>DHCP</td> <td><input type="checkbox"/> active</td> <td>Old Value</td> <td><input type="checkbox"/> active</td> <td>New Value</td> </tr> <tr> <td>IP Address</td> <td>192.168.1.8</td> <td>192.168.1.8</td> <td>192.168.1.8</td> </tr> <tr> <td>Network Mask</td> <td>255.255.255.0</td> <td>255.255.255.0</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>192.168.1.1</td> <td>192.168.1.1</td> <td>192.168.1.1</td> </tr> </table> <p><b>Apply</b> <b>Abort</b></p>	DHCP	<input type="checkbox"/> active	Old Value	<input type="checkbox"/> active	New Value	IP Address	192.168.1.8	192.168.1.8	192.168.1.8	Network Mask	255.255.255.0	255.255.255.0	255.255.255.0	Gateway	192.168.1.1	192.168.1.1	192.168.1.1
DHCP	<input type="checkbox"/> active	Old Value	<input type="checkbox"/> active	New Value															
IP Address	192.168.1.8	192.168.1.8	192.168.1.8																
Network Mask	255.255.255.0	255.255.255.0	255.255.255.0																
Gateway	192.168.1.1	192.168.1.1	192.168.1.1																

## Section 8 Configure the Profinet Gateway

Step	Description	Picture
1	<ul style="list-style-type: none"> <li>Connect the Profinet Gateway to the PC with the LAN-to-LAN adapter.</li> <li>Refer to <a href="#">Introduction</a> on page 204. Use the link of the GATEWAY Profinet IRT Slave. Follow the instruction in the manufacturer's user manual <i>Gateway Component for PROFINET</i>.</li> <li>Use the software PRONETA to set the name to <b>kunbus-gw-profinet</b>.</li> <li>Enter the used IP address.</li> </ul>	<p>The screenshot shows the Siemens PRONETA software interface. On the left, there is a graphical view of the network with nodes labeled 'de-3dynet2-p PRONETA' and 'cb-3e-a7-00-26-05 KUNBUS-GW Profinet TPS-1'. In the center, there is a 'Geräteabelle - Online' (Device Table - Online) window. The table lists one device: '1-8-3e-a7-00-26-05 KUNBUS-GW Profinet TPS-1' with the IP address '192.168.1.10'. The device name is highlighted as 'kunbus-gw-profinet'. To the right of the table, there is a panel labeled 'IP-Address'.</p>
2	<p>Open the browser and enter the IP address. Login data for first login: User: Admin Password: 1701 Push <b>Login</b>.</p>	<p>The screenshot shows a yellow-themed login interface for the KUNBUS-GW PROFINET TPS-1. It has two input fields: 'Username:' containing 'Admin' and 'Password:' containing four dots ('••••'). Below the password field is a 'Login' button.</p>

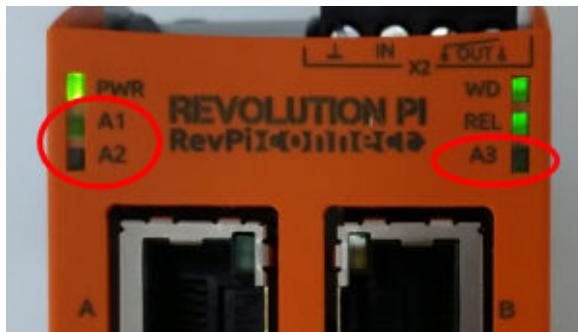
Step	Description	Picture																
3	Push <b>Show</b> (A) to show the input data.	 <p>KUNBUS-GW PROFINET TPS-1</p> <p>A</p> <p>Input data (from neighbour device) <input type="button" value="Show"/></p> <p>Output data (from PROFINET Controller) <input type="button" value="Show"/></p> <p><b>Configuration</b></p> <table> <tbody> <tr><td>Serial number</td><td>4581</td></tr> <tr><td>Software Version</td><td>1.2</td></tr> <tr><td>MAC Address</td><td>c8:3e:a7:01:2c:3a</td></tr> <tr><td>IP address</td><td>192.168.0.230</td></tr> <tr><td>Subnet mask</td><td>255.255.255.0</td></tr> <tr><td>Gateway</td><td>0.0.0.0</td></tr> <tr><td>IO Controller state</td><td>no AR established, access from web page possible</td></tr> <tr><td>PROFINET Name of Station</td><td>kunbus-gw-profinet</td></tr> </tbody> </table> <p><input type="button" value="Change Password"/></p>	Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:2c:3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
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Step	Description	Picture																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
4	<p>Shows all data sent from the controller to the Profinet Gateway.</p> <p>The controller and Profinet Gateway transfers the data area 0000 - 01BF, which is a range of 448 byte or 112 float or 224 integer or a mix of them, based on the telegram type of the Modbus TCP in the controller.</p>	<p style="text-align: center;"><b>KUNBUS-GW PROFINET TPS-1</b></p> <p style="text-align: center;"><b>Input (from neighbour device)</b></p> <p><a href="#">Main page</a></p> <table border="1"> <thead> <tr> <th>Address</th> <th>0</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr><td>0x0000</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0010</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0020</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0030</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0040</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> 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# Kapitola 9 Poruchy, jejich příčiny a odstraňování

## 9.1 Troubleshooting RevPi

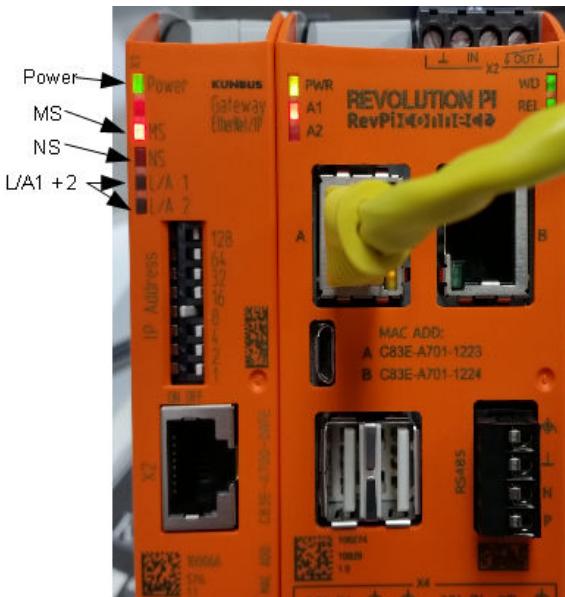
Figure 4 RevPi Basic module



Message	Description	Solution
LED A2 flashes red.	The communication has stopped.	<ul style="list-style-type: none"><li>• Connect the network cable (cable or router).</li><li>• Set the Modbus address setting in Claros to 1.</li><li>• Set the Modbus TCP in Claros menu to on.</li></ul>
LED A3 slowly flashes red.	The configuration of the Ethernet/IP and Profinet Gateway is mixed up.	Refer to <a href="#">Start the USB configuration</a> on page 206, step 4 and select the correct Gateway type: <ul style="list-style-type: none"><li>• en – Ethernet/IP</li><li>• pn – Profinet</li></ul>

## 9.2 Troubleshooting Ethernet/IP

Figure 5 Ethernet/IP Gateway

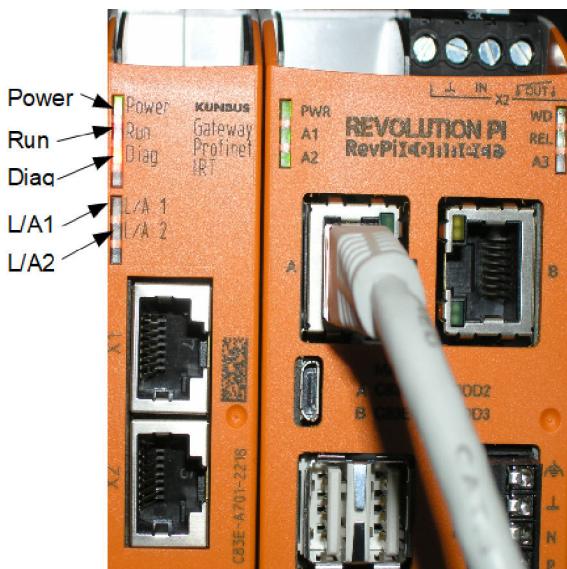


Message	Description	Solution
Power LED is off.	The Ethernet/IP gateway is set to off.	Set the power to on.
Power LED flashes green.	The start up procedure is not complete.	Wait a few minutes.
Power LED flashes red.	Shows a warning.	Examine if all of the devices are connected.
Power LED is red.	Shows an error.	The Ethernet/IP gateway is defective. Replace the Ethernet/IP gateway.
MS LED is off.	The Ethernet/IP gateway is set to off.	Set power to on.
MS LED flashes green.	The configuration procedure is not complete.	Wait a few minutes.
MS LED flashes red.	Shows a configuration error.	Refer to <a href="#">Configure the Ethernet/IP Gateway</a> on page 216 to examine the configuration.
MS LED is red.	Shows an error.	The Ethernet/IP gateway is defective. Replace the Ethernet/IP gateway.
MS LED flashes red and green.	The self test is not complete.	Wait a few minutes.

Message	Description	Solution
NS LED is off.	The Ethernet/IP gateway is set to off or has no IP address.	Set power to on. Set the IP address.
NS LED flashes green.	The IP address is set but the CIP connection is not established.	Wait a few minutes.
NS LED flashes red.	The CIP connection has stopped.	Examine if there is a timeout.
NS LED is red.	The selected IP address is used by another device.	Change the IP address to a unique IP address.
L/A 1 or 2 LED is off.	There is no connection to other devices.	Connect to a device.
L/A 1 or 2 LED flashes green.	No data exchange.	Wait until the next data exchange.

### 9.3 Troubleshooting Profinet

Figure 6 Profinet Gateway



Message	Description	Solution
Power LED is off.	The Profinet gateway is off.	Set power to on.
Power LED flashes green.	The start up procedure is not completed.	Wait a few minutes.
Power LED flashes red.	Shows a warning.	Examine if all of the devices are installed.
Power LED is red.	Shows an error.	The Profinet gateway is defective. Replace the Profinet gateway.
Run LED is off.	No connection to a network.	Connect to network.

Message	Description	Solution
Run LED flashes green.	Profinet controller is connected but no data exchange.	Wait until the next data exchange.
Run LED flashes slowly green.	Triggered by tool for identification of the gateway component.	Wait a few minutes.
Diag LED flashes red.	Triggered by tool for identification of the gateway component.	Wait a few minutes.
Diag LED flashes fast red.	No connection to the controller. No Profinet name set in the module.	Refer to <a href="#">Configure the Profinet Gateway</a> on page 219 to set the name.
Diag LED is red.	A Gateway device reports diagnosis data.	Refer to the diagnostic report.
L/A 1 or 2 LED is off.	No connection to a network.	Connect to network.
L/A 1 or 2 LED flashes green.	Data exchange.	Wait until the data exchange is complete.

# Sadržaj

- |  |   |
|--|---|
| 1 Namjena na stranici 226  | 7 Konfiguracija Ethernet/IP pristupnika na stranici 238 |
| 2 Uvod na stranici 226   | 8 Konfiguracija Profinet pristupnika na stranici 241    |
| 3 Pokretanje USB konfiguracije na stranici 228                         | 9 Rješavanje problema na stranici 244                   |
| 4 Primjeri postavljanja na stranici 230                                |   |
| 5 Postavljanje Modbus TCP telegrama kontrolera SC4200c na stranici 232 |   |
| 6 Postavljanje Modbus TCP telegrama kontrolera SC1500 na stranici 235  |   |

## Odjeljak 1 Namjena

Ove upute za postavljanje namijenjene su osobama koje integriraju vanjski Ethernet/IP ili Profinet pristupnik kao hardverske komponente u Claroš mrežu.

## Odjeljak 2 Uvod

Proizvođač nije odgovoran za štetu nastalu nepravilnom primjenom ili nepravilnom upotrebom ovog proizvoda, uključujući, bez ograničenja, izravnu, slučajnu i posledičnu štetu, te se odrice odgovornosti za takvu štetu u punom opsegu, dopuštenom prema primjenjivim zakonima. Korisnik ima isključivu odgovornost za utvrđivanje kritičnih rizika primjene i za postavljanje odgovarajućih mehanizama za zaštitu postupaka tijekom mogućeg kvara opreme.

### ⚠ OPASNOST



Opasnost od strujnog udara. Prije priključivanja strujnih kabela uvijek isključite napajanje uređaja.

### Potrebne stavke:

- USB memorija u formatu FAT32
- Računalo s operacijskim sustavom Windows<sup>1</sup> 10
- Modul:
  - Za primjenu Ethernet/IP pristupnika:
    - LXZ446.99.00001: GATEWAY IIoT RevPi Basic Module
    - LXZ446.99.00002: GATEWAY Ethernet/IP Slave
    - LXZ446.99.00003: Jumper for PiBridge
  - Za primjenu Profinet pristupnika:
    - LXZ446.99.00001: GATEWAY IIoT RevPi Basic Module
    - LXZ446.99.00007: GATEWAY Profinet IRT Slave
    - LXZ446.99.00003: Jumper for PiBridge

Povežite tri modula RevPi, Slave i PiBridge na napajanje i LAN.

Pogledajte veze u sljedećoj tablici za više informacija od proizvođača modula.

Modul	Veza
GATEWAY Profinet IRT Slave	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
GATEWAY Ethernet/IP Slave	<a href="https://www.kunbus.com/ethernet-ip-gateway-module.html">https://www.kunbus.com/ethernet-ip-gateway-module.html</a>

<sup>1</sup> Microsoft® Windows® je registrirani zaštitni znak tvrtke Microsoft Corporation u Sjedinjenim Američkim Državama i drugim zemljama.

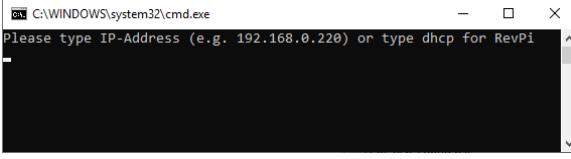
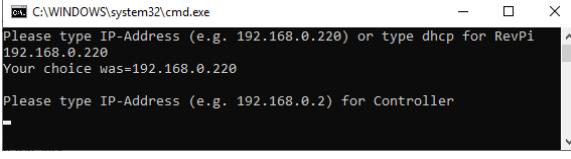
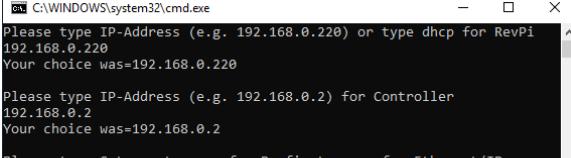
<b>Modul</b>	<b>Veza</b>
GATEWAY IIoT RevPi Basic Module	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>
Kako povezati RevPi module	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>
Kako postaviti RevPi module na DIN vodilicu	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
Kako spojiti napajanje	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

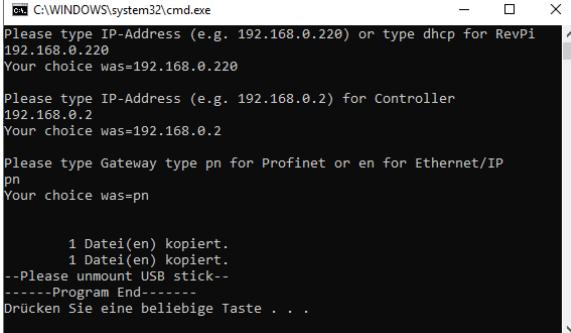
## Priprema USB memorije

- Umetnите praznu USB memoriju u računalo.
- Idite na <https://www.hach.com> i potražite ključne riječi "usb ethernet/IP installation" (usb ethernet/IP instalacija) ili "usb profinet installation" (usb profinet instalacija).
- Preuzmite USB\_ETHIP\_PRNET.zip.
- Raspakirajte datoteku u korijenski direktorij USB memorije.

## Odjeljak 3 Pokretanje USB konfiguracije

Umetnute pripremljenu USB memoriju u računalo.

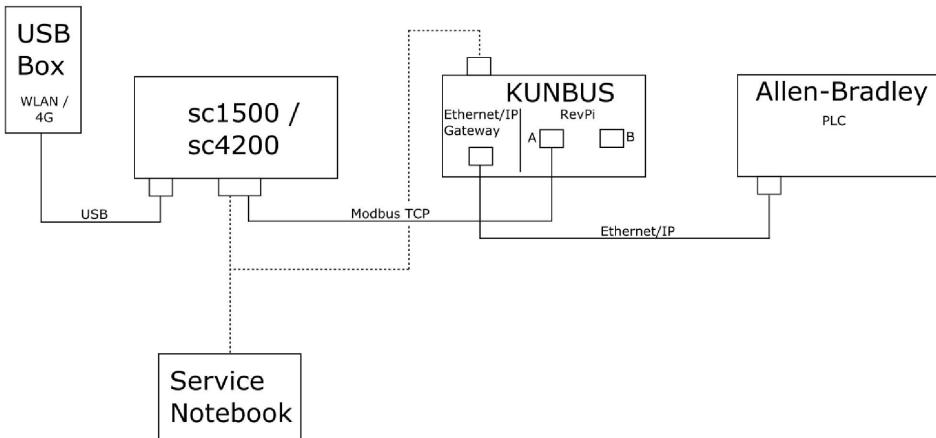
Korak	Opis	Slika
1	Pokrenite start_usb_config.bat. Otvorit će se prozor terminala. Slijedite detaljne upute.	
2	Unesite IP adresu modula RevPi.	
3	Unesite IP adresu SC kontrolera. Pobrinite se da je mrežni prefiks isti kao prefiks iz modula RevPi (npr. 192.168.0). Pobrinite se da se identifikator glavnog računala razlikuje od identifikatora modula RevPi (npr. 220 RevPi, 2 Controller).	
4	Unesite vrstu pristupnika: <ul style="list-style-type: none"><li>pn—Profinet</li><li>en—Ethernet/IP</li></ul>	  

Korak	Opis	Slika
5	Potvrdite postavke s Enter. Izvadite USB memoriju.	
6	Umetnute USB memoriju u lijevi USB priključak modula RevPi.	
7	Opis LED-dioda: <ul style="list-style-type: none"> <li>A1/A2 narančasto: pokreće se instalacija RevPi.</li> <li>A1 crveno, A2 isključeno: umetnute USB memoriju u RevPi.</li> <li>A1 zeleno, A2 isključeno: USB memorija je uspješno umetnuta.</li> <li>A1 isključeno, A2 zeleno: RevPi preuzima/učitava podatke s USB memorije.</li> <li>A3 crveno: RevPi se ponovno pokreće.</li> </ul> Kada A3 svijetli crveno, izvadite USB memoriju.	
8	Postavljanje RevPi je dovršeno.	

## Odjeljak 4 Primjeri postavljanja

Slika 1 prikazuje postavljanje s dvije različite LAN veze.

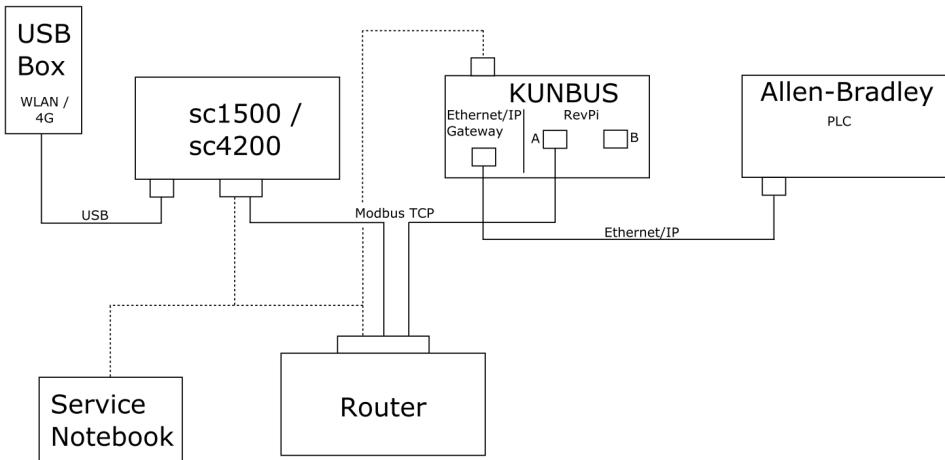
Slika 1 Primjer 1



- Modbus TCP i Ethernet/IP koriste dvije različite LAN veze.
- Svi uređaji imaju statičnu IP adresu.
- Kontroler ima pristup internetu putem Wi-Fi veze ili mobilne veze.
- Da biste postavili IP adrese kontrolera i Ethernet/IP pristupnika, potrebno je prijenosno računalo.

[Slika 2](#) prikazuje postavljanje s usmjerivačem za Modbus TCP vezu.

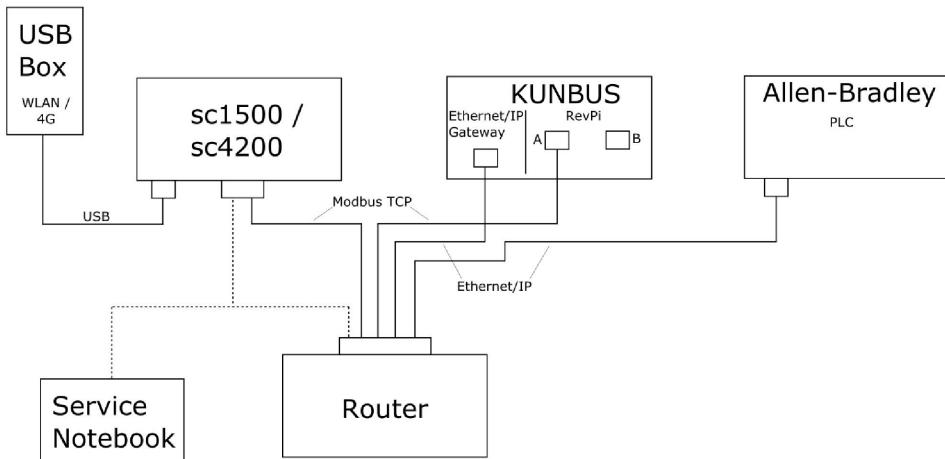
### Slika 2 Primjer 2



- Modbus TCP spojen je na usmjerivač.
- Svi uređaji imaju statičnu IP adresu ili usmjerivač postavlja IP adresu putem DHCP-a.  
*Napomena: Pobrinite se da usmjerivač uvijek koristi istu IP adresu za iste uređaje (MAC) ako se koristi DHCP.*
- Kontroler ima pristup internetu putem Wi-Fi veze ili mobilne veze.
- Da biste postavili IP adresu kontrolera, Ethernet/IP pristupnika i postavke usmjerivača, potrebno je prijenosno računalo.

[Slika 3](#) prikazuje postavljanje s usmjerivačem ili prekidačem za sve uređaje.

### Slika 3 Primjer 3

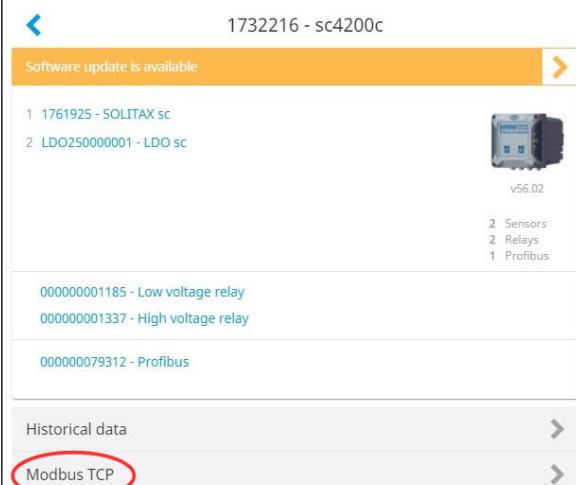
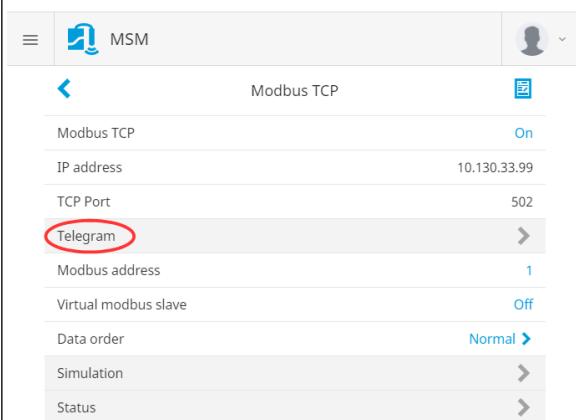


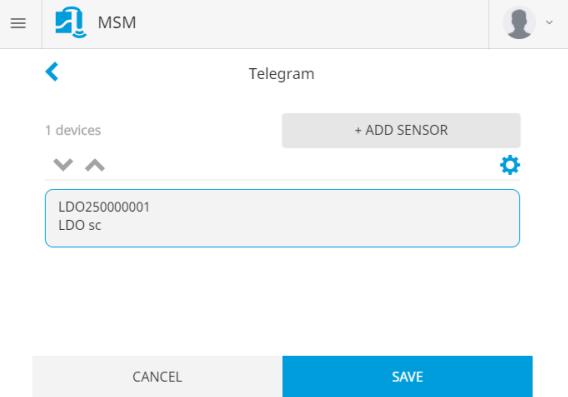
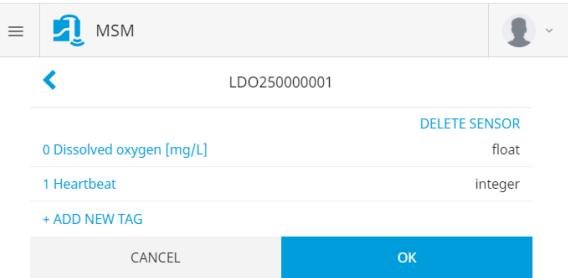
- Svi su uređaji povezani s usmjerivačem ili prekidačem.
- Svi uređaji imaju statičnu IP adresu ili usmjerivač ili prekidač postavlja IP adresu putem DHCP-a.  
*Napomena: Pobrinite se da usmjerivač uvijek koristi istu IP adresu za iste uređaje (MAC) ako se koristi DHCP.*

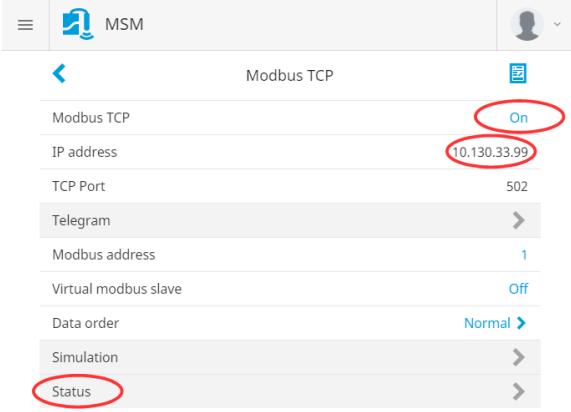
- Kontroler ima pristup internetu putem Wi-Fi veze ili mobilne veze.
- Da biste postavili IP adresu kontrolera i postavke usmjerivača, potrebno je prijenosno računalo.

## Odjeljak 5 Postavljanje Modbus TCP telegrama kontrolera SC4200c

Pokrenite aplikaciju Claros i slijedite detaljne upute.

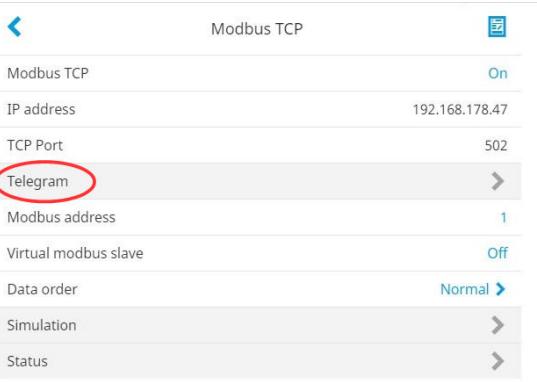
Korak	Opis	Slika
1	Odaberite izbornik kontrolera, a zatim pritisnite <b>Modbus TCP</b> .	 <p>The screenshot shows the software update screen for the device 1732216 - sc4200c. It lists two available updates: 1 1761925 - SOLITAX sc and 2 LDO250000001 - LDO sc. Below the updates, there are sections for Low voltage relay, High voltage relay, and Profibus. At the bottom, there are tabs for Historical data and Modbus TCP, with the Modbus TCP tab circled in red.</p>
2	Odaberite <b>Telegram</b> da biste postavili Modbus TCP telegram.	 <p>The screenshot shows the Modbus TCP configuration screen. It includes fields for Modbus TCP (On), IP address (10.130.33.99), TCP Port (502), and a Telegram section which is also circled in red. Other settings shown include Modbus address (1), Virtual modbus slave (Off), Data order (Normal), Simulation, and Status.</p>

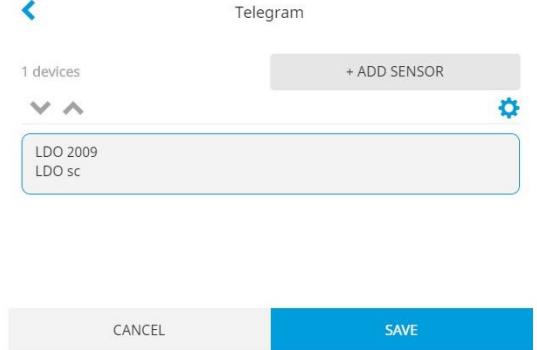
Korak	Opis	Slika
3	<p>Prikazani telegram primjer je senzora LDO sc. Postavite cijeli broj za Heartbeat (Otkucaj srca). Otkucaj srca je brojač koji prikazuje ažuriranje vrijednosti u koracima od jedne sekunde.</p> <p><b>Napomena:</b> Sadržaj Modbus TCP telegrama je isti kao i sadržaj Profibus telegrama.</p>	 

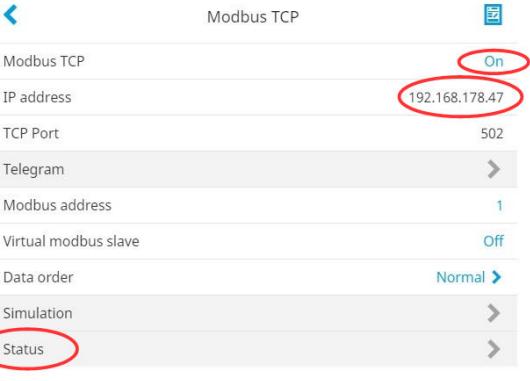
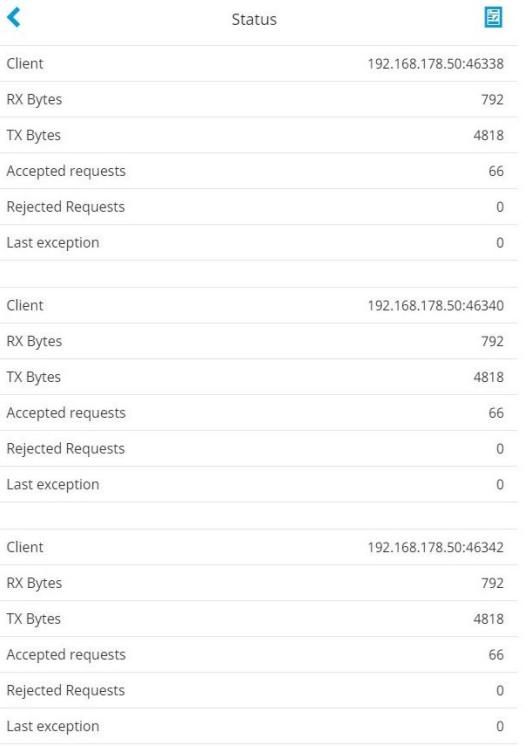
Korak	Opis	Slika
4	Izbornik Modbus TCP prikazuje IP adresu kontrolera. <b>10.130.33.99</b> je IP adresa postavljena u izborniku servisa kontrolera. Postavite Modbus TCP na <b>On</b> (Uključeno), zatim pritisnite <b>Status</b> .	
5	Izbornik Status prikazuje statistiku Modbus TCP. <b>10.130.33.50</b> je IP adresa modula RevPi. RevPi ima 5 glavnih protokola Modbus TCP.	

## Odjeljak 6 Postavljanje Modbus TCP telegrama kontrolera SC1500

Pokrenite aplikaciju Claros i slijedite detaljne upute.

Korak	Opis	Slika
1	Odaberite izbornik kontrolera, a zatim pritisnite <b>Modbus TCP</b> .	 <p>The screenshot shows the configuration interface for a SC1500 controller. At the top, there is a navigation bar with icons for back, forward, and search. Below it, the model number '1694389 - sc1500' is displayed. The main area contains several configuration sections: '1 1327087 - AN-ISE sc', '2 1555058 - AN-ISE sc', '3 LDO 2009 - LDO sc', '000000074854 - mA output', '000005009872 - Profibus', 'Historical data', and 'Modbus TCP'. The 'Modbus TCP' section is circled in red.</p>
2	Odaberite <b>Telegram</b> da biste postavili Modbus TCP telegram.	 <p>The screenshot shows the 'Modbus TCP' configuration screen. It includes fields for 'IP address' (192.168.178.47), 'TCP Port' (502), and 'Modbus address' (1). The 'Telegram' field is circled in red. Other options include 'Virtual modbus slave' (Off), 'Data order' (Normal), 'Simulation', and 'Status'.</p>

Korak	Opis	Slika
3	<p>Prikazani telegram primjer je senzora LDO sc. Postavite cijeli broj za Heartbeat (Otkucaj srca). Otkucaj srca je brojač koji prikazuje ažuriranje vrijednosti u koracima od jedne sekunde.</p> <p><b>Napomena:</b> Sadržaj Modbus TCP teleograma je isti kao i sadržaj Profibus teleograma.</p>	 

Korak	Opis	Slika																																				
4	Izbornik Modbus TCP prikazuje IP adresu kontrolera. <b>192.168.178.47</b> je IP adresa postavljena u izborniku servisa kontrolera. Postavite Modbus TCP na <b>On</b> (Uključeno), zatim pritisnite <b>Status</b> .	 <table border="1"> <tr><td>Modbus TCP</td><td>On</td></tr> <tr><td>IP address</td><td>192.168.178.47</td></tr> <tr><td>TCP Port</td><td>502</td></tr> <tr><td>Telegram</td><td></td></tr> <tr><td>Modbus address</td><td>1</td></tr> <tr><td>Virtual modbus slave</td><td>Off</td></tr> <tr><td>Data order</td><td>Normal &gt;</td></tr> <tr><td>Simulation</td><td></td></tr> <tr><td>Status</td><td></td></tr> </table>	Modbus TCP	On	IP address	192.168.178.47	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal >	Simulation		Status																			
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Virtual modbus slave	Off																																					
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Simulation																																						
Status																																						
5	Izbornik Status prikazuje statistiku Modbus TCP. <b>192.168.178.50</b> je IP adresa modula RevPi. RevPi ima 7 glavnih protokola Modbus TCP.	 <table border="1"> <tr><td>Client</td><td>192.168.178.50:46338</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td>Client</td><td>192.168.178.50:46340</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td>Client</td><td>192.168.178.50:46342</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> </table>	Client	192.168.178.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Odjeljak 7 Konfiguracija Ethernet/IP pristupnika

Korak	Opis	Slika
1	<ul style="list-style-type: none"> <li>Povežite Ethernet/IP pristupnik s računalom putem adapterskog kabela LAN-na-USB.</li> <li>Pogledajte <a href="#">Uvod</a> na stranici 226. Koristite vezu GATEWAY Ethernet/IP Slave. Slijedite upute u korisničkom priručniku proizvođača <i>Komponenta pristupnika za EtherNet/IP</i>.</li> <li>Upotrijebite 8-pinski prekidač za adresu (A) za postavljanje identifikatora glavnog računala na binarni format pristupnika. <ul style="list-style-type: none"> <li>Primjer: postavite glavno računalo na 8: 00010000</li> </ul> </li> <li>Otvorite web-mjesto <a href="http://192.168.1.X">http://192.168.1.X</a> (X=zbroj svih prekidača postavljenih na ON (Uključeno)).</li> </ul>	
2	<p>Otvorite preglednik i unesite IP adresu 192.168.1.X.</p> <p>Podaci za prvu prijavu:</p> <p>Korisnik: Admin Lozinka: 1701 Pritisnite <b>Login</b> (Prijava).</p>	

Korak	Opis	Slika																																																																				
3	<p>Kontroler i Ethernet/IP pristupnik prenose područje podataka 0000 - 01BF, što je raspon od 448 bajta ili 112 brojeva s pomičnim zarezom ili 224 cijela broja ili njihova kombinacija, na temelju telegrama tipa Modbus TCP u kontroleru.</p> <p><i>Napomena:</i> Prikazuje se samo prvi raspon podataka do cijelog broja 32. Pogledajte sve podatke u PLC sustavu (cijeli broj 224).</p> <p>Pritisnite <b>Show</b> (Prikaži).</p>	<table border="1"> <thead> <tr> <th>Address</th> <th>Value</th> <th>Address</th> <th>Value</th> </tr> </thead> <tbody> <tr><td>Input 1 0x0001</td><td>0</td><td>Output 1 0x0401</td><td>0</td></tr> <tr><td>Input 2 0x0002</td><td>0</td><td>Output 2 0x0402</td><td>0</td></tr> <tr><td>Input 3 0x0003</td><td>0</td><td>Output 3 0x0403</td><td>0</td></tr> <tr><td>Input 4 0x0004</td><td>0</td><td>Output 4 0x0404</td><td>0</td></tr> <tr><td>Input 5 0x0005</td><td>0</td><td>Output 5 0x0405</td><td>0</td></tr> <tr><td>Input 6 0x0006</td><td>0</td><td>Output 6 0x0406</td><td>0</td></tr> <tr><td>Input 7 0x0007</td><td>0</td><td>Output 7 0x0407</td><td>0</td></tr> <tr><td>Input 8 0x0008</td><td>0</td><td>Output 8 0x0408</td><td>0</td></tr> <tr><td>Input 9 0x0009</td><td>0</td><td>Output 9 0x0409</td><td>0</td></tr> <tr><td>Input 10 0x000a</td><td>0</td><td>Output 10 0x040A</td><td>0</td></tr> <tr><td>Input 11 0x000b</td><td>0</td><td>Output 11 0x040B</td><td>0</td></tr> <tr><td>Input 12 0x000c</td><td>0</td><td>Output 12 0x040C</td><td>0</td></tr> <tr><td>Input 13 0x000d</td><td>0</td><td>Output 13 0x040D</td><td>0</td></tr> <tr><td>Input 14 0x000e</td><td>0</td><td>Output 14 0x040E</td><td>0</td></tr> <tr><td>Input 15 0x000f</td><td>0</td><td>Output 15 0x040F</td><td>0</td></tr> <tr><td>Input 16 0x0010</td><td>0</td><td>Output 16 0x0410</td><td>0</td></tr> </tbody> </table>	Address	Value	Address	Value	Input 1 0x0001	0	Output 1 0x0401	0	Input 2 0x0002	0	Output 2 0x0402	0	Input 3 0x0003	0	Output 3 0x0403	0	Input 4 0x0004	0	Output 4 0x0404	0	Input 5 0x0005	0	Output 5 0x0405	0	Input 6 0x0006	0	Output 6 0x0406	0	Input 7 0x0007	0	Output 7 0x0407	0	Input 8 0x0008	0	Output 8 0x0408	0	Input 9 0x0009	0	Output 9 0x0409	0	Input 10 0x000a	0	Output 10 0x040A	0	Input 11 0x000b	0	Output 11 0x040B	0	Input 12 0x000c	0	Output 12 0x040C	0	Input 13 0x000d	0	Output 13 0x040D	0	Input 14 0x000e	0	Output 14 0x040E	0	Input 15 0x000f	0	Output 15 0x040F	0	Input 16 0x0010	0	Output 16 0x0410	0
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4	Prikazuje se odabранo područje podataka.																																																																					

Korak	Opis	Slika															
5	Pritisnite <b>Change Configuration</b> (Promijeni konfiguraciju) za postavljanje IP adrese.	<p>KUNBUS-GW EtherNet/IP™</p> <p>Modbus Register 0x001 - 0x010 and 0x0401 - 0x0410 Modbus Register 0x011 - 0x020 and 0x0411 - 0x0420 Modbus Register 0x021 - 0x030 and 0x0421 - 0x0430 Modbus Register 0x031 - 0x040 and 0x0431 - 0x0440</p> <p><b>Configuration</b></p> <p>Serial number: 594 Software Version: 1.1.944 MAC Address: c8:3e:37:00:00:10 IP address: 192.168.1.0 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 DHCP: <input type="checkbox"/> active</p> <p><b>Change Configuration</b> <b>Change Password</b> <b>Reboot</b></p> <p><a href="#">Download ECF file</a></p>															
6	<p>Promijenite IP adresu prema adresi pristupnika. Za potvrdu pritisnite <b>Apply</b> (Primjeni).</p> <p>Isključite sve dip prekidače. Isključite, a zatim ponovno pokrenite pristupnik. Sada se koristi nova IP adresa.</p>	<p>KUNBUS-GW EtherNet/IP™</p> <p><b>Change Configuration</b></p> <table border="1"> <thead> <tr> <th></th> <th>Old Value</th> <th>New Value</th> </tr> </thead> <tbody> <tr> <td>DHCP</td> <td><input type="checkbox"/> active</td> <td><input checked="" type="checkbox"/> 192.168.1.8</td> </tr> <tr> <td>IP Address</td> <td>192.168.1.8</td> <td>192.168.1.8</td> </tr> <tr> <td>Network Mask</td> <td>255.255.255.0</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>192.168.1.1</td> <td>192.168.1.1</td> </tr> </tbody> </table> <p><b>Apply</b> <b>Abort</b></p>		Old Value	New Value	DHCP	<input type="checkbox"/> active	<input checked="" type="checkbox"/> 192.168.1.8	IP Address	192.168.1.8	192.168.1.8	Network Mask	255.255.255.0	255.255.255.0	Gateway	192.168.1.1	192.168.1.1
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Network Mask	255.255.255.0	255.255.255.0															
Gateway	192.168.1.1	192.168.1.1															

## Odjeljak 8 Konfiguracija Profinet pristupnika

Korak	Opis	Slika
1	<ul style="list-style-type: none"> <li>Povežite Profinet pristupnik s računalom putem adaptera LAN-na-LAN.</li> <li>Pogledajte <a href="#">Uvod</a> na stranici 226. Koristite vezu GATEWAY Profinet IRT Slave. Slijedite upute u korisničkom priručniku proizvođača <i>Komponenta pristupnika za PROFINET</i>.</li> <li>Pomoću softvera PRONETA postavite naziv na <b>kunbus-gw-profinet</b>.</li> <li>Unesite korištenu <b>IP adresu</b>.</li> </ul>	
2	Otvorite preglednik i unesite IP adresu. Podaci za prvu prijavu: Korisnik: Admin Lozinka: 1701 Pritisnite <b>Login</b> (Prijava).	

Korak	Opis	Slika																
3	Pritisnite Show (Prikaži) (A) za prikaz ulaznih podataka.	<p><b>KUNBUS-GW PROFINET TPS-1</b></p> <p>A</p> <p><b>Input data (from neighbour device)</b> <input type="button" value="Show"/></p> <p><b>Output data (from PROFINET Controller)</b> <input type="button" value="Show"/></p> <p><b>Configuration</b></p> <table> <tbody> <tr> <td>Serial number</td> <td>4581</td> </tr> <tr> <td>Software Version</td> <td>1.2</td> </tr> <tr> <td>MAC Address</td> <td>c8:3e:a7:01:2c:3a</td> </tr> <tr> <td>IP address</td> <td>192.168.0.230</td> </tr> <tr> <td>Subnet mask</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>0.0.0.0</td> </tr> <tr> <td>IO Controller state</td> <td>no AR established, access from web page possible</td> </tr> <tr> <td>PROFINET Name of Station</td> <td>kunbus-gw-profinet</td> </tr> </tbody> </table> <p><input type="button" value="Change Password"/></p>	Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:2c:3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
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Korak	Opis	Slika																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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## Odjeljak 9 Rješavanje problema

### 9.1 Rješavanje problema s RevPi

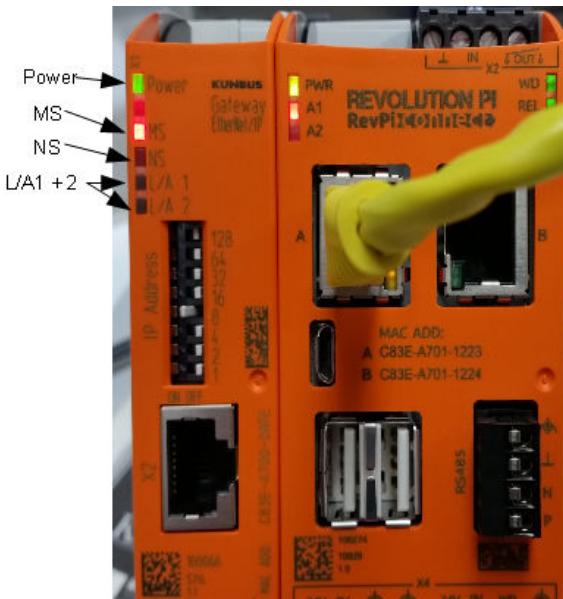
Slika 4 Osnovni modul RevPi



Poruka	Opis	Rješenje
LED-dioda A2 treperi crveno.	Došlo je do prekida komunikacije.	<ul style="list-style-type: none"><li>• Spojite mrežni kabel (kabel ili usmjerivač).</li><li>• Postavite postavku Modbus adrese u aplikaciji Claros na '1'.</li><li>• Uključite Modbus TCP u izborniku Claros.</li></ul>
LED-dioda A3 sporo treperi crveno.	Konfiguracija Ethernet/IP i Profinet pristupnika je pomiješana.	<p>Pogledajte <a href="#">Pokretanje USB konfiguracije</a> na stranici 228, korak 4 i odaberite ispravnu vrstu pristupnika:</p> <ul style="list-style-type: none"><li>• en – Ethernet/IP</li><li>• pn – Profinet</li></ul>

## 9.2 Rješavanje problema s Ethernet/IP pristupnikom

Slika 5 Ethernet/IP pristupnik



Poruka	Opis	Rješenje
LED-dioda Power je isključena.	Ethernet/IP pristupnik je isključen.	Uključite napajanje.
LED-dioda Power treperi zeleno.	Postupak pokretanja nije dovršen.	Pričekajte nekoliko minuta.
LED-dioda Power treperi crveno.	Ukazuje na upozorenje.	Provjerite jesu li svi uređaji povezani.
LED-dioda Power svijetli crveno.	Ukazuje na pogrešku.	Ethernet/IP pristupnik je neispravan. Zamjenite Ethernet/IP pristupnik.
MS LED-dioda je isključena.	Ethernet/IP pristupnik je isključen.	Uključite napajanje.
MS LED-dioda treperi zeleno.	Postupak konfiguracije nije dovršen.	Pričekajte nekoliko minuta.
MS LED-dioda treperi crveno.	Prikazuje pogrešku s konfiguracijom.	Pogledajte <a href="#">Konfiguracija Ethernet/IP pristupnika</a> na stranici 238 za pregled konfiguracije.
MS LED-dioda svijetli crveno.	Ukazuje na pogrešku.	Ethernet/IP pristupnik je neispravan. Zamjenite Ethernet/IP pristupnik.
MS LED-dioda treperi crveno i zeleno.	Samotestiranje nije dovršeno.	Pričekajte nekoliko minuta.

Poruka	Opis	Rješenje
NS LED-dioda je isključena.	Ethernet/IP pristupnik je isključen ili nema IP adresu.	Uključite napajanje. Postavite IP adresu.
NS LED-dioda treperi zeleno.	IP adresa je postavljena, ali CIP veza nije uspostavljena.	Pričekajte nekoliko minuta.
NS LED-dioda treperi crveno.	CIP veza je prekinuta.	Provjerite postoji li vremensko ograničenje.
NS LED-dioda svijetli crveno.	Drugi uređaj koristi odabranu IP adresu.	Promijenite IP adresu na jedinstvenu IP adresu.
L/A 1 ili 2 LED-dioda je isključena.	Nema veze s drugim uređajima.	Povežite se s uređajem.
LED-dioda L/A 1 ili 2 je isključena.	Nema razmjene podataka.	Pričekajte do sljedeće razmjene podataka.

### 9.3 Rješavanje problema s Profinet pristupnikom

Slika 6 Profinet pristupnik



Poruka	Opis	Rješenje
LED-dioda Power je isključena.	Profinet pristupnik je isključen.	Uključite napajanje.
LED-dioda Power treperi zeleno.	Postupak pokretanja nije dovršen.	Pričekajte nekoliko minuta.
LED-dioda Power treperi crveno.	Ukazuje na upozorenje.	Provjerite jesu li svi uređaji postavljeni.

Poruka	Opis	Rješenje
LED-dioda Power svijetli crveno.	Ukazuje na pogrešku.	Profinet pristupnik je neispravan. Zamijenite Profinet pristupnik.
LED-dioda Run je isključena.	Nema veze s mrežom.	Povežite se na mrežu.
LED-dioda Run treperi zeleno.	Profinet kontroler je povezan, ali nema razmjene podataka.	Pričekajte do sljedeće razmjene podataka.
LED-dioda Run sporo treperi zeleno.	Ovo uzrokuje alat za identifikaciju komponente pristupnika.	Pričekajte nekoliko minuta.
LED-dioda Diag treperi crveno.	Ovo uzrokuje alat za identifikaciju komponente pristupnika.	Pričekajte nekoliko minuta.
LED-dioda Diag brzo treperi crveno.	Nema veze s kontrolerom. U modulu nije postavljen naziv Profinet pristupnika.	Pogledajte <a href="#">Konfiguracija Profinet pristupnika</a> na stranici 241 za postavljanje naziva.
LED-dioda Diag svijetli crveno.	Uredaj pristupnika prijavljuje dijagnostičke podatke.	Pogledajte dijagnostičko izvješće.
L/A 1 ili 2 LED-dioda je isključena.	Nema veze s mrežom.	Povežite se na mrežu.
LED-dioda L/A 1 ili 2 je isključena.	Razmjena podataka.	Pričekajte dok se razmjena podataka ne dovrši.

## Πίνακας περιεχομένων

- 1 Προβλεπόμενη χρήση στη σελίδα 248
- 2 Εισαγωγή στη σελίδα 248
- 3 Έναρξη της διαμόρφωσης USB στη σελίδα 250
- 4 Παραδείγματα εγκατάστασης στη σελίδα 252
- 5 Ρύθμιση του τηλεγραφήματος Modbus TCP του ελεγκτή SC4200c στη σελίδα 255
- 6 Ρύθμιση του τηλεγραφήματος Modbus TCP του ελεγκτή SC1500 στη σελίδα 258
- 7 Διαμόρφωση της πύλης Ethernet/IP στη σελίδα 261
- 8 Διαμόρφωση της πύλης Profinet στη σελίδα 264
- 9 Αντιμετώπιση προβλημάτων στη σελίδα 267

## Ενότητα 1 Προβλεπόμενη χρήση

Αυτές οι οδηγίες ρύθμισης προορίζονται για χρήση από άτομα που ενσωματώνουν εξωτερική πύλη Ethernet/IP ή πύλη Profinet ως στοιχεία υλικού στο δίκτυο Claros.

## Ενότητα 2 Εισαγωγή

Ο κατασκευαστής δεν φέρει ευθύνη για τυχόν ζημιές εξαιτίας της λανθασμένης εφαρμογής ή χρήσης του παρόντος προϊόντος, συμπεριλαμβανομένων, χωρίς περιορισμό, των άμεσων, συμπτωματικών και παρεπόμενων ζημιών, και αποτοπείται την ευθύνη για τέτοιες ζημιές στο μέγιστο βαθμό που επιπρέπει το εφαρμοστέο δίκαιο. Ο χρήστης είναι αποκλειστικά υπεύθυνος για την αναγνώριση των σημαντικών κινδύνων εφαρμογής και την εγκατάσταση των κατάλληλων μηχανισμών για την προστασία των διαδικασιών κατά τη διάρκεια μιας πιθανής δισλειτουργίας του εξοπλισμού.

### ⚠ ΚΙΝΔΥΝΟΣ



Κίνδυνος ηλεκτροπληξίας. Πριν πραγματοποιήσετε οποιεσδήποτε ηλεκτρικές συνδέσεις, να αποσυνδέετε πάντοτε το όργανο από την τροφοδοσία ρεύματος.

### Απαιτούμενα στοιχεία:

- USB stick μορφοποιημένο ως FAT32
- Υπολογιστής με Windows<sup>1</sup> 10
- Μονάδα:
  - Για υλοποίηση Ethernet/IP:
    - LXZ446.99.00001: ΠΥΛΗ IIoT RevPi Βασική μονάδα
    - LXZ446.99.00002: ΠΥΛΗ Ethernet/IP Δευτερεύουσα μονάδα
    - LXZ446.99.00003: Βραχυκυκλωτής για PiBridge
  - Για υλοποίηση Profinet:
    - LXZ446.99.00001: ΠΥΛΗ IIoT RevPi Βασική μονάδα
    - LXZ446.99.00007: ΠΥΛΗ Profinet IRT Δευτερεύουσα μονάδα
    - LXZ446.99.00003: Βραχυκυκλωτής για PiBridge

Συνδέστε τις τρεις μονάδες RevPi, δευτερεύουσα μονάδα και PiBridge στην τροφοδοσία και το LAN.

Ανατρέξτε στους συνδέσμους στον πίνακα που ακολουθεί για περισσότερες πληροφορίες από τον κατασκευαστή των μονάδων.

<sup>1</sup> Το Microsoft® Windows® είναι σήμα κατατεθέν της Microsoft Corporation στις Ηνωμένες Πολιτείες και σε άλλες χώρες.

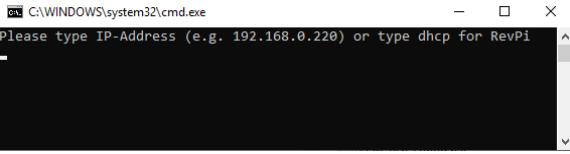
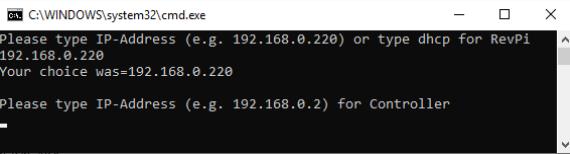
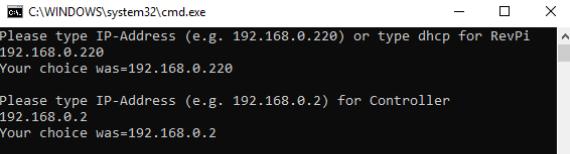
Μονάδα	Σύνδεσμος
ΠΥΛΗ Profinet IRT Δευτερεύουσα μονάδα	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
ΠΥΛΗ Ethernet/IP Δευτερεύουσα μονάδα	<a href="https://www.kunbus.com/ethernet-ip-gateway-module.html">https://www.kunbus.com/ethernet-ip-gateway-module.html</a>
ΠΥΛΗ IIoT RevPi Βασική μονάδα	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>
Τρόπος σύνδεσης μονάδων RevPi	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>
Τρόπος εγκατάστασης μονάδων RevPi σε σειρά DIN	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
Τρόπος σύνδεσης του τροφοδοτικού	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

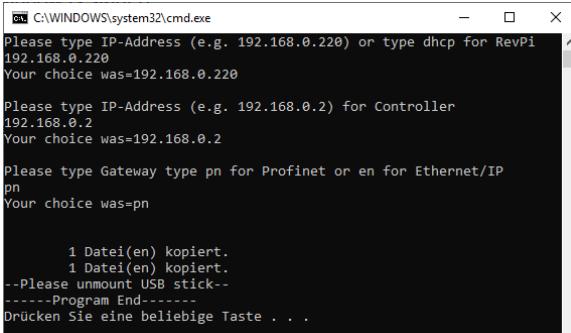
## Προετοιμασία του USB stick

- Τοποθετήστε ένα κενό USB stick στον υπολογιστή.
- Μεταβείτε στη διεύθυνση <https://www.hach.com> και αναζητήστε τις λέξεις-κλειδιά "usb ethernet/IP installation" (εγκατάσταση ethernet/IP μέσω usb) ή "usb profinet installation" (εγκατάσταση profinet μέσω usb).
- Πραγματοποιήστε λήψη του USB\_ETHIP\_PRNET.zip.
- Αποσυμπίεστε το αρχείο στον κύριο κατάλογο αρχείων του USB stick.

## Ενότητα 3 Έναρξη της διαμόρφωσης USB

Τοποθετήστε το προετοιμασμένο USB stick στον υπολογιστή.

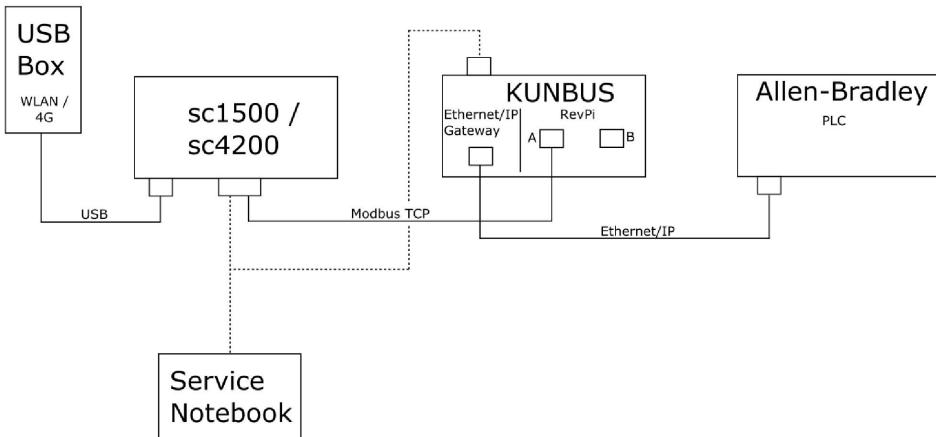
Βήμα	Περιγραφή	Εικόνα
1	Εκκινήστε το start_usb_config.bat. Ανοίγει ένα παράθυρο τερματικού. Ακολουθήστε τον αναλυτικό οδηγό.	
2	Εισαγάγετε τη διεύθυνση IP της μονάδας RevPi.	
3	Εισαγάγετε τη διεύθυνση IP του ελεγκτή SC. Βεβαιωθείτε ότι το πρόθημα δικτύου είναι το ίδιο με αυτό από τη μονάδα RevPi (π.χ., 192.168.0). Βεβαιωθείτε ότι το αναγνωριστικό κεντρικού υπολογιστή είναι διαφορετικό από τη μονάδα RevPi (π.χ., 220 RevPi, 2 ελεγκτής).	 
4	Εισαγάγετε τον τύπο πύλης: <ul style="list-style-type: none"><li>pn—Profinet</li><li>en—Ethernet/IP</li></ul>	  

Βήμα	Περιγραφή	Εικόνα
5	Επιβεβαιώστε τις ρυθμίσεις με το Enter. Αφαιρέστε το USB stick.	
6	Τοποθετήστε το USB stick στην αριστερή υποδοχή USB της μονάδας RevPi.	
7	Περιγραφή λυχνιών LED: <ul style="list-style-type: none"> <li>A1/A2 πορτοκαλί: Η εγκατάσταση του RevPi ξεκινά.</li> <li>A1 κόκκινη, A2 σβηστή: Τοποθετήστε το USB stick στο RevPi.</li> <li>A1 πράσινη, A2 σβηστή: Το USB stick τοποθετήθηκε επιτυχώς.</li> <li>A1 σβηστή, A2 πράσινη: Το RevPi πραγματοποιεί λήψη/αποστολή δεδομένων από το USB stick.</li> <li>A3 κόκκινη: Το RevPi επανεκκινείται.</li> </ul> Όταν η A3 είναι κόκκινη, αφαιρέστε το USB stick.	
8	Οι ρυθμίσεις του RevPi έχουν ολοκληρωθεί.	

## Ενότητα 4 Παραδείγματα εγκατάστασης

Η [Εικόνα 1](#) δείχνει μια εγκατάσταση με δύο διαφορετικές συνδέσεις LAN.

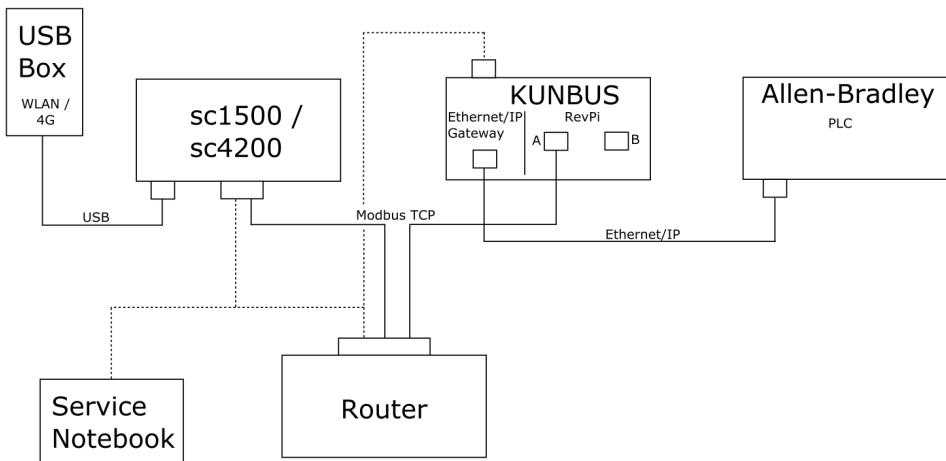
Εικόνα 1 Παράδειγμα 1



- Τα Modbus TCP και Ethernet/IP χρησιμοποιούν δύο διαφορετικές συνδέσεις LAN.
- Όλες οι συσκευές έχουν στατική διεύθυνση IP.
- Ο ελεγκτής έχει πρόσβαση στο Internet με σύνδεση κινητής τηλεφωνίας ή WiFi.
- Για να ρυθμίστε τις διευθύνσεις IP του ελεγκτή και της πύλης Ethernet/IP, απαιτείται ένας φορητός υπολογιστής.

Η Εικόνα 2 δείχνει μια εγκατάσταση με τον δρομολογητή για τη σύνδεση Modbus TCP.

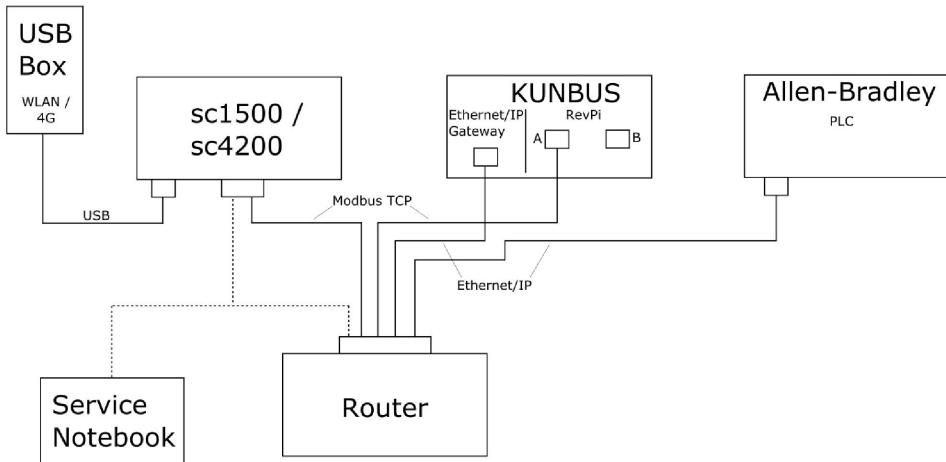
## Εικόνα 2 Παράδειγμα 2



- Το Modbus TCP είναι συνδεδεμένο στον δρομολογητή.
- Όλες οι συσκευές έχουν στατική διεύθυνση IP ή ο δρομολογητής ρυθμίζει τη διεύθυνση IP μέσω DHCP.  
**Σημείωση:** Βεβαιωθείτε ότι ο δρομολογητής χρησιμοποιεί πάντα την ίδια διεύθυνση IP για τις ίδιες συσκευές (MAC), εάν χρησιμοποιείται το DHCP.
- Ο ελεγκτής έχει πρόσβαση στο Internet με σύνδεση κινητής τηλεφωνίας ή WiFi.
- Για να ρυθμίσετε τη διεύθυνση IP του ελεγκτή, την πύλη Ethernet/IP και τις ρυθμίσεις του δρομολογητή, απαιτείται ένας φορητός υπολογιστής.

Η Εικόνα 3 δείχνει μια εγκατάσταση με δρομολογητή ή διακόπτη για όλες τις συσκευές.

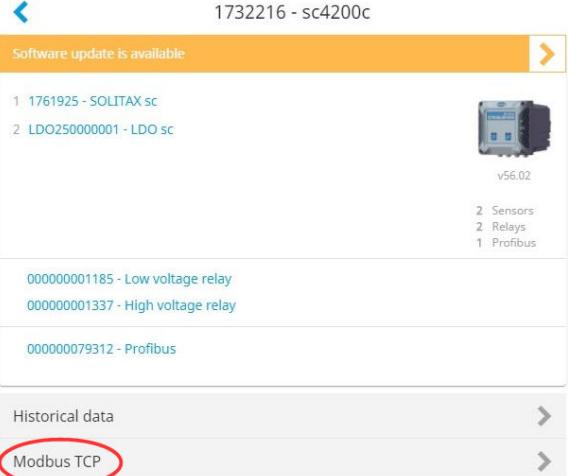
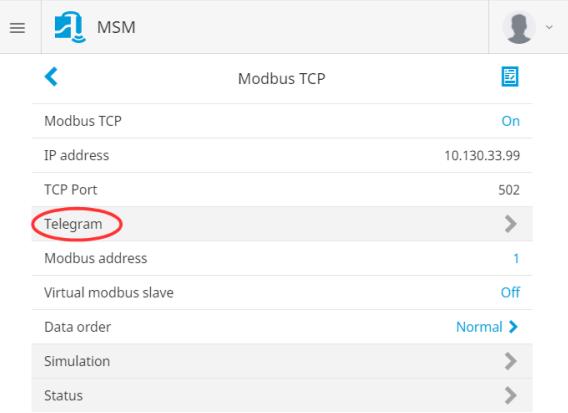
### Εικόνα 3 Παράδειγμα 3



- Όλες οι συσκευές είναι συνδεδεμένες με δρομολογητή ή διακόπτη.
- Όλες οι συσκευές έχουν στατική διεύθυνση IP ή ο δρομολογητής ή ο διακόπτης ρυθμίζει τη διεύθυνση IP μέσω DHCP.  
**Σημείωση:** Βεβαιωθείτε ότι ο δρομολογητής χρησιμοποιεί πάντα την ίδια διεύθυνση IP για τις ίδιες συσκευές (MAC), εάν χρησιμοποιείται το DHCP.
- Ο ελεγκτής έχει πρόσβαση στο Internet με σύνδεση κινητής τηλεφωνίας ή WiFi.
- Για να ρυθμίσετε τη διεύθυνση IP του ελεγκτή και τις ρυθμίσεις του δρομολογητή, απαιτείται ένας φορητός υπολογιστής.

## Ενότητα 5 Ρύθμιση του τηλεγραφήματος Modbus TCP του ελεγκτή SC4200c

Εκκινήστε την εφαρμογή Claros και ακολουθήστε τον αναλυτικό οδηγό.

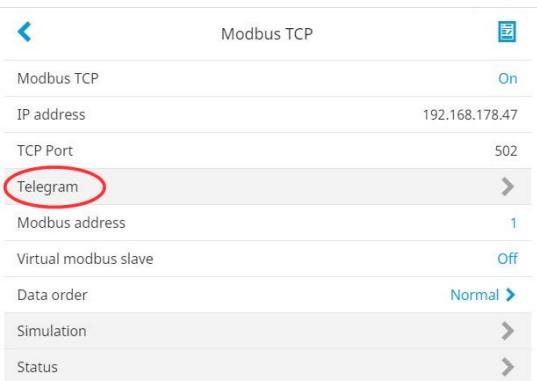
Βήμα	Περιγραφή	Εικόνα
1	Επιλέξτε το μενού ελεγκτή και κατόπιν πατήστε <b>Modbus TCP</b> .	
2	Επιλέξτε <b>Telegram</b> (Τηλεγράφημα) για να ρυθμίσετε το τηλεγράφημα Modbus TCP.	

Βήμα	Περιγραφή	Εικόνα
3	<p>Το τηλεγράφημα που απεικονίζεται αποτελεί παράδειγμα του αισθητήρα LDO sc.</p> <p>Ρυθμίστε το Heartbeat (καρδιακοί παλμοί) σε ακέραιο. Το Heartbeat (καρδιακοί παλμοί) αποτελεί έναν μετρητή που δείχνει την ενημέρωση της τιμής σε βήματα ενός δευτερολέπτου.</p> <p><b>Σημείωση:</b> Το περιεχόμενο του τηλεγραφήματος Modbus TCP είναι το ίδιο με αυτό του τηλεγραφήματος Profibus.</p>	 

Βήμα	Περιγραφή	Εικόνα																																								
4	<p>Το μενού Modbus TCP εμφανίζει τη διεύθυνση IP του ελεγκτή. Η διεύθυνση <b>10.130.33.99</b> είναι η διεύθυνση IP που έχει οριστεί στο μενού service του ελεγκτή.</p> <p>Ρυθμίστε το Modbus TCP σε <b>On (Ενεργό)</b> και κατόπιν πατήστε <b>Status (Κατάσταση)</b>.</p>	<p>Modbus TCP</p> <p>IP address: 10.130.33.99 (highlighted with a red circle)</p> <p>TCP Port: 502</p> <p>Telegram</p> <p>Modbus address: 1</p> <p>Virtual modbus slave: Off</p> <p>Data order: Normal</p> <p>Simulation</p> <p>Status (highlighted with a red circle)</p>																																								
5	<p>Το μενού Status (Κατάσταση) εμφανίζει τα στατιστικά στοιχεία Modbus TCP. Η διεύθυνση IP <b>10.130.33.50</b> είναι η διεύθυνση IP της μονάδας RevPi. Το RevPi διαθέτει κύριο 5 Modbus TCP.</p>	<table border="1"> <tbody> <tr> <td>Client</td> <td>10.130.33.50:46338</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td>Client</td> <td>10.130.33.50:46340</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td>Client</td> <td>10.130.33.50:46342</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table>	Client	10.130.33.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0			Client	10.130.33.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0			Client	10.130.33.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Ενότητα 6 Ρύθμιση του τηλεγραφήματος Modbus TCP του ελεγκτή SC1500

Εκκινήστε την εφαρμογή ClaroS και ακολουθήστε τον αναλυτικό οδηγό.

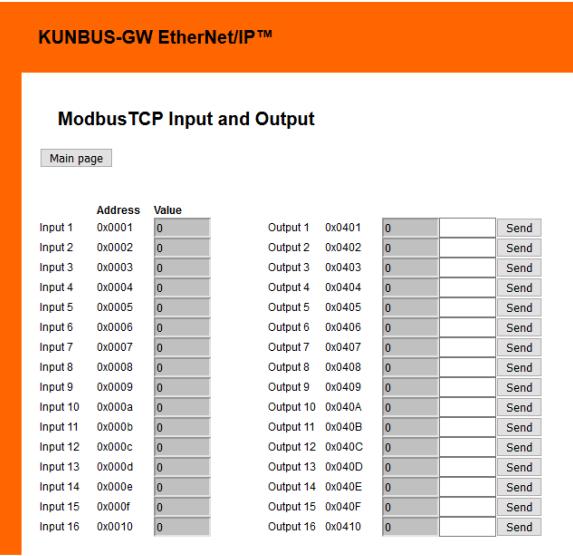
Βήμα	Περιγραφή	Εικόνα
1	Επιλέξτε το μενού ελεγκτή και κατόπιν πατήστε <b>Modbus TCP</b> .	 <p>1694389 - sc1500</p> <p>1 1327087 - AN-ISE sc 2 1555058 - AN-ISE sc 3 LDO 2009 - LDO sc</p> <p>v20.12 3 Sensors 1 Outputs 1 Profibus</p> <p>000000074854 - mA output</p> <p>000005009872 - Profibus</p> <p>Historical data &gt; Modbus TCP &gt;</p>
2	Επιλέξτε <b>Telegram</b> (Τηλεγράφημα) για να ρυθμίσετε το τηλεγράφημα Modbus TCP.	 <p>Modbus TCP</p> <p>Modbus TCP On</p> <p>IP address 192.168.178.47</p> <p>TCP Port 502</p> <p>Telegram &gt;</p> <p>Modbus address 1</p> <p>Virtual modbus slave Off</p> <p>Data order Normal &gt;</p> <p>Simulation &gt;</p> <p>Status &gt;</p>

Βήμα	Περιγραφή	Εικόνα
3	<p>Το τηλεγράφημα που απεικονίζεται αποτελεί παράδειγμα του αισθητήρα LDO sc.</p> <p>Ρυθμίστε το Heartbeat (καρδιακοί παλμοί) σε ακέραιο. Το Heartbeat (καρδιακοί παλμοί) αποτελεί έναν μετρητή που δείχνει την ενημέρωση της τιμής σε βήματα ενός δευτερολέπτου.</p> <p><b>Σημείωση:</b> Το περιεχόμενο του τηλεγραφήματος Modbus TCP είναι το ίδιο με αυτό του τηλεγραφήματος Profibus.</p>	 

Βήμα	Περιγραφή	Εικόνα																																										
4	<p>Το μενού Modbus TCP εμφανίζει τη διεύθυνση IP του ελεγκτή. Η διεύθυνση <b>192.168.178.47</b> είναι η διεύθυνση IP που έχει οριστεί στο μενού service του ελεγκτή.</p> <p>Ρυθμίστε το Modbus TCP σε <b>On (Ενεργό)</b> και κατόπιν πατήστε <b>Status (Κατάσταση)</b>.</p>	<table border="1"> <tr><td>Modbus TCP</td><td>On</td></tr> <tr><td>IP address</td><td>192.168.178.47</td></tr> <tr><td>TCP Port</td><td>502</td></tr> <tr><td>Telegram</td><td></td></tr> <tr><td>Modbus address</td><td>1</td></tr> <tr><td>Virtual modbus slave</td><td>Off</td></tr> <tr><td>Data order</td><td>Normal &gt;</td></tr> <tr><td>Simulation</td><td></td></tr> <tr><td>Status</td><td></td></tr> </table>	Modbus TCP	On	IP address	192.168.178.47	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal >	Simulation		Status																									
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5	<p>Το μενού Status (Κατάσταση) εμφανίζει τα στατιστικά στοιχεία Modbus TCP. Η διεύθυνση <b>192.168.178.50</b> είναι η διεύθυνση IP της μονάδας RevPi. Το RevPi διαθέτει κύριο 7 Modbus TCP.</p>	<table border="1"> <tr><td colspan="2">Status</td></tr> <tr><td>Client</td><td>192.168.178.50:46338</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td> </td><td> </td></tr> <tr><td>Client</td><td>192.168.178.50:46340</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td> </td><td> </td></tr> <tr><td>Client</td><td>192.168.178.50:46342</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> </table>	Status		Client	192.168.178.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0			Client	192.168.178.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0			Client	192.168.178.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Ενότητα 7 Διαμόρφωση της πύλης EtherNet/IP

Βήμα	Περιγραφή	Εικόνα
1	<ul style="list-style-type: none"> <li>Συνδέστε την πύλη EtherNet/IP στον υπολογιστή με τον προσαρμογέα καλωδίου LAN σε USB.</li> <li>Βλ. <b>Εισαγωγή</b> στη σελίδα 248. Χρησιμοποιήστε τον σύνδεσμο της ΠΥΛΗΣ EtherNet/IP δευτερεύουσας μονάδας. Ακολουθήστε την οδηγία στο εγχειρίδιο χρήστη του κατασκευαστή <b>Στοιχείο πύλης για EtherNet/IP</b>.</li> <li>Χρησιμοποιήστε τον διακόπτη διεύθυνσης 8 ακίδων (A) για να ρυθμίσετε το αναγνωριστικό κεντρικού υπολογιστή στη δυαδική μορφή της Πύλης. <ul style="list-style-type: none"> <li>Παράδειγμα: Ρυθμίστε τον κεντρικό υπολογιστή σε 8: 00010000</li> <li>Ανοίξτε την τοποθεσία Web <a href="http://192.168.1.X">http://192.168.1.X</a> [X=Άθροισμα όλων των διακοπτών που έχουν οριστεί σε ON (Ένεργοποίηση)].</li> </ul> </li> </ul>	
2	<p>Ανοίξτε το πρόγραμμα περιήγησης και εισαγάγετε τη διεύθυνση IP 192.168.1.X. Δεδομένα σύνδεσης για την πρώτη σύνδεση:</p> <p>Χρήστης: Admin Κωδικός πρόσβασης: 1701 Πατήστε <b>Login (Σύνδεση)</b>.</p>	<div style="background-color: orange; color: white; padding: 10px; text-align: center;"> <p><b>KUNBUS-GW EtherNet/IP™</b></p> </div> <div style="background-color: white; padding: 10px; margin-top: -10px;"> <p>Username: <input type="text" value="Admin"/></p> <p>Password: <input type="password"/></p> <p><input type="button" value="Login"/></p> <p><a href="#">Download EDS file.</a></p> </div>

Βήμα	Περιγραφή	Εικόνα
3	Ο ελεγκτής και η πύλη Ethernet/IP μεταφέρουν την περιοχή δεδομένων 0000 - 01BF, που έχει εύρος 448 byte ή κινητή υποδιαστολή 112 ή ακέραιος αριθμός 224 ή ένας συνδυασμός αυτών, βάσει του τύπου τηλεγραφήματος του Modbus TCP στον ελεγκτή. <b>Σημείωση:</b> Εμφανίζεται μόνο η πρώτη περιοχή δεδομένων έως τον ακέραιο 32. Προβάλετε όλα τα δεδομένα στο PLC (ακέραιος 224). Πατήστε Show (Εμφάνιση).	
4	Εμφανίζεται η επιλεγμένη περιοχή δεδομένων.	

Βήμα	Περιγραφή	Εικόνα
5	Πατήστε <b>Change Configuration</b> (Αλλαγή διαμόρφωσης) για να ρυθμίσετε τη διεύθυνση IP.	<p>The screenshot shows the 'Configuration' section of the KUNBUS-GW EtherNet/IP interface. It includes fields for Serial number, Software Version, MAC Address, IP address, Subnet Mask, Gateway, and DHCP. At the bottom right, there are three buttons: 'Change Configuration' (highlighted with a red arrow), 'Change Password', and 'Reboot'. Below the configuration section is a link to 'Download EDR file.'</p>
6	<p>Αλλάξτε τη διεύθυνση IP ανάλογα με τη διεύθυνση πύλης.</p> <p>Πατήστε <b>Apply</b> (Εφαρμογή) για επιβεβαίωση.</p> <p>Ρυθμίστε όλους τους διακόπτες DIP σε απενεργοποιηση.</p> <p>Ρυθμίστε τη λειτουργία της πύλης σε απενεργοποιημένη και κατόπιν κάνετε επανεκκίνηση. Τώρα χρησιμοποιείται η νέα διεύθυνση IP.</p>	<p>The screenshot shows the 'Change Configuration' dialog box. It lists parameters: DHCP (checkbox active), IP Address (192.168.1.8), Network Mask (255.255.255.0), and Gateway (192.168.1.1). Below these are 'Old Value' and 'New Value' columns. The 'Apply' button is circled in red. There is also an 'Abort' button at the bottom.</p>

## Ενότητα 8 Διαμόρφωση της πύλης Profinet

Βήμα	Περιγραφή	Εικόνα
1	<ul style="list-style-type: none"> <li>Συνδέστε την πύλη Profinet στον υπολογιστή με τον προσαρμογέα LAN σε LAN.</li> <li>Βλ. Εισαγωγή στη σελίδα 248. Χρησιμοποιήστε τον σύνδεσμο της ΠΥΛΗΣ Profinet IRT δευτερεύουσας μονάδας. Ακολουθήστε την οδηγία στο εγχειρίδιο χρήστη του κατασκευαστή <i>Στοιχείο πύλης για PROFINET</i>.</li> <li>Χρησιμοποιήστε το λογισμικό PRONETA για να ορίσετε το όνομα σε <b>kunbus-gw-profinet</b>.</li> <li>Εισαγάγετε τη χρησιμοποιημένη διεύθυνση IP.</li> </ul>	<p>The screenshot shows the Siemens PRONETA software interface. On the left, there's a graphical view of a computer icon labeled 'PRONETA'. In the center, there's a table titled 'Geräteanzeige - Online' (Device View - Online) with one entry: '1 08-3e-a7-00-26-05 KUNBUS-GW Profinet TPS-1'. To the right of the table is a panel with the text 'kunbus-gw-profinet' and 'IP-Address 192.168.1.10'.</p>
2	<p>Ανοίξτε το πρόγραμμα περιήγησης και εισάγετε τη διεύθυνση IP. Δεδομένα σύνδεσης για την πρώτη σύνδεση: Χρήστης: Admin Κωδικός πρόσβασης: 1701 Πατήστε <b>Login (Σύνδεση)</b>.</p>	<p>The screenshot shows a login interface for the 'KUNBUS-GW PROFINET TPS-1'. It has fields for 'Username' (Admin) and 'Password' (four dots), and a 'Login' button.</p>

Βήμα	Περιγραφή	Εικόνα																
3	Πατήστε <b>Show (Εμφάνιση)</b> (Α) για να εμφανίσετε τα δεδομένα εισόδου.	<p><b>KUNBUS-GW PROFINET TPS-1</b></p> <p>A → <b>Show</b></p> <p><b>Input data (from neighbour device)</b></p> <p><b>Output data (from PROFINET Controller)</b></p> <p><b>Configuration</b></p> <table> <tbody> <tr><td>Serial number</td><td>4581</td></tr> <tr><td>Software Version</td><td>1.2</td></tr> <tr><td>MAC Address</td><td>c8:3e:a7:01:2c:3a</td></tr> <tr><td>IP address</td><td>192.168.0.230</td></tr> <tr><td>Subnet mask</td><td>255.255.255.0</td></tr> <tr><td>Gateway</td><td>0.0.0.0</td></tr> <tr><td>IO Controller state</td><td>no AR established, access from web page possible</td></tr> <tr><td>PROFINET Name of Station</td><td>kunbus-gw-profinet</td></tr> </tbody> </table> <p><b>Change Password</b></p>	Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:2c:3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
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4	<p>Εμφανίζει όλα τα δεδομένα που αποστέλλονται από τον ελεγκτή στην πύλη Profinet.</p> <p>Ο ελεγκτής και η πύλη Profinet μεταφέρουν την περιοχή δεδομένων 0000 - 01BF, που έχει εύρος 448 byte ή κινητή υποδιαστολή 112 ή ακέραιος αριθμός 224 ή ένας συνδυασμός αυτών, βάσει του τύπου τηλεγραφήματος του Modbus TCP στον ελεγκτή.</p>	<p><b>KUNBUS-GW PROFINET TPS-1</b></p> <p><b>Input (from neighbour device)</b></p> <p>Main page</p> <table border="1"> <thead> <tr> <th>Address</th> <th>0</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>F</th> </tr> </thead> <tbody> <tr><td>0x0000</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> 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## Ενότητα 9 Αντιμετώπιση προβλημάτων

### 9.1 Αντιμετώπιση προβλημάτων για το RevPi

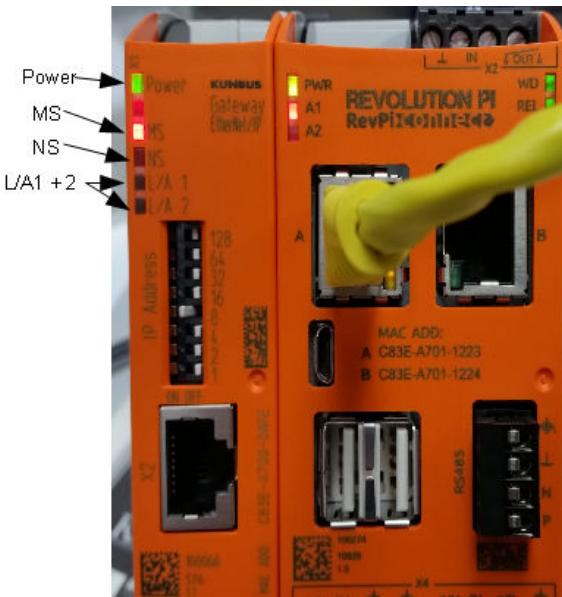
Εικόνα 4 Βασική μονάδα RevPi



Μήνυμα	Περιγραφή	Λύση
Η λυχνία LED A2 αναβοσβήνει με κόκκινο χρώμα.	Η επικοινωνία έχει διακοπεί.	<ul style="list-style-type: none"><li>Συνδέστε το καλώδιο δικτύου (καλώδιο ή δρομολογητής).</li><li>Ορίστε τη ρύθμιση διεύθυνσης Modbus στο Claros σε 1.</li><li>Ορίστε το Modbus TCP στο μενού Claros σε ενεργοποιημένο.</li></ul>
Η λυχνία LED A3 αναβοσβήνει αργά με κόκκινο χρώμα.	Η διαμόρφωση της πύλης Profinet και Ethernet/IP έχει μπερδευτεί.	<p>Βλ. <a href="#">Έναρξη της διαμόρφωσης USB</a> στη σελίδα 250, βήμα 4 και επιλέξτε το σωστό τύπο πύλης:</p> <ul style="list-style-type: none"><li>en – Ethernet/IP</li><li>pn – Profinet</li></ul>

## 9.2 Αντιμετώπιση προβλημάτων για το Ethernet/IP

### Εικόνα 5 Πύλη Ethernet/IP



Μήνυμα	Περιγραφή	Λύση
Η λυχνία LED λειτουργίας είναι σβηστή.	Η πύλη Ethernet/IP έχει οριστεί σε απενεργοποιημένη.	Ενεργοποιήστε τη συσκευή.
Η λυχνία LED λειτουργίας αναβοσβήνει με πράσινο χρώμα.	Η διαδικασία εκκίνησης δεν έχει ολοκληρωθεί.	Περιμένετε λίγα λεπτά.
Η λυχνία LED λειτουργίας αναβοσβήνει με κόκκινο χρώμα.	Δείχνει μια προειδοποίηση.	Εξετάστε εάν έχουν συνδεθεί όλες οι συσκευές.
Η λυχνία LED λειτουργίας είναι κόκκινη.	Δείχνει ένα σφάλμα.	Η πύλη Ethernet/IP είναι ελαττωματική. Αντικαταστήστε την πύλη Ethernet/IP.
Η λυχνία LED MS είναι σβηστή.	Η πύλη Ethernet/IP έχει οριστεί σε απενεργοποιημένη.	Ενεργοποιήστε τη συσκευή.
Η λυχνία LED MS αναβοσβήνει με πράσινο χρώμα.	Η διαδικασία διαμόρφωσης δεν έχει ολοκληρωθεί.	Περιμένετε λίγα λεπτά.
Η λυχνία LED MS αναβοσβήνει με κόκκινο χρώμα.	Εμφανίζει ένα σφάλμα διαμόρφωσης.	Βλ. <a href="#">Διαμόρφωση της πύλης Ethernet/IP</a> στη σελίδα 261 για να εξετάσετε τη διαμόρφωση.

Μήνυμα	Περιγραφή	Λύση
Η λυχνία LED MS είναι κόκκινη.	Δείχνει ένα σφάλμα.	Η πύλη Ethernet/IP είναι ελαπτωματική. Αντικαταστήστε την πύλη Ethernet/IP.
Η λυχνία LED MS αναβοσβήνει με κόκκινο και πράσινο χρώμα.	Ο αυτοδιαγνωστικός έλεγχος δεν έχει ολοκληρωθεί.	Περιμένετε λίγα λεπτά.
Η λυχνία LED NS είναι σβηστή.	Η πύλη Ethernet/IP έχει οριστεί σε απενεργοποιημένη ή δεν έχει διεύθυνση IP.	Ενεργοποιήστε τη συσκευή. Ρυθμίστε τη διεύθυνση IP.
Η λυχνία LED NS αναβοσβήνει με πράσινο χρώμα.	Η διεύθυνση IP έχει οριστεί, αλλά η σύνδεση CIP δεν έχει δημιουργηθεί.	Περιμένετε λίγα λεπτά.
Η λυχνία LED NS αναβοσβήνει με κόκκινο χρώμα.	Η σύνδεση CIP έχει διακοπεί.	Εξετάστε εάν υπάρχει χρονικό όριο.
Η λυχνία LED NS είναι κόκκινη.	Η επιλεγμένη διεύθυνση IP χρησιμοποιείται από μια άλλη συσκευή.	Αλλάξτε τη διεύθυνση IP σε μια μοναδική διεύθυνση IP.
Η λυχνία LED L/A 1 ή 2 είναι σβηστή.	Δεν υπάρχει σύνδεση με άλλες συσκευές.	Συνδεθείτε σε μια συσκευή.
Η λυχνία LED L/A 1 ή 2 αναβοσβήνει με πράσινο χρώμα.	Δεν γίνεται ανταλλαγή δεδομένων.	Περιμένετε μέχρι την επόμενη ανταλλαγή δεδομένων.

## 9.3 Αντιμετώπιση προβλημάτων για το Profinet

### Εικόνα 6 Πύλη Profinet



Μήνυμα	Περιγραφή	Λύση
Η λυχνία LED λειτουργίας είναι σβηστή.	Η πύλη Profinet είναι απενεργοποιημένη.	Ενεργοποιήστε τη συσκευή.
Η λυχνία LED λειτουργίας αναβοσβήνει με πράσινο χρώμα.	Η διαδικασία εκκίνησης δεν έχει ολοκληρωθεί.	Περιμένετε λίγα λεπτά.
Η λυχνία LED λειτουργίας αναβοσβήνει με κόκκινο χρώμα.	Δείχνει μια προειδοποίηση.	Εξετάστε εάν έχουν εγκατασταθεί όλες οι συσκευές.
Η λυχνία LED λειτουργίας είναι κόκκινη.	Δείχνει ένα σφάλμα.	Η πύλη Profinet είναι ελαπτωματική. Αντικαταστήστε την πύλη Profinet.
Η λυχνία LED εκτέλεσης είναι σβηστή.	Δεν υπάρχει σύνδεση σε δίκτυο.	Συνδεθείτε σε δίκτυο.
Η λυχνία LED εκτέλεσης αναβοσβήνει με πράσινο χρώμα.	Ο ελεγκτής Profinet είναι συνδεδεμένος, αλλά δεν γίνεται ανταλλαγή δεδομένων.	Περιμένετε μέχρι την επόμενη ανταλλαγή δεδομένων.
Η λυχνία LED εκτέλεσης αναβοσβήνει αργά με πράσινο χρώμα.	Ενεργοποιήθηκε από το εργαλείο για αναγνώριση του στοιχείου πύλης.	Περιμένετε λίγα λεπτά.
Η λυχνία LED διάγνωσης αναβοσβήνει με κόκκινο χρώμα.	Ενεργοποιήθηκε από το εργαλείο για αναγνώριση του στοιχείου πύλης.	Περιμένετε λίγα λεπτά.

Μήνυμα	Περιγραφή	Λύση
Η λυχνία LED διάγνωσης αναβοσβήνει γρήγορα με κόκκινο χρώμα.	Δεν υπάρχει σύνδεση με τον ελεγκτή. Δεν έχει οριστεί όνομα Profinet στη μονάδα.	Βλ. <a href="#">Διαμόρφωση της πύλης Profinet</a> στη σελίδα 264 για να ορίσετε το όνομα.
Η λυχνία LED διάγνωσης είναι κόκκινη.	Μια συσκευή πύλης αναφέρει δεδομένα διάγνωσης.	Ανατρέξτε στη διαγνωστική αναφορά.
Η λυχνία LED L/A 1 ή 2 είναι σβηστή.	Δεν υπάρχει σύνδεση σε δίκτυο.	Συνδεθείτε σε δίκτυο.
Η λυχνία LED L/A 1 ή 2 αναβοσβήνει με πράσινο χρώμα.	Ανταλλαγή δεδομένων.	Περιμένετε μέχρι να ολοκληρωθεί η ανταλλαγή δεδομένων.

# Tartalomjegyzék

- |  |   |
|--|---|
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| 2 Bevezetés oldalon 272  | 7 Az Ethernet-/IP-átjáró konfigurálása oldalon 284                |
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## Szakasz 1 Tervezett felhasználás

A telepítési utasításokat olyan személyek használhatják, akik a Claros hálózat hardverelemeként integrálják a külső Ethernet-/IP-átjárót vagy a Profinet-átjárót.

## Szakasz 2 Bevezetés

A gyártó nem vállal felelősséget a termék nem rendeltetésszerű alkalmazásából vagy használatából eredő semmilyen kárról, beleértve de nem kizárolag a közvetlen, véletlen vagy közvetett károkot, és az érvényes jogszabályok alapján teljes mértékben elhárítja az ilyen kárigényeket. Kizárolag a felhasználó felelőssége, hogy felismerje a komoly alkalmazási kockázatokat, és megfelelő mechanizmusokat szereljen fel a folyamatok védelme érdekében a berendezés lehetséges meghibásodása esetén.

### ⚠ VESZÉLY



Halálos áramütés veszélye. Mindig áramtalanítsa a műszert, mielőtt elektromosan csatlakoztatja.

#### Szükséges kellékek:

- FAT32-ként formázott pendrive
- Windows rendszerű számítógép<sup>1</sup> 10
- Modul:
- Ethernet-/IP-implementáció esetén:
  - LXZ446.99.00001: ÁTJÁRÓ IIoT RevPi alapmodul
  - LXZ446.99.00002: ÁTJÁRÓ Ethernet/IP Slave
  - LXZ446.99.00003: Átkötés PiBridge-hez
- Profinet-implementáció esetén:
  - LXZ446.99.00001: ÁTJÁRÓ IIoT RevPi alapmodul
  - LXZ446.99.00007: ÁTJÁRÓ Profinet IRT slave
  - LXZ446.99.00003: Átkötés PiBridge-hez

Csatlakoztassa a három modult (RevPi, Slave és PiBridge) a tápellátáshoz és a LAN-hoz.

A modulok gyártójától származó további információkért tekintse meg az alábbi táblázatban található hivatkozásokat.

Modul	Hivatkozás
ÁTJÁRÓ Profinet IRT slave	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
ÁTJÁRÓ Ethernet/IP Slave	<a href="https://www.kunbus.com/ethernet-ip-gateway-module.html">https://www.kunbus.com/ethernet-ip-gateway-module.html</a>

<sup>1</sup> A Microsoft® Windows® a Microsoft Corporation bejegyzett védjegye az Egyesült Államokban és más országokban.

<b>Modul</b>	<b>Hivatkozás</b>
ÁTJÁRÓ IIoT RevPi Basic Module	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>
RevPi modulok csatlakoztatása	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>
A RevPi modulok telepítése DIN-sínre	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
A tápegység csatlakoztatása	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

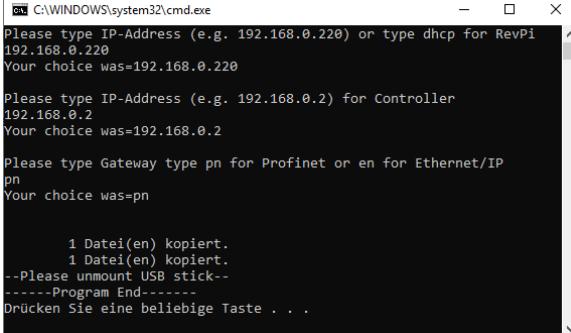
## Készítse elő a pendrive-ot.

1. Helyezzen be egy üres pendrive-ot a számítógéphez.
2. Lépj ide: <https://www.hach.com> és keresse meg az „usb ethernet/IP-telepítés” vagy az „usb profinet telepítés” kulcsszavakat.
3. Tölts le az USB\_ETHIP\_PRNET.zip fájlt.
4. Csomagolja ki a fájlt a pendrive-on található gyökérkönyvtárba.

## Szakasz 3 Az USB-konfiguráció elindítása

Helyezze be az előkészített pendrive-ot a számítógéphez.

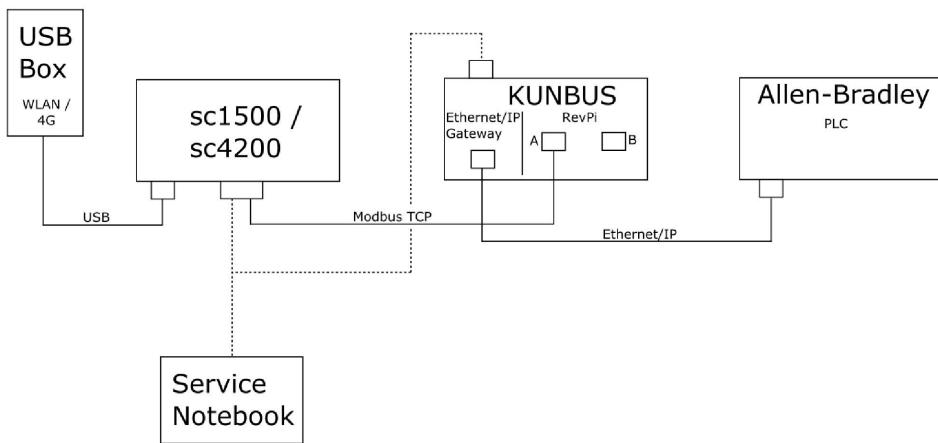
Lépés	Leírás	Kép
1	Indítsa el a Start_usb_config.bat fájlt. Megnyílik egy termináablak. Kövesse a lépésekben kínált útmutatót.	
2	Adja meg a RevPi modul IP-címét.	
3	Adja meg az SC vezérlő IP-címét. Ellenőrizze, hogy a hálózati előtag megegyezik-e a RevPi modulével (pl. 192.168.0). Győződjön meg arról, hogy a hostazonosító különbözik a RevPi modulétől (pl. 220 RevPi, 2 vezérlő).	
4	Adja meg az átjáró típusát:	<ul style="list-style-type: none"><li>• pn – Profinet</li><li>• en – Ethernet/IP</li></ul>

Lépés	Leírás	Kép
5	Erősítse meg a beállításokat az Enter gombbal. Távolítsa el a pendrive-ot.	
6	Helyezze a pendrive-ot a RevPi modul bal oldali USB-aljzatába.	
7	LED leírása: <ul style="list-style-type: none"> <li>A1/A2 narancssárga: Elindul a RevPi telepítése.</li> <li>A1 piros, A2 ki: RevPi, pendrive behelyezése.</li> <li>A1 zöld, A2 ki: a pendrive-ot sikeresen behelyezte.</li> <li>A1 ki, A2 zöld: a RevPi adatokat tölt le/tölthet fel a oendrive-ról.</li> <li>A3 piros: a RevPi úraindul.</li> </ul> <p>Ha az A3 piros, távolítsa el a pendrive-ot.</p>	
8	A RevPi beállítása megtörtént.	

## Szakasz 4 Példák a telepítésre

A 1. ábra két különböző LAN-csatlakozású telepítést mutat.

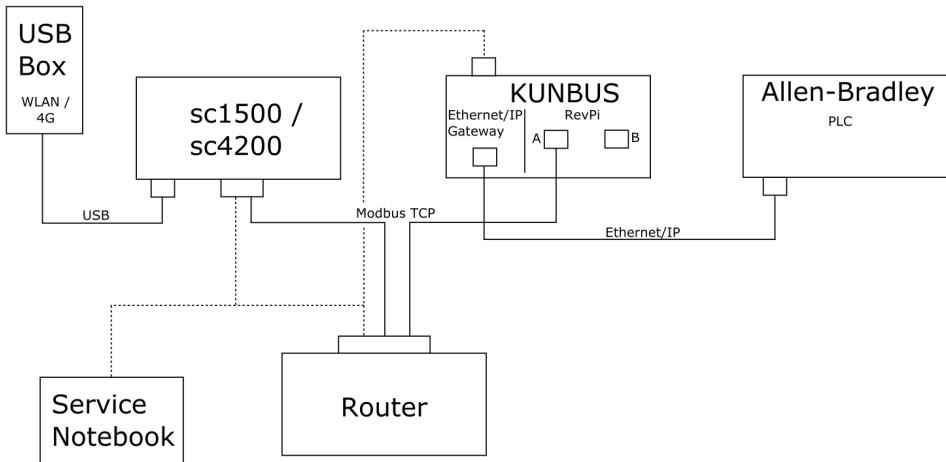
1. ábra 1. példa



- A Modbus TCP és Ethernet/IP két különböző LAN-kapcsolatot használ.
- minden eszköz statikus IP-címmel rendelkezik.
- A vezérlő WiFi-n vagy mobil kapcsolaton keresztül rendelkezik internet-hozzáféréssel.
- A vezérlő IP-címének és az Ethernet/IP-átjárónak a beállításához laptop szükséges.

A 2. ábra routerrel való telepítést mutat a Modbus TCP-kapcsolathoz.

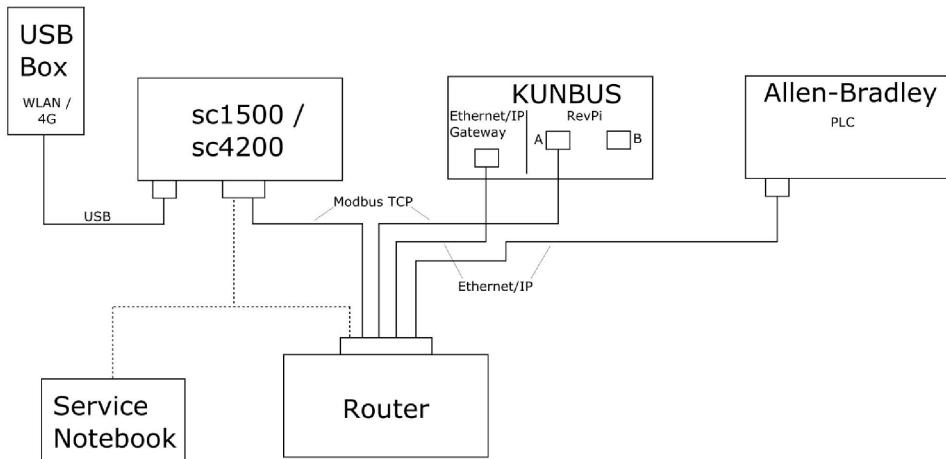
## 2. ábra 2. példa



- A Modbus TCP egy routerhez csatlakozik.
- minden eszköz statikus IP-címmel rendelkezik, vagy a router DHCP-n keresztül állítja be az IP-címet.  
*Megjegyzés: Ha DHCP-t használ, győződjön meg róla, hogy a router mindig ugyanazt az IP-címet használja ugyanazoknál az eszközökönél (MAC).*
- A vezérlő WiFi-n vagy mobil kapcsolaton keresztül rendelkezik internet-hozzáféréssel.
- A vezérlő IP-címének, az Ethernet-/IP-átjárónak és a routernek a beállításához laptop szükséges.

A 3. ábra az összes készüléken való telepítést routerrel vagy kapcsolóval való mutatja.

## 3. ábra 3. példa

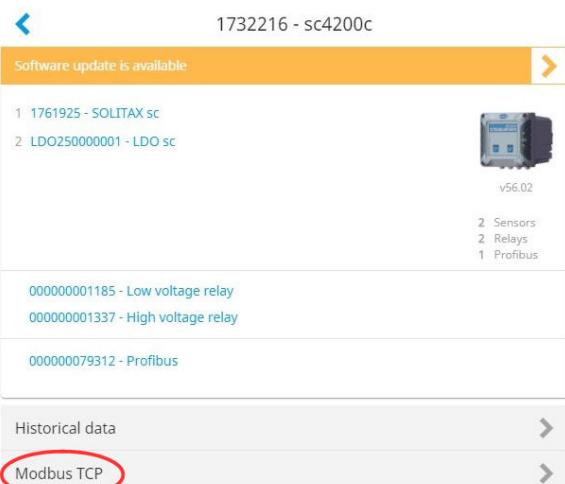
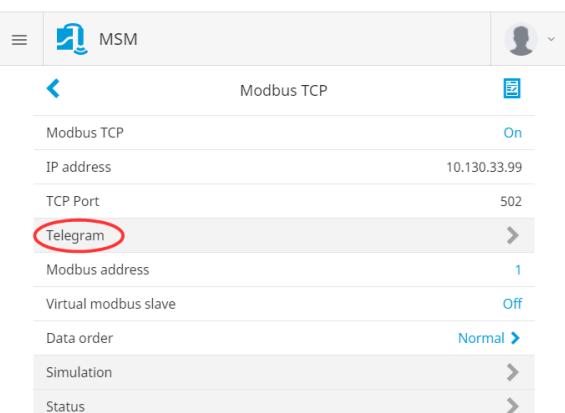


- Az összes eszköz routerhez vagy kapcsolóhoz csatlakozik.

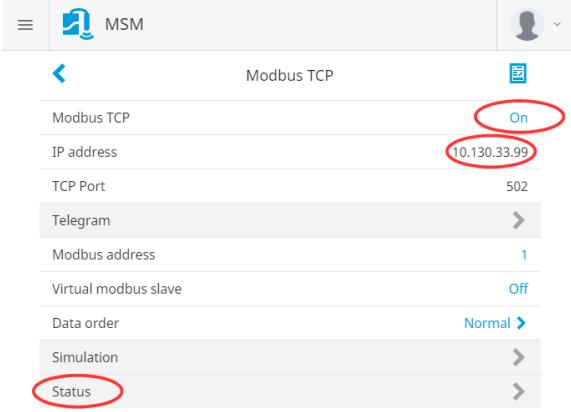
- Minden eszköz statikus IP-címmel rendelkezik, illetve a router vagy a kapcsoló DHCP-n keresztül állítja be az IP-címet.  
*Megjegyzés: Ha DHCP-t használ, győződjön meg róla, hogy a router mindig ugyanazt az IP-címet használja ugyanazonoknál az eszközöknel (MAC).*
- A vezérlő WiFi-n vagy mobil kapcsolaton keresztül rendelkezik internet-hozzáféréssel.
- A vezérlő IP-címének és a router beállításához laptop szükséges.

## Szakasz 5 Az SC4200c vezérlő Modbus TCP táviratának beállítása

Indítsa el a Claros alkalmazást, és kövesse a lépésenkénti útmutatót.

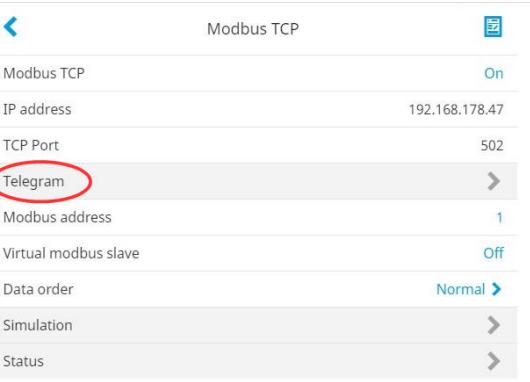
Lépés	Leírás	Kép
1	Válassza ki a vezérlő menüpöt, majd nyomja meg a <b>Modbus TCP</b> gombot.	 <p>1732216 - sc4200c</p> <p>Software update is available</p> <p>1 1761925 - SOLITAX sc 2 LDO250000001 - LDO sc</p> <p>v56.02</p> <p>2 Sensors 2 Relays 1 Profibus</p> <p>000000001185 - Low voltage relay 000000001337 - High voltage relay 0000000079312 - Profibus</p> <p>Historical data</p> <p>Modbus TCP</p>
2	Válassza a <b>Telegram</b> (Távirat) lehetőséget a Modbus TCP távirat beállításához.	 <p>MSM</p> <p>Modbus TCP</p> <p>IP address 10.130.33.99</p> <p>TCP Port 502</p> <p>Telegram</p> <p>Modbus address 1</p> <p>Virtual modbus slave Off</p> <p>Data order Normal</p> <p>Simulation</p> <p>Status</p>

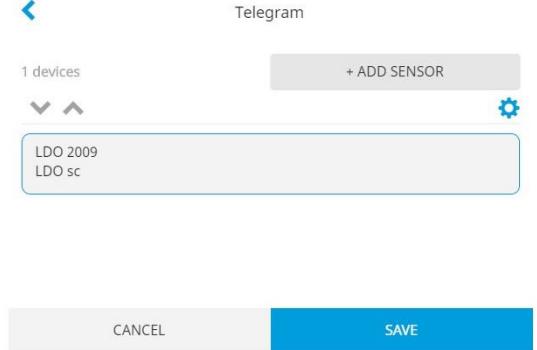
Lépés	Leírás	Kép
3	<p>Az ábrán látható távirat egy példa az LDO sc érzékelő esetében.</p> <p>Állítsa a Heartbeat (Szívverés) értékét egész számra. A szívverés egy számláló, amely az érték változását egy másodperces lépésekben mutatja.</p> <p><b>Megjegyzés:</b> A Modbus TCP távirat tartalma megegyezik a Profibus táviratban szereplő tartalommal.</p>	<p>The screenshot displays two parts of the MSM app interface. The top part shows a list of sensors under the 'Telegram' section, with 'LDO250000001' highlighted. The bottom part is a detailed configuration screen for this specific sensor, showing its name 'LDO250000001' and two parameters: '0 Dissolved oxygen [mg/L]' set to 'float' and '1 Heartbeat' set to 'integer'. There are 'CANCEL' and 'SAVE' buttons at the bottom.</p>

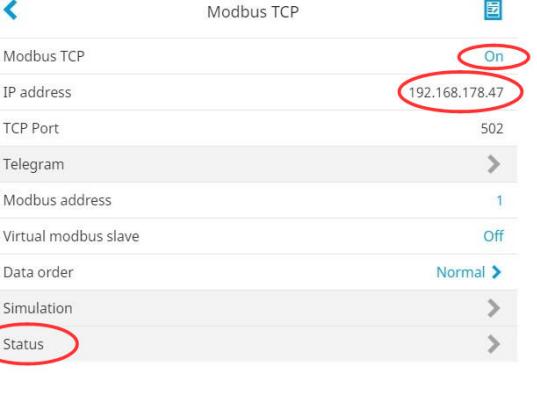
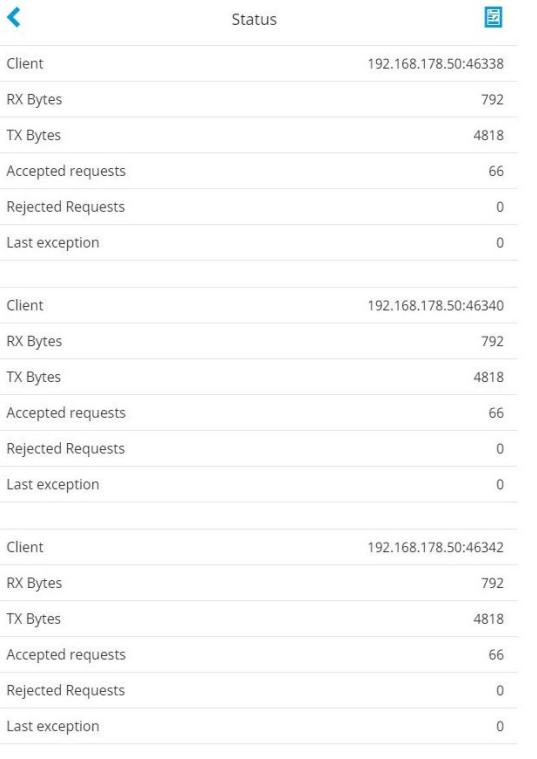
Lépés	Leírás	Kép
4	A Modbus TCP menü a vezérlő IP-címét mutatja. A <b>10.130.33.99</b> a vezérlő szerviz menüjében beállított IP-cím. Állítsa a Modbus TCP-t <b>ON (be)</b> értékre, majd nyomja meg a <b>Status (Állapot)</b> gombot.	
5	A Status (Állapot) menü a Modbus TCP statisztikáit mutatja. A <b>10.130.33.50</b> a RevPi modul IP-címe. A RevPi 5 Modbus TCP-master modullal rendelkezik.	

## Szakasz 6 Az SC1500 vezérlő Modbus TCP táviratának beállítása

Indítsa el a Claro alkalmazást, és kövesse a lépésenkénti útmutatót.

Lépés	Leírás	Kép
1	Válassza ki a vezérlő menüjét, majd nyomja meg a <b>Modbus TCP</b> gombot.	 <p>1694389 - sc1500</p> <p>1 1327087 - AN-ISE sc 2 1555058 - AN-ISE sc 3 LDO 2009 - LDO sc</p> <p>v20.12 3 Sensors 1 Outputs 1 Profibus</p> <p>000000074854 - mA output</p> <p>000005009872 - Profibus</p> <p>Historical data &gt; Modbus TCP &gt;</p>
2	Válassza a <b>Telegram</b> (Távirat) lehetőséget a Modbus TCP távirat beállításához.	 <p>Modbus TCP</p> <p>Modbus TCP On</p> <p>IP address 192.168.178.47</p> <p>TCP Port 502</p> <p>Telegram &gt;</p> <p>Modbus address 1</p> <p>Virtual modbus slave Off</p> <p>Data order Normal &gt;</p> <p>Simulation &gt;</p> <p>Status &gt;</p>

Lépés	Leírás	Kép
3	<p>Az ábrán látható távirat egy példa az LDO sc érzékelő esetében.</p> <p>Állítsa a Heartbeat (Szívverés) értékét egész számra. A szívverés egy számláló, amely az érték változását egy másodperces lépésekben mutatja.</p> <p><b>Megjegyzés:</b> A Modbus TCP távirat tartalma megegyezik a Profibus táviratban szereplő tartalommal.</p>	 

Lépés	Leírás	Kép
4	A Modbus TCP menü a vezérlő IP-címét mutatja. A <b>192.168.178.47</b> a vezérlő szerviz menójében beállított IP-cím. Állítsa a Modbus TCP-t <b>ON (be)</b> értékre, majd nyomja meg a <b>Status (Állapot)</b> gombot.	
5	A Status (Állapot) menü a Modbus TCP statisztikáit mutatja. A <b>192.168.178.50</b> a RevPi modul IP-címe. A RevPi 7 Modbus TCP-master modullal rendelkezik.	

## Szakasz 7 Az Ethernet-/IP-átjáró konfigurálása

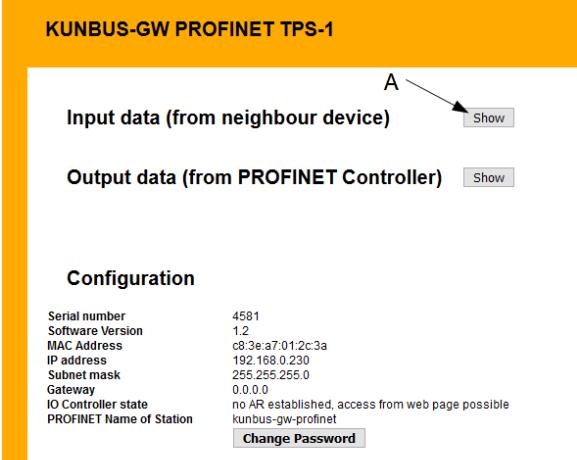
Lépés	Leírás	Kép
1	<ul style="list-style-type: none"> <li>Csatlakoztassa az Ethernet-/IP-átjárót a számítógéphez a LAN-USB adapterkábellel.</li> <li>Lásd: <a href="#">Bevezetés</a> oldalon 272. Használja az átjáró Ethernet/IP-slave hivatkozását. Kövesse a gyártó felhasználói kézikönyvében található utasításokat, amelynek címe Átjáró az Ethernethez/IP-hez.</li> <li>A 8-tús címkapcsolóval (a) állítsa be a hostazonosítót az átjáró bináris formátumára.</li> <li>Példa: Állítsa a hostot 8: 00010000 értékre.</li> <li>Nyissa meg a weboldalt . (X=Az összes BEKAPCSOLT kapcsoló összege).</li> </ul>	
2	<p>Nyissa meg a böngészőt, és adja meg a 192.168.1.X. IP-címet.</p> <p>Bejelentkezási adatok az első bejelentkezéshez:</p> <p>Felhasználó: Admin Jelszó: 1701 Nyomja meg a <b>Bejelentkezés</b> ikont.</p>	

Lépés	Leírás	Kép																																																																		
3	<p>A vezérlő és az Ethernet-/IP-átjáró továbbítja a 0000 - 01BF adatterületet, amely 448 bájtból vagy 112 lebegőpontból vagy 224 egész számóból áll, vagy ezek keveréke. Ez a vezérlőben lévő Modbus TCP távirat típusa alapján történik.</p> <p><b>Megjegyzés:</b> Csak az első 32 egész számig tartó adattartomány jelenik meg. Az összes adatot a PLC-ben tekintheti meg (224 egész szám).</p> <p>Nyomja meg a <b>Show (Mutasd)</b>gombot.</p>																																																																			
4	Megjelenik a kiválasztott adatterület.	<table border="1"> <thead> <tr> <th>Address</th> <th>Value</th> </tr> </thead> <tbody> <tr><td>Input 1 0x0001</td><td>0</td></tr> <tr><td>Input 2 0x0002</td><td>0</td></tr> <tr><td>Input 3 0x0003</td><td>0</td></tr> <tr><td>Input 4 0x0004</td><td>0</td></tr> <tr><td>Input 5 0x0005</td><td>0</td></tr> <tr><td>Input 6 0x0006</td><td>0</td></tr> <tr><td>Input 7 0x0007</td><td>0</td></tr> <tr><td>Input 8 0x0008</td><td>0</td></tr> <tr><td>Input 9 0x0009</td><td>0</td></tr> <tr><td>Input 10 0x000a</td><td>0</td></tr> <tr><td>Input 11 0x000b</td><td>0</td></tr> <tr><td>Input 12 0x000c</td><td>0</td></tr> <tr><td>Input 13 0x000d</td><td>0</td></tr> <tr><td>Input 14 0x000e</td><td>0</td></tr> <tr><td>Input 15 0x000f</td><td>0</td></tr> <tr><td>Input 16 0x0010</td><td>0</td></tr> <tr><td>Output 1 0x0401</td><td>0</td></tr> <tr><td>Output 2 0x0402</td><td>0</td></tr> <tr><td>Output 3 0x0403</td><td>0</td></tr> <tr><td>Output 4 0x0404</td><td>0</td></tr> <tr><td>Output 5 0x0405</td><td>0</td></tr> <tr><td>Output 6 0x0406</td><td>0</td></tr> <tr><td>Output 7 0x0407</td><td>0</td></tr> <tr><td>Output 8 0x0408</td><td>0</td></tr> <tr><td>Output 9 0x0409</td><td>0</td></tr> <tr><td>Output 10 0x040A</td><td>0</td></tr> <tr><td>Output 11 0x040B</td><td>0</td></tr> <tr><td>Output 12 0x040C</td><td>0</td></tr> <tr><td>Output 13 0x040D</td><td>0</td></tr> <tr><td>Output 14 0x040E</td><td>0</td></tr> <tr><td>Output 15 0x040F</td><td>0</td></tr> <tr><td>Output 16 0x0410</td><td>0</td></tr> </tbody> </table>	Address	Value	Input 1 0x0001	0	Input 2 0x0002	0	Input 3 0x0003	0	Input 4 0x0004	0	Input 5 0x0005	0	Input 6 0x0006	0	Input 7 0x0007	0	Input 8 0x0008	0	Input 9 0x0009	0	Input 10 0x000a	0	Input 11 0x000b	0	Input 12 0x000c	0	Input 13 0x000d	0	Input 14 0x000e	0	Input 15 0x000f	0	Input 16 0x0010	0	Output 1 0x0401	0	Output 2 0x0402	0	Output 3 0x0403	0	Output 4 0x0404	0	Output 5 0x0405	0	Output 6 0x0406	0	Output 7 0x0407	0	Output 8 0x0408	0	Output 9 0x0409	0	Output 10 0x040A	0	Output 11 0x040B	0	Output 12 0x040C	0	Output 13 0x040D	0	Output 14 0x040E	0	Output 15 0x040F	0	Output 16 0x0410	0
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Lépés	Leírás	Kép																	
5	Az IP-cím beállításához nyomja meg a <b>Change configuration</b> (Konfiguráció módosítása) gombot.	<p>KUNBUS-GW EtherNet/IP™</p> <p>Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output</p> <p>Modbus Register 0x001 - 0x010 and 0x0401 - 0x0410 Modbus Register 0x011 - 0x020 and 0x0411 - 0x0420 Modbus Register 0x021 - 0x030 and 0x0421 - 0x0430 Modbus Register 0x031 - 0x040 and 0x0431 - 0x0440</p> <p>Show Show Show Show</p> <p><b>Configuration</b></p> <p>Serial number: 594 Software Version: 1.1.944 MAC Address: c8:3e:37:00:0b:10 IP address: 192.168.1.8 Network Mask: 255.255.255.0 Gateway: 192.168.1.1 DHCP: <input type="checkbox"/> active</p> <p><b>Change Configuration</b> <b>Change Password</b> <b>Reboot</b></p> <p><a href="#">Download ECR file</a></p>																	
6	Változtassa meg az IP-címet az átjáró címének megfelelően.  Erősítse meg a beállításokat az <b>Apply (Alkalmazás)</b> gombbal.  Állítsa az összes DIP kapcsolót „ki” állásba.  Állítsa az átjáró tápellátását "ki" állásba, majd indítsa újra. Ekkortól az új IP-címet használja.	<p>KUNBUS-GW EtherNet/IP™</p> <p><b>Change Configuration</b></p> <table border="1"> <tr> <td>DHCP</td> <td><input type="checkbox"/> active</td> <td>Old Value</td> <td><input type="checkbox"/> active</td> <td>New Value</td> </tr> <tr> <td>IP Address</td> <td>192.168.1.8</td> <td>192.168.1.8</td> <td>192.168.1.8</td> </tr> <tr> <td>Network Mask</td> <td>255.255.255.0</td> <td>255.255.255.0</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>192.168.1.1</td> <td>192.168.1.1</td> <td>192.168.1.1</td> </tr> </table> <p><b>Apply</b> <b>Abort</b></p>	DHCP	<input type="checkbox"/> active	Old Value	<input type="checkbox"/> active	New Value	IP Address	192.168.1.8	192.168.1.8	192.168.1.8	Network Mask	255.255.255.0	255.255.255.0	255.255.255.0	Gateway	192.168.1.1	192.168.1.1	192.168.1.1
DHCP	<input type="checkbox"/> active	Old Value	<input type="checkbox"/> active	New Value															
IP Address	192.168.1.8	192.168.1.8	192.168.1.8																
Network Mask	255.255.255.0	255.255.255.0	255.255.255.0																
Gateway	192.168.1.1	192.168.1.1	192.168.1.1																

## Szakasz 8 A Profinet átjáró konfigurálása

Lépés	Leírás	Kép
1	<ul style="list-style-type: none"> <li>Csatlakoztassa az Profinet átjárót a számítógéphez a LAN-LAN adapterkábelbel.</li> <li>Lásd: <b>Bevezetés</b> oldalon 272. Használja az átjáró Profinet IRT-slave hivatkozását. Kövesse a gyártó felhasználói kézikönyvében található utasításokat, amelynek címe <b>Átjáróelem a PROFINETHEZ</b>.</li> <li>A PRONETA szoftver segítségével állítsa be a nevet: <b>kunbus-gw-profinet</b>.</li> <li>Írja be a használt <b>IP-címet</b>.</li> </ul>	<p>The screenshot shows the Siemens PRONETA software interface. On the left, there's a graphical view of a network component labeled 'de-3dynet2-p PRONETA'. In the center, there's a search bar and a 'Scanner' button. On the right, there's a table titled 'Geräteabelle - Online' (Device Table - Online). The table lists one device: '8-3e-a7-00-26-05' (Hardware-ID), 'KUNBUS-GW Profinet TPS-1' (Gerätetyp), and '192.168.1.10' (IP-Adresse). Below the table, two labels are present: 'kunbus-gw-profinet' and 'IP-Address'.</p>
2	Nyissa meg a böngészőt, és adja meg az IP-címet. Bejelentkezási adatok az első bejelentkezéshez: Felhasználó: Admin Jelszó: 1701 Nyomja meg a <b>Bejelentkezés</b> ikont.	<p>The screenshot shows a login interface for the KUNBUS-GW PROFINET TPS-1. The title bar says 'KUNBUS-GW PROFINET TPS-1'. Below it is a form with two fields: 'Username:' containing 'Admin' and 'Password:' containing four dots ('••••'). At the bottom is a 'Login' button.</p>

Lépés	Leírás	Kép																
3	Nyomja meg a <b>Show (Mutasd)</b> gombot (A) a bemeneti adatok megjelenítéséhez.	 <p><b>KUNBUS-GW PROFINET TPS-1</b></p> <p>A → <b>Show</b></p> <p><b>Input data (from neighbour device)</b></p> <p><b>Output data (from PROFINET Controller)</b> <b>Show</b></p> <p><b>Configuration</b></p> <table> <tbody> <tr><td>Serial number</td><td>4581</td></tr> <tr><td>Software Version</td><td>1.2</td></tr> <tr><td>MAC Address</td><td>c8:3e:a7:01:c2:c3a</td></tr> <tr><td>IP address</td><td>192.168.0.230</td></tr> <tr><td>Subnet mask</td><td>255.255.255.0</td></tr> <tr><td>Gateway</td><td>0.0.0.0</td></tr> <tr><td>IO Controller state</td><td>no AR established, access from web page possible</td></tr> <tr><td>PROFINET Name of Station</td><td>kunbus-gw-profinet</td></tr> </tbody> </table> <p><b>Change Password</b></p>	Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:c2:c3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
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4	<p>Megjeleníti a vezérlőtől a Profinet átájáróhoz küldött összes adatot.</p> <p>A vezérlő és a Profinet-átájáró továbbítja a 0000 - 01BF adatterületet, amely 448 bájtból vagy 112 lebegőpontból vagy 224 egész számkból áll, vagy ezek keveréke. Ez a vezérlőben lévő Modbus TCP távirat típusa alapján történik.</p>	<p><b>KUNBUS-GW PROFINET TPS-1</b></p> <p><b>Input (from neighbour device)</b></p> <p>Main page</p> <table border="1"> <thead> <tr> <th>Address</th> <th>0</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>F</th> </tr> </thead> <tbody> <tr><td>0x0000</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0010</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> 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## Szakasz 9 Hibaellátás

### 9.1 Hibaellátás – RevPi

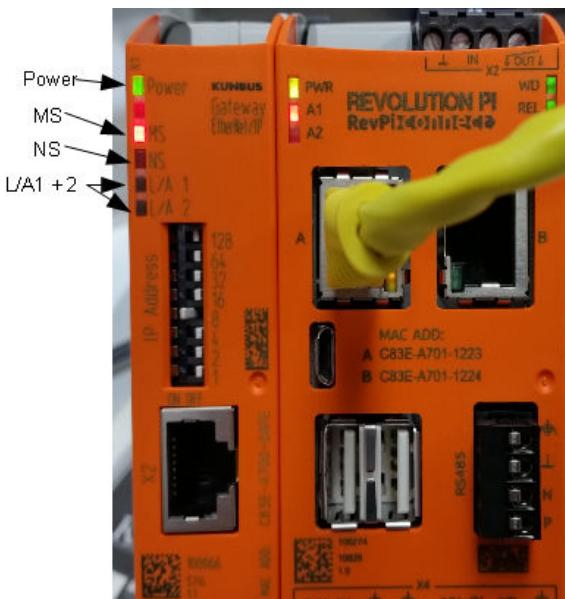
4. ábra RevPi alapmodul



Üzenet	Leírás	Megoldás
A LED A2 pirosan villog.	A kommunikáció leállt.	<ul style="list-style-type: none"><li>Csatlakoztassa a hálózati kábelt (kábel vagy router).</li><li>Állítsa be a Modbus-címet a Claros-ban 1-es értékre.</li><li>A Claros menüben állítsa a Modbus TCP-t „ON” (be) értékre.</li></ul>
A LED A3 lassan és pirosan villog.	Az Ethernet/IP és a Profinet átjáró konfigurációja összekeveredik.	Lásd a 4. lépést itt: <a href="#">Az USB-konfiguráció elindítása</a> oldalon 274; válassza ki a megfelelő átjáró típusát: <ul style="list-style-type: none"><li>en – Ethernet/IP</li><li>pn – Profinet</li></ul>

## 9.2 Hibaelhárítás – Ethernet/IP

5. ábra Ethernet-/IP-átjáró



Üzenet	Leírás	Megoldás
A tápellátást jelző LED nem világít.	Az Ethernet-/IP-átjáró ki van kapcsolva.	A tápellátás bekapcsolása.
A tápellátást jelző LED zölden villog.	A indítási folyamat nem fejeződött be.	Várjon néhány percert.
A tápellátást jelző LED pirosan villog.	Figyelmeztetést mutat.	Ellenőrizze, hogy az összes eszköz csatlakoztatva van-e.
A tápellátást jelző LED piros.	Hibát jelez.	Az Ethernet-/IP-átjáró hibás. Cserálja le az Ethernet-/IP-átjárót.
Az MS LED nem világít.	Az Ethernet-/IP-átjáró ki van kapcsolva.	Kapcsolja be a tápellátást.
Az MS LED zölden villog.	A konfigurálási folyamat nem fejeződött be.	Várjon néhány percert.
Az MS LED pirosan villog.	Konfigurációs hibát jelez.	A konfiguráció ellenőrzéséhez lásd: <a href="#">Az Ethernet-/IP-átjáró konfigurálása</a> oldalon 284.
Az MS LED piros.	Hibát jelez.	Az Ethernet-/IP-átjáró hibás. Cserálja le az Ethernet-/IP-átjárót.
Az MS LED pirosan és zölden villog.	Az önenellenőrzés nem fejeződött be.	Várjon néhány percert.
Az NS LED nem világít.	Az Ethernet-/IP-átjáró ki van kapcsolva vagy nincsen IP-cím.	Kapcsolja be a tápellátást. Adja meg az IP-címet.

Üzenet	Leírás	Megoldás
Az NS LED zölden villog.	Az IP-cím be van állítva, de a CIP-kapcsolat nem jön létre.	Várjon néhány percert.
Az NS LED pirosan villog.	A CIP-kapcsolat leállt.	Ellenőrizze, hogy van-e időtúllépés.
Az NS LED piros.	A kiválasztott IP-címet egy másik eszköz használja.	Változtassa meg az IP-címet egy egyedi IP-címre.
L/A 1 vagy 2 LED nem világít.	Nincs kapcsolat más eszközökkel.	Csatlakoztasson egy eszközt.
L/A 1 vagy 2 LED zölden villog.	Nincs adatcsere.	Várja meg a következő adatcserét.

## 9.3 Hibaelhárítás – Profinet

6. ábra Profinet-átjáró



Üzenet	Leírás	Megoldás
A tápellátást jelző LED nem világít.	A Profinet átjáró ki van kapcsolva.	Kapcsolja be a tápellátást.
A tápellátást jelző LED zölden villog.	Az indítási folyamat nem fejeződött be.	Várjon néhány percert.
A tápellátást jelző LED pirosan villog.	Figyelmeztést mutat.	Ellenőrizze, hogy az összes eszköz telepítve van-e.
A tápellátást jelző LED piros.	Hibát jelez.	A Profinet átjáró hibás. Cserélje le a Profinet-átjárót.
A Run LED nem világít.	Nincs kapcsolat a hálózattal.	Csatlakozzon a hálózathoz.

Üzenet	Leírás	Megoldás
A Run LED zölden villog.	A Profinet vezérlő csatlakoztatva van, de nincs adatcsere.	Várja meg a következő adatcserét.
A Run LED lassan és zölden villog.	Az átjáró összetevő azonosítására szolgáló eszköz váltja ki.	Várjon néhány percet.
A Diag LED pirosan villog.	Az átjáró összetevő azonosítására szolgáló eszköz váltja ki.	Várjon néhány percet.
A Diag LED gyorsan és pirosan villog.	Nincs csatlakozás a vezérlőhöz. A modulban nincs megadva Profinet név.	A név megadását lásd: <a href="#">A Profinet átjáró konfigurálása</a> oldalon 287.
A Diag LED piros.	Egy átjáró eszköz diagnosztikai adatokat jelent.	Lásd a diagnosztikai jelentést.
L/A 1 vagy 2 LED nem világít.	Nincs kapcsolat a hálózattal.	Csatlakozzon a hálózathoz.
L/A 1 vagy 2 LED zölden villog.	Adatcsere.	Várjon, amíg az adatcsere befejeződik.

# Spis treści

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- [2 Wprowadzenie na stronie 294](#)
- [3 Uruchom konfigurację USB na stronie 296](#)
- [4 Przykłady instalacji na stronie 298](#)
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- [7 Konfiguracja bramy sieci Ethernet/IP na stronie 307](#)
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## Rozdział 1 Przeznaczenie

Niniejsza instrukcja konfiguracji jest przeznaczona dla osób, które integrują zewnętrzną bramę sieci Ethernet/IP lub Profinet jako składniki sprzętowe w sieci Claros.

## Rozdział 2 Wprowadzenie

Producent nie ponosi odpowiedzialności za ewentualne szkody wynikłe z niewłaściwego stosowania albo użytkowania tego produktu, w tym, bez ograniczeń za szkody bezpośrednie, przypadkowe i wtórne, oraz wyklucza odpowiedzialność za takie szkody w pełnym zakresie dozwolonym przez obowiązujące prawo. Użytkownik jest wyłącznie odpowiedzialny za zidentyfikowanie krytycznych zagrożeń aplikacji i zainstalowanie odpowiednich mechanizmów ochronnych procesów podczas ewentualnej awarii sprzętu.

### ⚠ NIEBEZPIECZEŃSTWO



Niebezpieczeństwo śmiertelnego porażenia prądem elektrycznym. Przed wykonaniem podłączeń elektrycznych należy zawsze odłączyć urządzenie od źródła zasilania.

#### Co należy przygotować:

- Pamięć USB sformatowana w systemie plików FAT32
- Komputer z systemem Windows<sup>1</sup> 10
- Moduł:
  - W przypadku obsługi sieci Ethernet/IP:
    - LXZ446.99.00001: moduł podstawowy bramy IIoT RevPi
    - LXZ446.99.00002: urządzenie podrzędne bramy sieci Ethernet/IP
    - LXZ446.99.00003: przewód połączeniowy do PiBridge
  - W przypadku obsługi sieci Profinet:
    - LXZ446.99.00001: moduł podstawowy bramy IIoT RevPi
    - LXZ446.99.00007: urządzenie podrzędne bramy Profinet IRT
    - LXZ446.99.00003: przewód połączeniowy do PiBridge

Podłącz trzy moduły: RevPi, moduł podrzędny oraz PiBridge do zasilania i do sieci LAN.

Aby uzyskać dodatkowe informacje podane przez producentów modułów, skorzystaj z łączy podanych w poniższej tabeli.

<sup>1</sup> Microsoft® Windows® jest zastrzeżonym znakiem towarowym firmy Microsoft Corporation w Stanach Zjednoczonych i innych krajach.

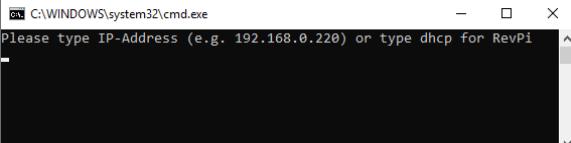
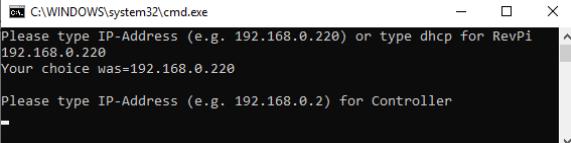
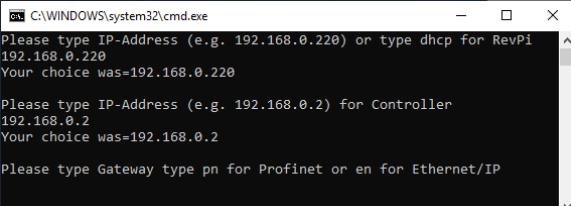
<b>Moduł</b>	<b>Połączenie</b>
Urządzenie podrzędne bramy Profinet IRT	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
Urządzenie podrzędne bramy sieci Ethernet/IP	<a href="https://www.kunbus.com/ethernet-ip-gateway-module.html">https://www.kunbus.com/ethernet-ip-gateway-module.html</a>
Moduł podstawowy bramy IIoT RevPi	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>
Sposób podłączania modułów RevPi	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>
Sposób instalowania modułów RevPi na szynie DIN	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
Sposób podłączania zasilacza	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

## Przygotuj pamięć USB

1. Włóż pustą pamięć USB do komputera.
2. Przejdz do <https://www.hach.com> i wyszukaj słowa kluczowe „usb ethernet/IP installation” lub „usb profinet installation”.
3. Pobierz plik **USB\_ETHIP\_PRNET.zip**.
4. Rozpakuj plik do katalogu głównego pamięci USB.

## Rozdział 3 Uruchom konfigurację USB

Włóż przygotowaną pamięć USB do komputera.

Czynność	Opis	Obraz
1	Uruchom plik <b>start_usb_config.bat</b> . Zostanie wyświetcone okno terminala. Postępuj zgodnie z podaną instrukcją.	
2	Wprowadź adres IP modułu RevPi.	
3	Wprowadź adres IP przetwornika SC. Upewnij się, że prefiks sieci jest taki sam, jak w module RevPi (np. 192.168.0). Upewnij się, że identyfikator hosta różni się od modułu RevPi (np. 220 RevPi, 2 Controller).	
4	Wprowadź typ bramy: <ul style="list-style-type: none"><li>• pn — Profinet</li><li>• en — Ethernet/IP</li></ul>	

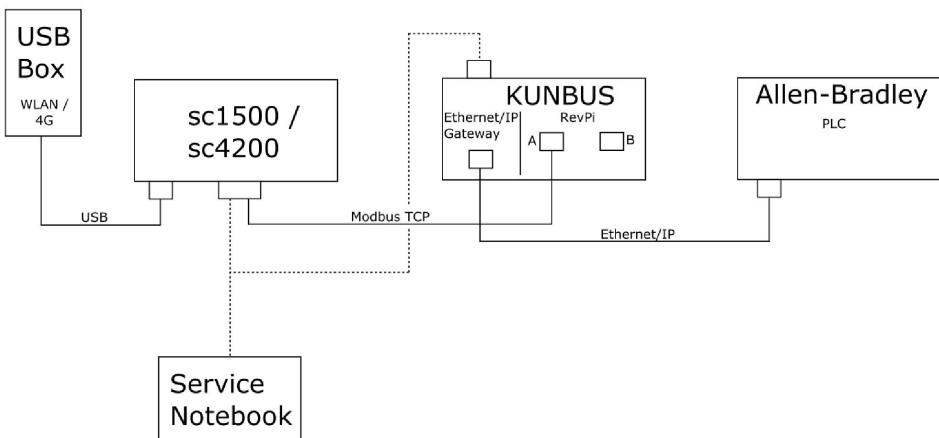
Czynność	Opis	Obraz
5	Potwierdź każde ustawienie przyciskiem Enter. Wyjmij pamięć USB.	<pre>C:\WINDOWS\system32\cmd.exe Please type IP-Address (e.g. 192.168.0.220) or type dhcp for RevPi 192.168.0.220 Your choice was=192.168.0.220  Please type IP-Address (e.g. 192.168.0.2) for Controller 192.168.0.2 Your choice was=192.168.0.2  Please type Gateway type pn for Profinet or en for Ethernet/IP pn Your choice was=pn        1 Datei(en) kopiert.       1 Datei(en) kopiert. --Please unmount USB stick-- -----Program End----- Drücken Sie eine beliebige Taste . . .  </pre>
6	Włóż pamięć USB do lewego gniazda USB modułu RevPi.	

Czynność	Opis	Obraz
7	<p>Opis diod LED:</p> <ul style="list-style-type: none"> <li>A1/A2 pomarańczowa: rozpoczęta się instalacja modułu RevPi.</li> <li>A1 czerwona, A2 wyłączona: włożyć pamięć USB do modułu RevPi.</li> <li>A1 zielona, A2 wyłączona: pamięć USB włożona pomyślnie.</li> <li>A1 wyłączona, A2 zielona: moduł RevPi pobiera/przesyła dane do/z pamięci USB.</li> <li>A3 czerwona: moduł RevPi uruchamia się ponownie.</li> </ul> <p>Jeśli A3 ma kolor czerwony, wyjmij pamięć USB.</p>	
8	Ustawienia RevPi zostały zakończone.	

## Rozdział 4 Przykłady instalacji

[Rysunek 1](#) przedstawia instalację z dwoma różnymi połączeniami LAN.

**Rysunek 1 Przykład 1**

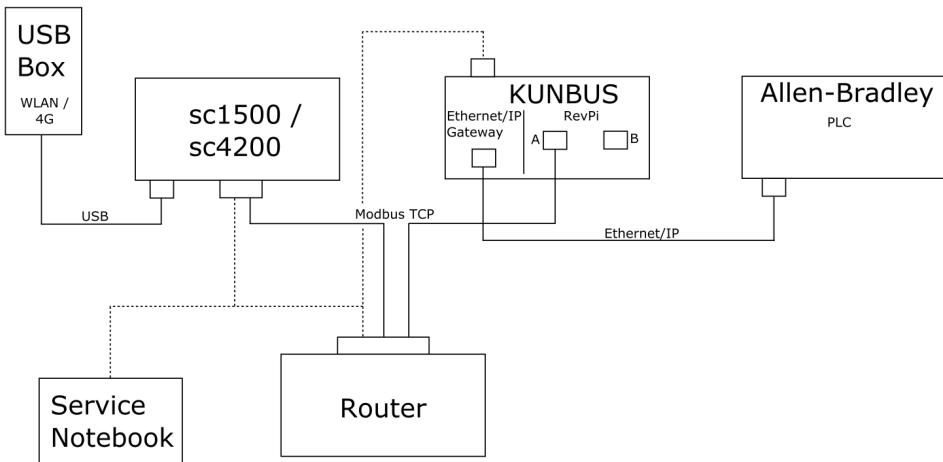


- Modbus TCP i Ethernet/IP używają dwóch różnych połączeń LAN.
- Wszystkie urządzenia mają statyczny adres IP.

- Przetwornik ma dostęp do Internetu za pośrednictwem sieci Wi-Fi lub sieci komórkowej.
- Do skonfigurowania adresów IP przetwornika i bramy sieci Ethernet/IP potrzebny jest laptop.

Rysunek 2 przedstawia instalację z routera do połączenia Modbus TCP.

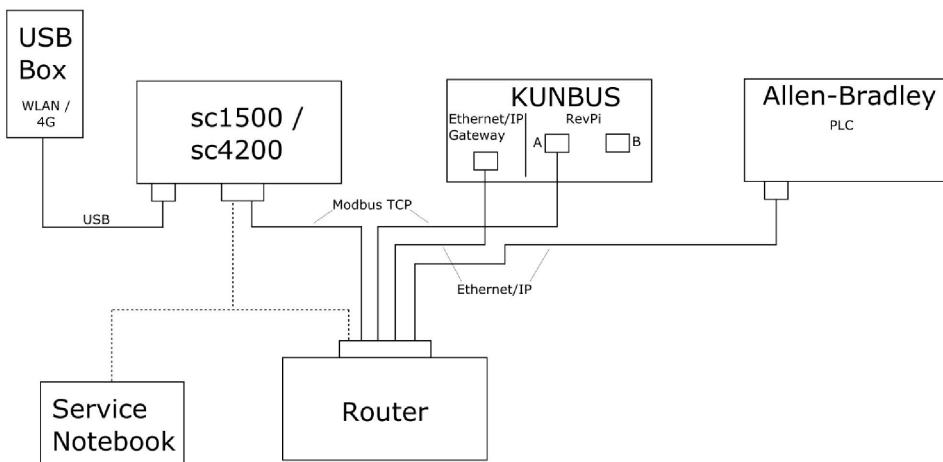
**Rysunek 2 Przykład 2**



- Protokół Modbus TCP jest podłączony do routera.
- Wszystkie urządzenia mają statyczny adres IP lub router ustawia adres IP przez DHCP.  
*Uwaga: Upewnij się, że router zawsze używa tego samego adresu IP dla tych samych urządzeń (MAC), jeśli używany jest protokół DHCP.*
- Przetwornik ma dostęp do Internetu za pośrednictwem sieci Wi-Fi lub sieci komórkowej.
- Do skonfigurowania adresu IP przetwornika, bramy sieci Ethernet/IP oraz ustawień routera potrzebny jest laptop.

Rysunek 3 przedstawia instalację z routerem lub przełącznikiem dla wszystkich urządzeń.

**Rysunek 3 Przykład 3**

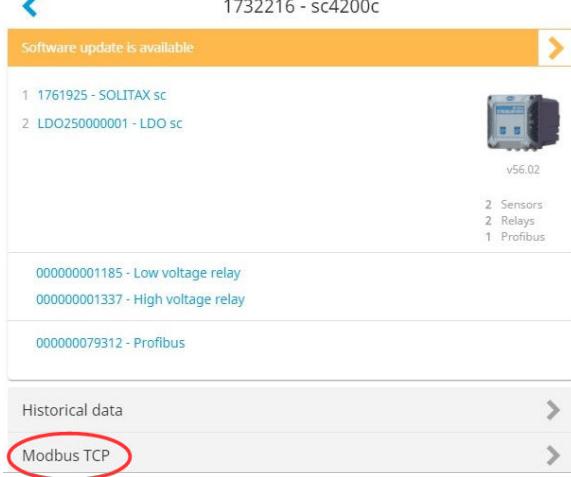
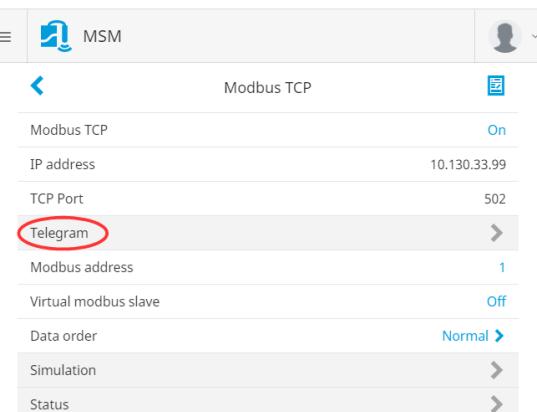


- Wszystkie urządzenia są połączone z routerem lub przełącznikiem.

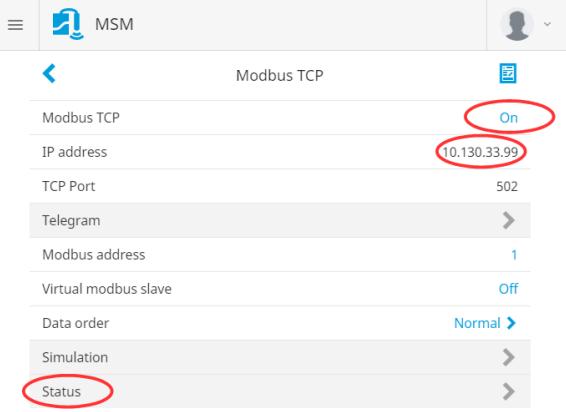
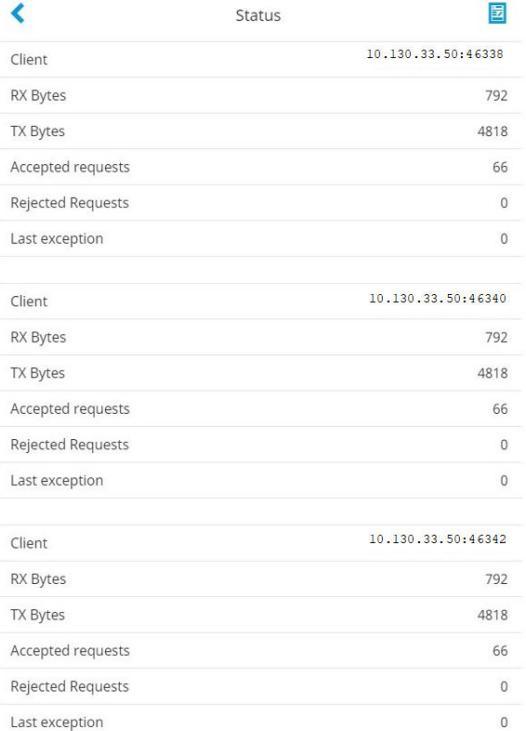
- Wszystkie urządzenia mają statyczny adres IP lub router/przełącznik ustawia adres IP przez DHCP.  
*Uwaga: Upewnij się, że router zawsze używa tego samego adresu IP dla tych samych urządzeń (MAC), jeśli używany jest protokół DHCP.*
- Przetwornik ma dostęp do Internetu za pośrednictwem sieci Wi-Fi lub sieci komórkowej.
- Do skonfigurowania adresu IP przetwornika oraz ustawień routera potrzebny jest laptop.

## Rozdział 5 Konfiguracja telegramu Modbus TCP przetwornika SC4200c

Uruchom aplikację Claros i postępuj zgodnie z podaną instrukcją.

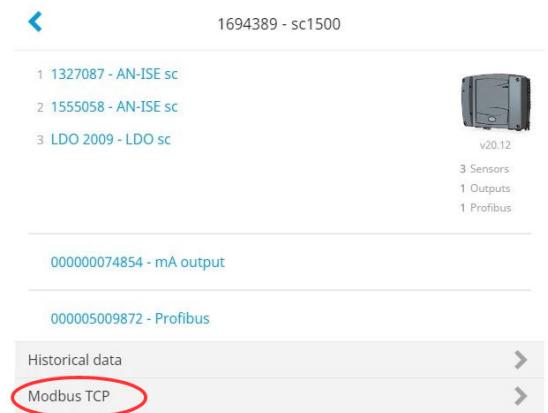
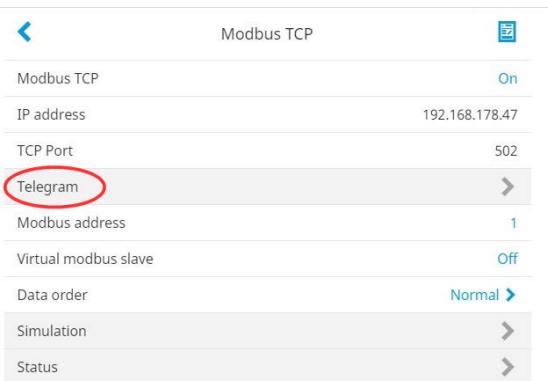
Czynność	Opis	Obraz
1	Wybierz menu przetwornika, a następnie naciśnij <b>Modbus TCP</b> .	 <p>The screenshot shows the Claros software interface. At the top, there's a message: "Software update is available". Below it, a list of components: 1 1761925 - SOLITAX sc and 2 LDO250000001 - LDO sc. To the right is a small image of the SC4200c module. Below the components, there are three lines of text: "000000001185 - Low voltage relay", "000000001337 - High voltage relay", and "000000079312 - Profibus". Further down, there are two sections: "Historical data" and "Modbus TCP". The "Modbus TCP" section is circled in red.</p>
2	Wybierz opcję <b>Telegram</b> , aby ustawić telegram protokołu Modbus TCP.	 <p>The screenshot shows the MSM configuration interface. On the left, there's a sidebar with icons for Home, MSM, and User. The main area shows the "Modbus TCP" configuration. The "Modbus TCP" option is set to "On". Other settings include "IP address" (10.130.33.99), "TCP Port" (502), and "Telegram" (which is circled in red). Below these are "Modbus address" (1), "Virtual modbus slave" (Off), "Data order" (Normal), "Simulation", and "Status".</p>

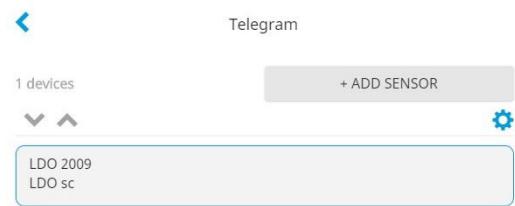
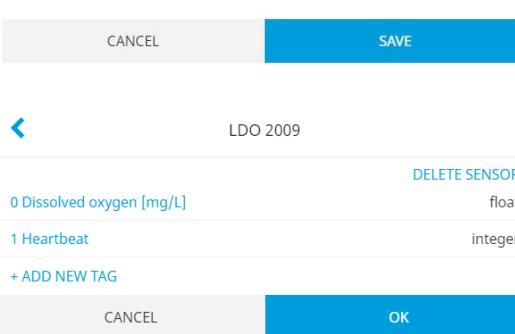
Czynność	Opis	Obraz
3	<p>Przedstawiony telegram jest przykładem czujnika LDO sc.</p> <p>Ustaw dla wartości Heartbeat (Puls) liczbę całkowitą. Heartbeat (Puls) to licznik, który przedstawia aktualizację wartości w odstępach jednosekundowych.</p> <p><b>Uwaga:</b> Zawartość telegramu Modbus TCP jest taka sama jak telegramu Profibus.</p>	<p>The screenshot shows a software interface for managing sensors. At the top, there's a header with the MSM logo and a user profile icon. Below it, a title bar says "Telegram". A sub-header indicates "1 devices". On the right, there's a button labeled "+ ADD SENSOR" and a gear icon for settings. The main area displays a single sensor entry: "LDO250000001" and "LDO sc". At the bottom, there are "CANCEL" and "SAVE" buttons.</p> <p>This screenshot shows a detailed configuration dialog for the "LDO250000001" sensor. It lists two tags: "0 Dissolved oxygen [mg/L]" (float type) and "1 Heartbeat" (integer type). There are "DELETE SENSOR" and "+ ADD NEW TAG" buttons. At the bottom, there are "CANCEL" and "OK" buttons.</p>

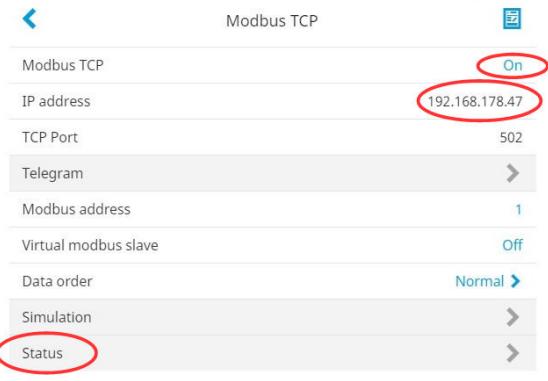
Czynność	Opis	Obraz																	
4	<p>Menu Modbus TCP przedstawia adres IP przetwornika. <b>10.130.33.99</b> to adres IP ustawiony w menu serwisowym przetwornika.</p> <p>Ustaw dla opcji Modbus TCP wartość <b>On (Wł.)</b>, a następnie naciśnij przycisk <b>Status (Stan)</b>.</p>	 <table border="1"> <thead> <tr> <th>Modbus TCP</th> </tr> </thead> <tbody> <tr> <td>IP address</td> <td>10.130.33.99</td> </tr> <tr> <td>TCP Port</td> <td>502</td> </tr> <tr> <td>Telegram</td> <td></td> </tr> <tr> <td>Modbus address</td> <td>1</td> </tr> <tr> <td>Virtual modbus slave</td> <td>Off</td> </tr> <tr> <td>Data order</td> <td>Normal</td> </tr> <tr> <td>Simulation</td> <td></td> </tr> <tr> <td>Status</td> <td></td> </tr> </tbody> </table>	Modbus TCP	IP address	10.130.33.99	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal	Simulation		Status	
Modbus TCP																			
IP address	10.130.33.99																		
TCP Port	502																		
Telegram																			
Modbus address	1																		
Virtual modbus slave	Off																		
Data order	Normal																		
Simulation																			
Status																			
5	<p>W menu Status (Stan) są wyświetlane statystyki protokołu Modbus TCP. <b>10.130.33.50</b> to adres IP modułu RevPi. RevPi ma 5 urządzeń nadzorowych Modbus TCP.</p>	 <table border="1"> <thead> <tr> <th>Status</th> </tr> </thead> <tbody> <tr> <td>Client 10.130.33.50:46338</td> <td>RX Bytes: 792, TX Bytes: 4818, Accepted requests: 66, Rejected Requests: 0, Last exception: 0</td> </tr> <tr> <td>Client 10.130.33.50:46340</td> <td>RX Bytes: 792, TX Bytes: 4818, Accepted requests: 66, Rejected Requests: 0, Last exception: 0</td> </tr> <tr> <td>Client 10.130.33.50:46342</td> <td>RX Bytes: 792, TX Bytes: 4818, Accepted requests: 66, Rejected Requests: 0, Last exception: 0</td> </tr> </tbody> </table>	Status	Client 10.130.33.50:46338	RX Bytes: 792, TX Bytes: 4818, Accepted requests: 66, Rejected Requests: 0, Last exception: 0	Client 10.130.33.50:46340	RX Bytes: 792, TX Bytes: 4818, Accepted requests: 66, Rejected Requests: 0, Last exception: 0	Client 10.130.33.50:46342	RX Bytes: 792, TX Bytes: 4818, Accepted requests: 66, Rejected Requests: 0, Last exception: 0										
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## Rozdział 6 Konfiguracja telegramu Modbus TCP przetwornika SC1500

Uruchom aplikację Claros i postępuj zgodnie z podaną instrukcją.

Czynność	Opis	Obraz
1	Wybierz menu przetwornika, a następnie naciśnij <b>Modbus TCP</b> .	 <p>The screenshot shows the Claros application interface for a SC1500 converter. At the top, there's a back arrow and the identifier '1694389 - sc1500'. Below this, a list of components is shown: '1 1327087 - AN-ISE sc', '2 1555058 - AN-ISE sc', and '3 LDO 2009 - LDO sc'. To the right, there's a small image of the device and its version 'v20.12'. Further down, there are sections for '000000074854 - mA output', '000005009872 - Profibus', 'Historical data', and 'Modbus TCP'. The 'Modbus TCP' section is circled in red.</p>
2	Wybierz opcję <b>Telegram</b> , aby ustawić telegram protokołu Modbus TCP.	 <p>The screenshot shows the 'Modbus TCP' configuration screen. It includes fields for 'IP address' (192.168.178.47), 'TCP Port' (502), and 'Modbus address' (1). A section titled 'Telegram' is highlighted with a red circle. Other options include 'Virtual modbus slave' (Off), 'Data order' (Normal), 'Simulation', and 'Status'.</p>

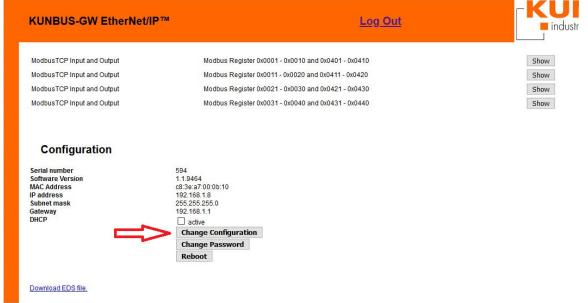
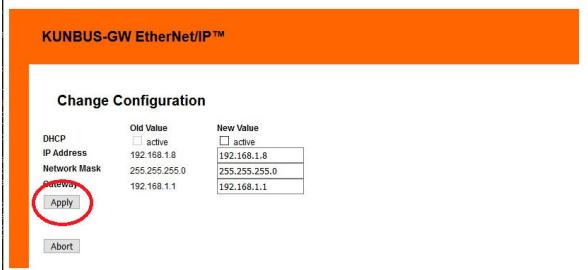
Czynność	Opis	Obraz
3	<p>Przedstawiony telegram jest przykładem czujnika LDO sc. Ustaw dla wartości Heartbeat (Puls) liczbę całkowitą. Heartbeat (Puls) to licznik, który przedstawia aktualizację wartości w odstępach jednosekundowych.</p> <p><b>Uwaga:</b> Zawartość telegramu Modbus TCP jest taka sama jak telegramu Profibus.</p>	 

Czynność	Opis	Obraz																																					
4	<p>Menu Modbus TCP przedstawia adres IP przetwornika. <b>192.168.178.47</b> to adres IP ustawiony w menu serwisowym przetwornika.</p> <p>Ustaw dla opcji Modbus TCP wartość <b>On</b> (Wł.), a następnie naciśnij przycisk <b>Status</b> (Stan).</p>	 <table border="1"> <thead> <tr> <th>Modbus TCP</th> </tr> </thead> <tbody> <tr> <td>IP address</td> <td>192.168.178.47</td> </tr> <tr> <td>TCP Port</td> <td>502</td> </tr> <tr> <td>Telegram</td> <td></td> </tr> <tr> <td>Modbus address</td> <td>1</td> </tr> <tr> <td>Virtual modbus slave</td> <td>Off</td> </tr> <tr> <td>Data order</td> <td>Normal &gt;</td> </tr> <tr> <td>Simulation</td> <td></td> </tr> <tr> <td>Status</td> <td></td> </tr> </tbody> </table>	Modbus TCP	IP address	192.168.178.47	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal >	Simulation		Status																					
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5	<p>W menu Status (Stan) są wyświetlane statystyki protokołu Modbus TCP. <b>192.168.178.50</b> to adres IP modułu RevPi. RevPi ma 7 urządzeń nadzorczych Modbus TCP.</p>	 <table border="1"> <thead> <tr> <th>Status</th> </tr> </thead> <tbody> <tr> <td>Client</td> <td>192.168.178.50:46338</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> <tr> <td>Client</td> <td>192.168.178.50:46340</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> <tr> <td>Client</td> <td>192.168.178.50:46342</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table>	Status	Client	192.168.178.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Rozdział 7 Konfiguracja bramy sieci Ethernet/IP

Czynność	Opis	Obraz
1	<ul style="list-style-type: none"> <li>Podłącz bramę sieci Ethernet/IP do komputera za pomocą kabla adaptera LAN-USB.</li> <li>Patrz <a href="#">Wprowadzenie</a> na stronie 294. Użyj łącza urządzenia podrzędnego bramy sieci Ethernet/IP. Postępuj zgodnie z instrukcjami w podręczniku producenta, <i>element bramy dla sieci EtherNet/IP</i>.</li> <li>Przy użyciu 8-pozycyjnego przełącznika adresu (A) ustaw identyfikator hosta zgodnie z formatem binarnym bramy. <ul style="list-style-type: none"> <li>Przykład: Ustaw dla hosta wartość 8: 00010000</li> </ul> </li> <li>Otwórz stronę internetową <a href="http://192.168.1.X">http://192.168.1.X</a> (X = suma wszystkich włączonych przełączników).</li> </ul>	
2	<p>Uruchom przeglądarkę i wprowadź adres IP 192.168.1.X. Dane pierwszego logowania:</p> <p>Użytkownik: Admin Hasło: 1701 Naciśnij <b>Login</b> (Zaloguj).</p>	<div style="background-color: orange; color: white; padding: 10px; text-align: center;"> <b>KUNBUS-GW EtherNet/IP™</b> </div> <div style="background-color: white; padding: 10px; margin-top: -10px;"> <p>Username: <input type="text" value="Admin"/></p> <p>Password: <input type="password"/></p> <p><input type="button" value="Login"/></p> <p><a href="#">Download EDS file.</a></p> </div>

Czynność	Opis	Obraz																																																																																					
3	<p>Przetwornik i brama sieci Ethernet/IP przesyłają dane w zakresie 0000 – 01BF, czyli w zakresie 448 bajtów lub 112 liczb zmienoprzecinkowych lub 224 liczb całkowitych lub ich kombinacji w oparciu o telegram typu Modbus TCP w przetworniku.</p> <p><i>Uwaga: Wyświetlany jest tylko pierwszy zakres danych, do 32 liczb całkowitych. Wyświetl wszystkie dane w sterowniku PLC (224 liczby całkowite).</i></p> <p>Naciśnij <b>Show</b> (Pokaż).</p>																																																																																						
4	Zostanie wyświetlony wybrany obszar danych.	<table border="1"> <thead> <tr> <th>Address</th> <th>Value</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr><td>Input 1 0x0001</td><td>0</td><td>Output 1 0x0401</td><td>0</td><td>Send</td></tr> <tr><td>Input 2 0x0002</td><td>0</td><td>Output 2 0x0402</td><td>0</td><td>Send</td></tr> <tr><td>Input 3 0x0003</td><td>0</td><td>Output 3 0x0403</td><td>0</td><td>Send</td></tr> <tr><td>Input 4 0x0004</td><td>0</td><td>Output 4 0x0404</td><td>0</td><td>Send</td></tr> <tr><td>Input 5 0x0005</td><td>0</td><td>Output 5 0x0405</td><td>0</td><td>Send</td></tr> <tr><td>Input 6 0x0006</td><td>0</td><td>Output 6 0x0406</td><td>0</td><td>Send</td></tr> <tr><td>Input 7 0x0007</td><td>0</td><td>Output 7 0x0407</td><td>0</td><td>Send</td></tr> <tr><td>Input 8 0x0008</td><td>0</td><td>Output 8 0x0408</td><td>0</td><td>Send</td></tr> <tr><td>Input 9 0x0009</td><td>0</td><td>Output 9 0x0409</td><td>0</td><td>Send</td></tr> <tr><td>Input 10 0x000a</td><td>0</td><td>Output 10 0x040A</td><td>0</td><td>Send</td></tr> <tr><td>Input 11 0x000b</td><td>0</td><td>Output 11 0x040B</td><td>0</td><td>Send</td></tr> <tr><td>Input 12 0x000c</td><td>0</td><td>Output 12 0x040C</td><td>0</td><td>Send</td></tr> <tr><td>Input 13 0x000d</td><td>0</td><td>Output 13 0x040D</td><td>0</td><td>Send</td></tr> <tr><td>Input 14 0x000e</td><td>0</td><td>Output 14 0x040E</td><td>0</td><td>Send</td></tr> <tr><td>Input 15 0x000f</td><td>0</td><td>Output 15 0x040F</td><td>0</td><td>Send</td></tr> <tr><td>Input 16 0x0010</td><td>0</td><td>Output 16 0x0410</td><td>0</td><td>Send</td></tr> </tbody> </table>	Address	Value				Input 1 0x0001	0	Output 1 0x0401	0	Send	Input 2 0x0002	0	Output 2 0x0402	0	Send	Input 3 0x0003	0	Output 3 0x0403	0	Send	Input 4 0x0004	0	Output 4 0x0404	0	Send	Input 5 0x0005	0	Output 5 0x0405	0	Send	Input 6 0x0006	0	Output 6 0x0406	0	Send	Input 7 0x0007	0	Output 7 0x0407	0	Send	Input 8 0x0008	0	Output 8 0x0408	0	Send	Input 9 0x0009	0	Output 9 0x0409	0	Send	Input 10 0x000a	0	Output 10 0x040A	0	Send	Input 11 0x000b	0	Output 11 0x040B	0	Send	Input 12 0x000c	0	Output 12 0x040C	0	Send	Input 13 0x000d	0	Output 13 0x040D	0	Send	Input 14 0x000e	0	Output 14 0x040E	0	Send	Input 15 0x000f	0	Output 15 0x040F	0	Send	Input 16 0x0010	0	Output 16 0x0410	0	Send
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Czynność	Opis	Obraz															
5	Naciśnij <b>Change Configuration</b> (Zmień konfigurację), aby ustawić adres IP.	 <p>KUNBUS-GW EtherNet/IP™</p> <p><a href="#">Log Out</a></p> <p>Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output Modbus Register 0x001 - 0x010 and 0x0401 - 0x0410 Modbus Register 0x011 - 0x020 and 0x0411 - 0x0420 Modbus Register 0x021 - 0x030 and 0x0411 - 0x0430 Modbus Register 0x031 - 0x040 and 0x0431 - 0x0440</p> <p>Show Show Show Show</p> <p><b>Configuration</b></p> <p>Serial number: 594 Software Version: 1.1.944 MAC Address: IP address: 192.168.1.8 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 DHCP: <input type="checkbox"/> active</p> <p><a href="#">Download EDR file.</a></p> <p><a href="#">Change Configuration</a> <a href="#">Change Password</a> <a href="#">Reboot</a></p>															
6	Zmień adres IP zgodnie z adresem bramy.  Naciśnij <b>Apply</b> (Zastosuj), aby zatwierdzić wybór.  Ustaw wszystkie mikroprzelączniki w pozycji wyłączonej.  Wyłącz zasilanie bramy, a następnie uruchom ją ponownie. Używany jest teraz nowy adres IP.	 <p>KUNBUS-GW EtherNet/IP™</p> <p><b>Change Configuration</b></p> <table border="1"> <thead> <tr> <th></th> <th>Old Value</th> <th>New Value</th> </tr> </thead> <tbody> <tr> <td>DHCP</td> <td><input type="checkbox"/> active</td> <td><input type="checkbox"/></td> </tr> <tr> <td>IP Address</td> <td>192.168.1.8</td> <td>192.168.1.8</td> </tr> <tr> <td>Network Mask</td> <td>255.255.255.0</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>192.168.1.1</td> <td>192.168.1.1</td> </tr> </tbody> </table> <p><a href="#">Abort</a> <a href="#">Apply</a></p>		Old Value	New Value	DHCP	<input type="checkbox"/> active	<input type="checkbox"/>	IP Address	192.168.1.8	192.168.1.8	Network Mask	255.255.255.0	255.255.255.0	Gateway	192.168.1.1	192.168.1.1
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Network Mask	255.255.255.0	255.255.255.0															
Gateway	192.168.1.1	192.168.1.1															

## Rozdział 8 Skonfiguruj bramę sieci Profinet

Czynność	Opis	Obraz
1	<ul style="list-style-type: none"> <li>Podłącz bramę sieci Profinet do komputera za pomocą adaptera LAN-LAN.</li> <li>Patrz <a href="#">Wprowadzenie</a> na stronie 294. Użyj łącza urządzenia podrzędnego bramy Profinet IRT. Postępuj zgodnie z instrukcjami w podręczniku producenta, <i>element bramy dla sieci PROFINET</i>.</li> <li>Przy użyciu oprogramowania PRONETA ustaw nazwę <b>kunbus-gw-profinet</b>.</li> <li>Wprowadź używany adres IP.</li> </ul>	
2	Uruchom przeglądarkę i wprowadź adres IP. Dane pierwszego logowania: Użytkownik: Admin Hasło: 1701 Naciśnij <b>Login</b> (Zaloguj).	

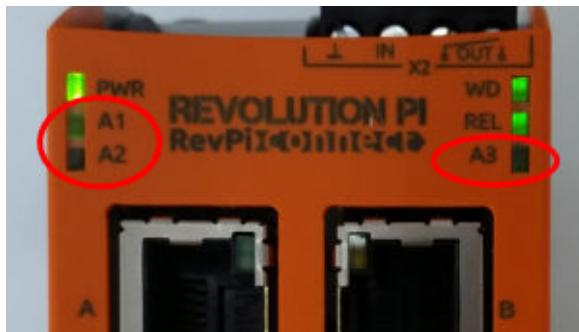
Czynność	Opis	Obraz																
3	Naciśnij <b>Show</b> (Pokaż) (A), aby wyświetlić dane wejściowe.	<p style="text-align: center;"><b>KUNBUS-GW PROFINET TPS-1</b></p> <p style="text-align: center;"><b>KUNBUS-GW PROFINET TPS-1</b></p> <p style="text-align: center;">Input data (from neighbour device) <span style="border: 1px solid #ccc; padding: 2px 5px;">Show</span></p> <p style="text-align: center;">Output data (from PROFINET Controller) <span style="border: 1px solid #ccc; padding: 2px 5px;">Show</span></p> <p style="text-align: center;"><b>Configuration</b></p> <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Serial number</td> <td style="width: 60%;">4581</td> </tr> <tr> <td>Software Version</td> <td>1.2</td> </tr> <tr> <td>MAC Address</td> <td>c8:3e:a7:01:2c:3a</td> </tr> <tr> <td>IP address</td> <td>192.168.0.230</td> </tr> <tr> <td>Subnet mask</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>0.0.0.0</td> </tr> <tr> <td>IO Controller state</td> <td>no AR established, access from web page possible</td> </tr> <tr> <td>PROFINET Name of Station</td> <td>kunbus-gw-profinet</td> </tr> </table> <p style="text-align: right;"><span style="border: 1px solid #ccc; padding: 2px 10px;">Change Password</span></p>	Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:2c:3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
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PROFINET Name of Station	kunbus-gw-profinet																	

Czynność	Opis	Obraz																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
4	Przedstawia wszystkie dane wysłane z przetwornika do bramy sieci Profinet. Przetwornik i brama sieci Profinet przesyłają dane w zakresie 0000 – 01BF, czyli w zakresie 448 bajtów lub 112 liczb zmiennoprzecinkowych lub 224 liczb całkowitych lub ich kombinacji w oparciu o telegram typu Modbus TCP w przetworniku.	<p style="text-align: center;"><b>KUNBUS-GW PROFINET TPS-1</b></p> <p style="text-align: center;"><b>Input (from neighbour device)</b></p> <p>Main page</p> <table border="1"> <thead> <tr> <th>Address</th> <th>0</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>F</th> </tr> </thead> <tbody> <tr><td>0x0000</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> 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## Rozdział 9 Rozwiązywanie problemów

### 9.1 Rozwiązywanie problemów z RevPi

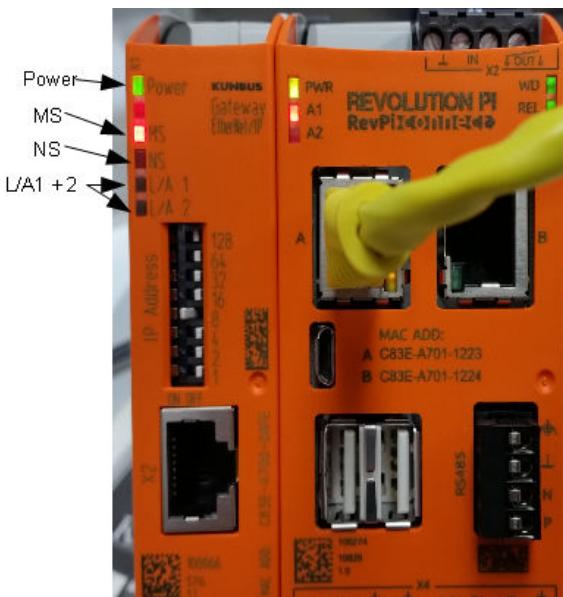
Rysunek 4 Moduł podstawowy RevPi



Komunikat	Opis	Rozwiążanie
Dioda LED A2 migła na czerwono.	Komunikacja została zatrzymana.	<ul style="list-style-type: none"><li>Podłącz kabel sieciowy (kabel lub router).</li><li>Ustaw dla adresu Modbus w Claros wartość 1.</li><li>W menu Claros ustaw dla opcji Modbus TCP wartość On (Wt.).</li></ul>
Dioda LED A3 migła powoli na czerwono.	Konfiguracja bramy sieci Ethernet/IP i Profinet jest mieszana.	Patrz <a href="#">Uruchom konfigurację USB</a> na stronie 296, krok 4 i wybierz właściwy typ bramy: <ul style="list-style-type: none"><li>en – Ethernet/IP</li><li>pn – Profinet</li></ul>

## 9.2 Rozwiązywanie problemów z siecią Ethernet/IP

Rysunek 5 Bramę sieci Ethernet/IP



Komunikat	Opis	Rozwiązańe
Dioda LED zasilania nie świeci.	Brama sieci Ethernet/IP jest wyłączona.	Włączanie zasilania.
Dioda LED zasilania migra na zielono.	Procedura uruchamiania nie została zakończona.	Odczekaj kilka minut.
Dioda LED zasilania migra na czerwono.	Wyświetla ostrzeżenie.	Sprawdź, czy wszystkie urządzenia są podłączone.
Dioda LED zasilania świeci na czerwono.	Wyświetla błąd.	Brama sieci Ethernet/IP jest uszkodzona. Wymień bramę sieci Ethernet/IP.
Dioda LED MS nie świeci.	Brama sieci Ethernet/IP jest wyłączona.	Włącz zasilanie.
Dioda LED MS migra na zielono.	Procedura konfiguracji nie została zakończona.	Odczekaj kilka minut.
Dioda LED MS migra na czerwono.	Wyświetla błąd konfiguracji.	Aby sprawdzić konfigurację, patrz <a href="#">Konfiguracja bramy sieci Ethernet/IP</a> na stronie 307.
Dioda LED MS świeci na czerwono.	Wyświetla błąd.	Brama sieci Ethernet/IP jest uszkodzona. Wymień bramę sieci Ethernet/IP.
Dioda LED MS migra na czerwono i zielono.	Autotest nie został zakończony.	Odczekaj kilka minut.

Komunikat	Opis	Rozwiążanie
Dioda LED NS nie świeci.	Brama sieci Ethernet/IP jest wyłączona lub nie ma adresu IP.	Włącz zasilanie. Skonfiguruj adres IP.
Dioda LED NS migra na zielono.	Adres IP jest ustawiony, ale połączenie CIP nie zostało nawiązane.	Odczekaj kilka minut.
Dioda LED NS migra na czerwono.	Połączenie CIP zostało zatrzymane.	Sprawdź, czy nie upłynął limit czasu.
Dioda LED NS świeci na czerwono.	Wybrany adres IP jest używany przez inne urządzenie.	Zmień adres IP na unikatowy adres IP.
Dioda LED L/A 1 lub 2 nie świeci.	Brak połączenia z innymi urządzeniami.	Połącz się z urządzeniem.
Dioda LED L/A 1 lub 2 migra na zielono.	Brak wymiany danych.	Poczekaj na następną wymianę danych.

### 9.3 Rozwiązywanie problemów z siecią Profinet

Rysunek 6 Brama sieci Profinet



Komunikat	Opis	Rozwiążanie
Dioda LED zasilania nie świeci.	Brama sieci Profinet jest wyłączona.	Włącz zasilanie.
Dioda LED zasilania migra na zielono.	Procedura uruchamiania nie została zakończona.	Odczekaj kilka minut.
Dioda LED zasilania migra na czerwono.	Wyświetla ostrzeżenie.	Sprawdź, czy wszystkie urządzenia są zainstalowane.

Komunikat	Opis	Rozwiążanie
Dioda LED zasilania świeci na czerwono.	Wyświetla błąd.	Brama sieci Profinet jest uszkodzona. Wymień bramę sieci Profinet.
Dioda LED Run nie świeci.	Brak połączenia z siecią.	Połącz z siecią.
Dioda LED Run migra na zielono.	Przetwornik sieci Profinet jest podłączony, ale nie ma wymiany danych.	Poczekaj na następną wymianę danych.
Dioda LED Run migra powoli na zielono.	Uruchamia narzędzie do identyfikacji elementu bramy.	Odczekaj kilka minut.
Dioda LED diagnostyki migra na czerwono.	Uruchamia narzędzie do identyfikacji elementu bramy.	Odczekaj kilka minut.
Dioda LED diagnostyki migra szybko na czerwono.	Brak połączenia z przetwornikiem. W module nie ustawiono nazwy sieci Profinet.	Aby dowiedzieć się, jak ustawić nazwę, patrz <a href="#">Skonfiguruj bramę sieci Profinet</a> na stronie 310.
Dioda LED diagnostyki świeci na czerwono.	Urządzenie bramy przesyła dane diagnostyczne.	Patrz raport diagnostyczny.
Dioda LED L/A 1 lub 2 nie świeci.	Brak połączenia z siecią.	Połącz z siecią.
Dioda LED L/A 1 lub 2 migra na zielono.	Wymiana danych.	Poczekaj na zakończenie wymiany danych.

# Cuprins

- |   |   |
|---|---|
| 1 Domeniu de utilizare de la pagina 317   | 7 Configurarea Ethernet/IP Gateway de la pagina 329 |
| 2 Introducere de la pagina 317  | 8 Configurarea Profinet Gateway de la pagina 332    |
| 3 Începerea configurației USB de la pagina 319                                  | 9 Depanare de la pagina 335                         |
| 4 Exemple de instalare de la pagina 320   |   |
| 5 Configurarea telegramei TCP Modbus de pe controlerul SC4200c de la pagina 323 |   |
| 6 Configurarea telegramei Modbus TCP de pe controlerul SC1500 de la pagina 326  |   |

## Secțiunea 1 Domeniu de utilizare

Aceste instrucții de configurare sunt destinate utilizării de către persoane care integrează Ethernet/IP Gateway sau Profinet Gateway extern ca și componente hardware în rețea Clarios.

## Secțiunea 2 Introducere

Producătorul nu este responsabil pentru daunele cauzate de utilizarea incorectă a acestui produs, inclusiv și fără a se limita la daunele directe, accidentale sau importante și neagă responsabilitatea pentru astfel de daune în măsura maximă permisă de lege. Utilizatorul este unicul responsabil pentru identificarea riscurilor critice și pentru instalarea de mecanisme corespunzătoare pentru protejarea proceselor în cazul unei posibile defectări a echipamentului.

### **⚠ PERICOL**



Pericol de electrocutare. Întrerupeți întotdeauna alimentarea instrumentului înainte de a realiza conexiuni electrice.

#### Articole de colectat:

- Stick USB formatat ca FAT32
- PC cu Windows<sup>1</sup> 10
- Modul:
  - Pentru implementarea Ethernet/IP:
    - LXZ446.99.00001: modul de bază RevPi GATEWAY IIoT
    - LXZ446.99.00002: slave GATEWAY Ethernet/IP
    - LXZ446.99.00003: punte pentru PiBridge
  - Pentru implementarea Profinet:
    - LXZ446.99.00001: modul de bază RevPi GATEWAY IIoT
    - LXZ446.99.00007: slave GATEWAY Profinet IRT
    - LXZ446.99.00003: punte pentru PiBridge

Conectați cele trei module RevPi, slave și PiBridge la sursa de alimentare electrică și LAN.

Consultați legăturile din tabelul care urmează pentru mai multe informații de la producătorul de module.

<sup>1</sup> Microsoft® Windows® este marcă comercială înregistrată a Microsoft Corporation în Statele Unite și alte țări.

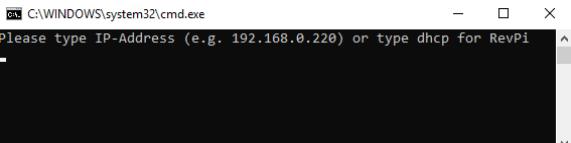
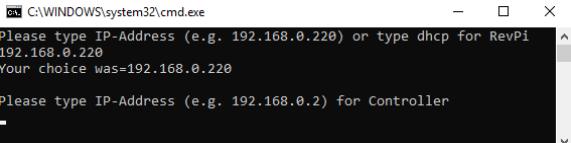
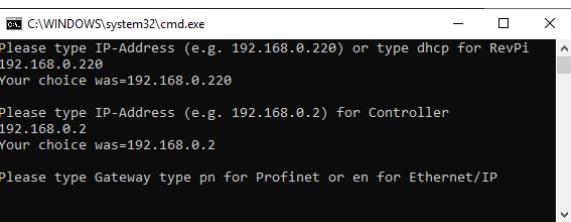
<b>Modul</b>	<b>Legătură</b>
Slave GATEWAY Profinet IRT	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
Slave GATEWAY Ethernet/IP	<a href="https://www.kunbus.com/ethernet-ip-gateway-module.html">https://www.kunbus.com/ethernet-ip-gateway-module.html</a>
Modul de bază RevPi GATEWAY IIoT	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>
Instructiuni de conectare a modulelor RevPi	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>
Instructiuni de instalare a modulelor RevPi pe o şină DIN	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
Instructiuni de conectare la sursa de alimentare electrică	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

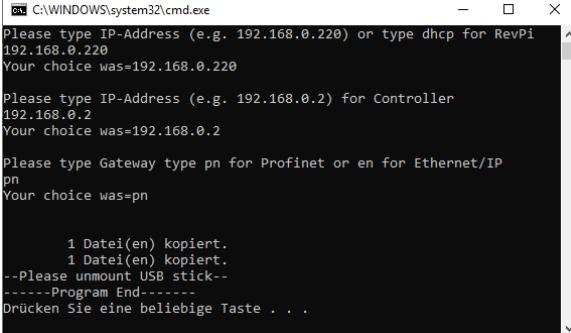
## Pregătiți stick-ul USB

1. Introduceți un stick USB gol în PC.
2. Accesați <https://www.hach.com> și căutați cuvintele cheie „instalare ethernet/IP usb” sau „instalare profinet usb”.
3. Descărcați USB\_ETHIP\_PRNET.zip.
4. Dezarhivați fișierul în directorul rădăcină al stick-ului USB.

## Secțiunea 3 Începerea configurației USB

Introduceți stick-ul USB pregătit în PC.

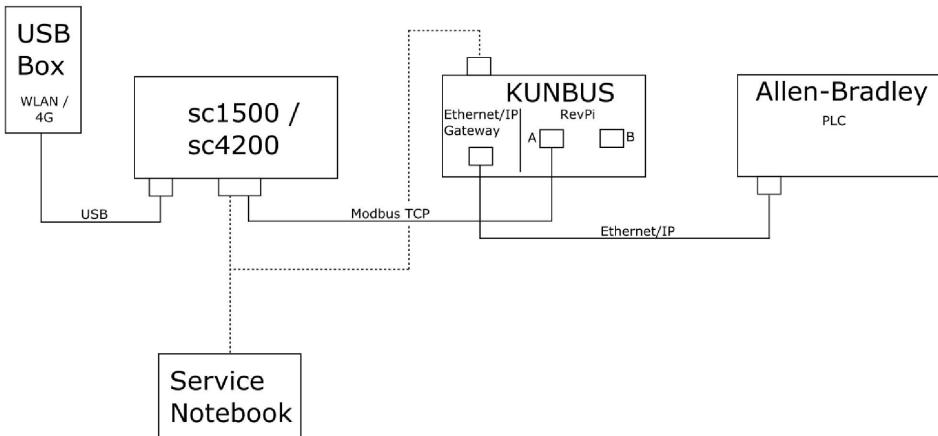
Pasul	Descriere	Imagine
1	Inițializați start_usb_config.bat. Se deschide o fereastră terminală. Urmați ghidul pas cu pas.	
2	Introduceți adresa IP a modulului RevPi.	
3	Introduceți adresa IP a controlerului SC. Asigurați-vă că prefixul rețelei este același cu cel al modulului RevPi (de ex., 192.168.0). Asigurați-vă dacă identificatorul gazdei diferă de modulul RevPi (de ex., 220 RevPi, controlerul 2).	
4	Introduceți tipul Gateway: <ul style="list-style-type: none"><li>• pn—Profinet</li><li>• en—Ethernet/IP</li></ul>	

Pasul	Descriere	Imagine
5	Confirmați setările apăsând Enter (Introducere). Scoateți stick-ul USB.	
6	Introduceți stick-ul USB în priza USB stângă a modulului RevPi.	
7	Descrierea LED-ului: <ul style="list-style-type: none"><li>A1/A2 portocaliu: Începe instalarea RevPi.</li><li>A1 roșu, A2 stins: RevPi introduce stick-ul USB.</li><li>A1 verde, A2 stins: stick-ul USB a fost introdus cu succes.</li><li>A1 stins, A2 verde: RevPi descarcă/încarcă datele de pe stick-ul USB.</li><li>A3 roșu: RevPi repornește.</li></ul> Atunci când A3 este roșu, scoateți stick-ul USB.	
8	Setările RevPi sunt finalizează.	

## Secțiunea 4 Exemple de instalare

Figura 1 afișează o instalare cu două conexiuni LAN diferite.

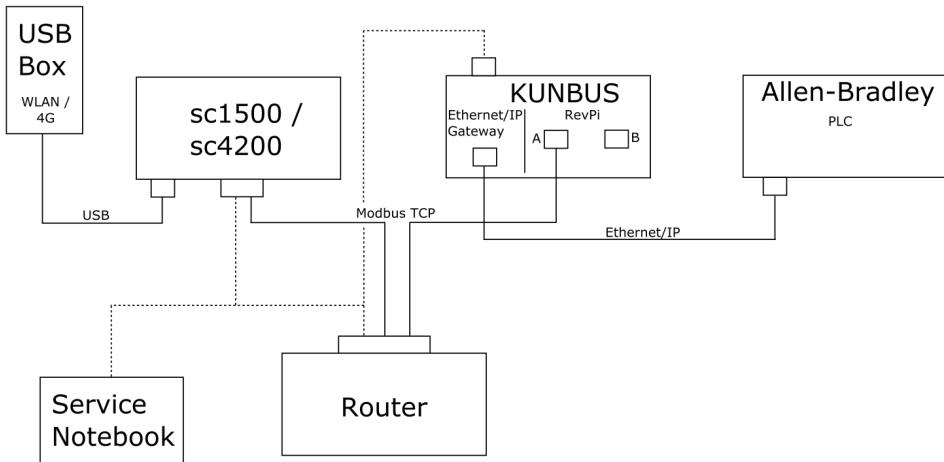
**Figura 1 Exemplul 1**



- Modbus TCP și Ethernet/IP utilizează două conexiuni LAN diferite.
- Toate dispozitivele au o adresă IP statică.
- Controlerul are acces la internet prin conexiunea Wi-Fi sau celulară.
- Pentru a configura adresele IP ale controlerului și Ethernet/IP Gateway, este nevoie de un laptop.

**Figura 2** afișează o instalare cu un ruter pentru conexiunea Modbus TCP.

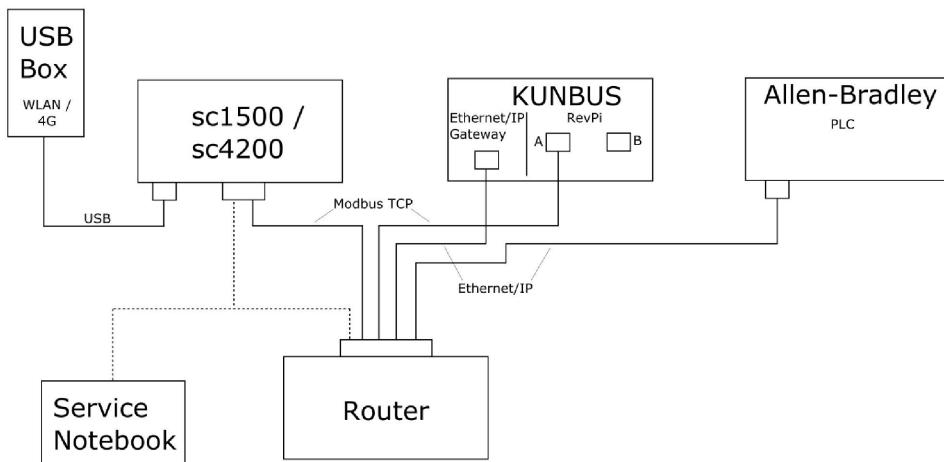
**Figura 2 Exemplul 2**



- Modbus TCP este conectat la un ruter.
- Toate dispozitivele au o adresă IP statică sau ruterul setează adresa IP prin intermediul DHCP.  
**Notă:** Asigurați-vă că ruterul utilizează întotdeauna aceeași adresă IP pentru aceleași dispozitive (MAC) dacă se utilizează DHCP.
- Controlerul are acces la internet prin conexiunea Wi-Fi sau celulară.
- Pentru a configura adresa IP a controlerului, Ethernet/IP Gateway și setările ruterului, este nevoie de un laptop.

**Figura 3** afișează o instalare cu un ruter sau un comutator pentru toate dispozitivele.

**Figura 3 Exemplul 3**

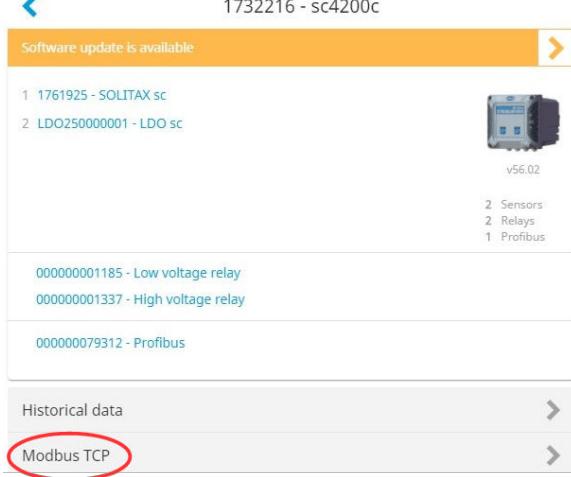
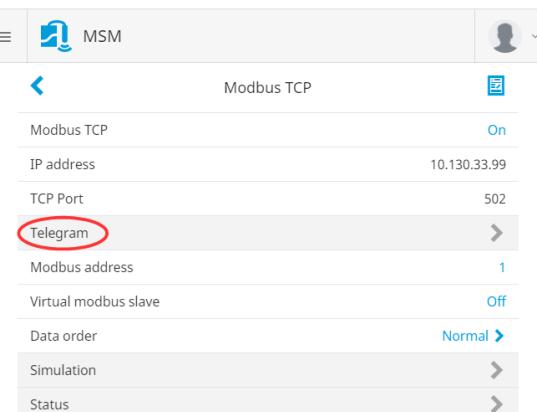


- Toate dispozitivele sunt conectate la un ruter sau un comutator.

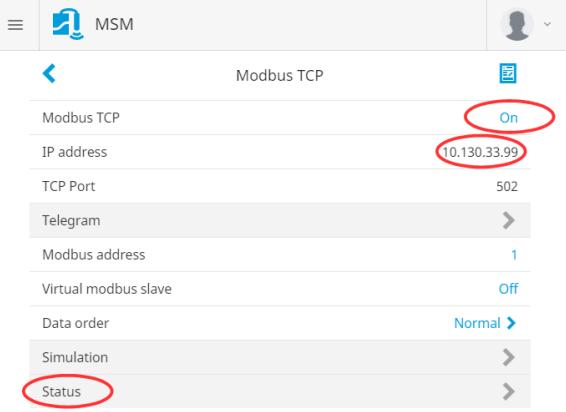
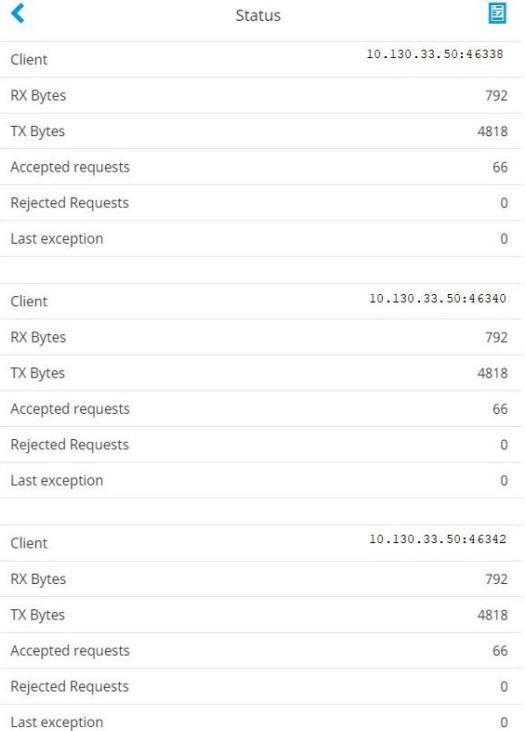
- Toate dispozitivele au o adresă IP statică sau ruterul sau comutatorul setează adresa IP prin intermediul DHCP.  
**Notă:** Asigurați-vă că ruterul utilizează întotdeauna aceeași adresă IP pentru aceleași dispozitive (MAC) dacă se utilizează DHCP.
- Controlerul are acces la internet prin conexiunea Wi-Fi sau celulară.
- Pentru a configura adresa IP a controlerului și setările ruterului, este nevoie de un laptop.

## Secțiunea 5 Configurarea telegramelor TCP Modbus de pe controlerul SC4200c

Porniți aplicația Claros și urmați ghidul pas cu pas.

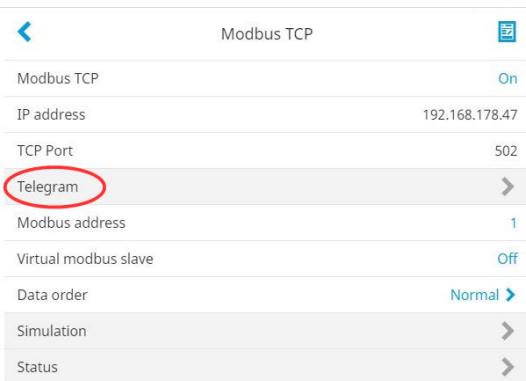
Pasul	Descriere	Imagine
1	Selectați meniul controller (Controler), apoi apăsați <b>Modbus TCP</b> .	 <p>1732216 - sc4200c</p> <p>Software update is available</p> <p>1 1761925 - SOLITAX sc 2 LDO250000001 - LDO sc</p> <p>v56.02</p> <p>2 Sensors 2 Relays 1 Profibus</p> <p>000000001185 - Low voltage relay 000000001337 - High voltage relay</p> <p>000000079312 - Profibus</p> <p>Historical data</p> <p>Modbus TCP</p>
2	Selectați <b>Telegram</b> (Telegramă) pentru a seta telegrama Modbus TCP.	 <p>MSM</p> <p>Modbus TCP</p> <p>IP address: 10.130.33.99</p> <p>TCP Port: 502</p> <p>Telegram</p> <p>Modbus address: 1</p> <p>Virtual modbus slave: Off</p> <p>Data order: Normal</p> <p>Simulation</p> <p>Status</p>

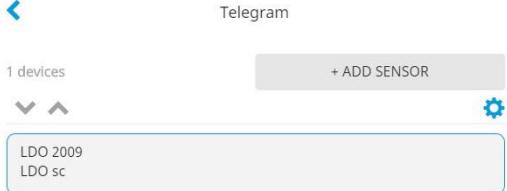
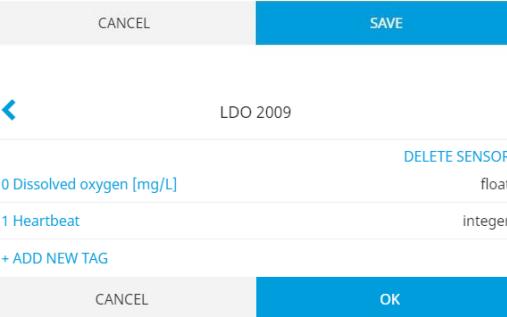
Pasul	Descriere	Imagine
3	<p>Telegrama afișată este un exemplu pentru senzorul LDO sc.</p> <p>Setați Heartbeat (Bătăi cardiace) la Integer (Întreg). Heartbeat (Bătăi cardiace) este un contor care afișează actualizarea valorii în incremente de o secundă.</p> <p><b>Notă:</b> Conținutul telegramei TCP Modbus este același cu cel al telegramei Profibus.</p>	

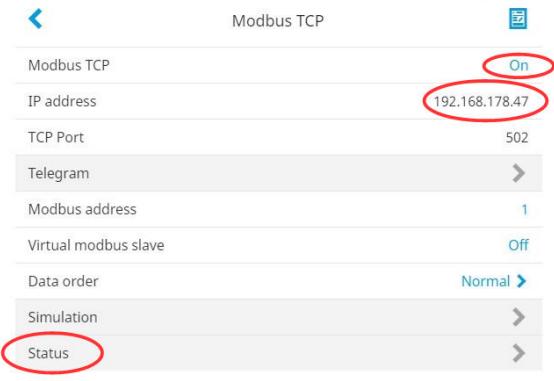
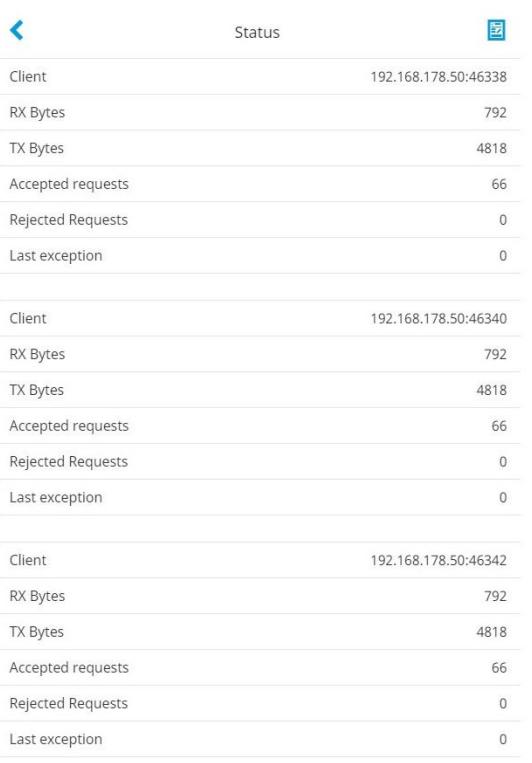
Pasul	Descriere	Imagine																																				
4	<p>Meniul Modbus TCP afișează adresa IP a controlerului. <b>10.130.33.99</b> este adresa IP setată în meniul Controler Service (Service controller).</p> <p>Setați Modbus TCP la <b>On</b> (Pornit), apoi apăsați <b>Status (Stare)</b>.</p>	 <table border="1"> <thead> <tr> <th>Modbus TCP</th> <th>On</th> </tr> </thead> <tbody> <tr> <td>IP address</td> <td>10.130.33.99</td> </tr> <tr> <td>TCP Port</td> <td>502</td> </tr> <tr> <td>Telegram</td> <td></td> </tr> <tr> <td>Modbus address</td> <td>1</td> </tr> <tr> <td>Virtual modbus slave</td> <td>Off</td> </tr> <tr> <td>Data order</td> <td>Normal</td> </tr> <tr> <td>Simulation</td> <td></td> </tr> <tr> <td>Status</td> <td></td> </tr> </tbody> </table>	Modbus TCP	On	IP address	10.130.33.99	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal	Simulation		Status																			
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5	<p>Meniul Status (Stare) afișează statisticile Modbus TCP. <b>10.130.33.50</b> este adresa IP a modulului RevPi. RevPi este prevăzut cu un master Modbus TCP 5.</p>	 <table border="1"> <thead> <tr> <th>Client</th> <th>10.130.33.50:46338</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Client</th> <th>10.130.33.50:46340</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Client</th> <th>10.130.33.50:46342</th> </tr> </thead> <tbody> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table>	Client	10.130.33.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	10.130.33.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	10.130.33.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Secțiunea 6 Configurarea telegramei Modbus TCP de pe controlerul SC1500

Porniți aplicația Claros și urmați ghidul pas cu pas.

Pasul	Descriere	Imagine																		
1	Selectați meniul controller (Controler), apoi apăsați <b>Modbus TCP</b> .	 <p>1694389 - sc1500</p> <p>1 1327087 - AN-ISE sc 2 1555058 - AN-ISE sc 3 LDO 2009 - LDO sc</p> <p>v20.12 3 Sensors 1 Outputs 1 Profibus</p> <p>000000074854 - mA output</p> <p>000005009872 - Profibus</p> <p>Historical data &gt; Modbus TCP &gt;</p>																		
2	Selectați <b>Telegram</b> (Telegramă) pentru a seta telegrama Modbus TCP.	 <table border="0"> <tr> <td>Modbus TCP</td> <td style="text-align: right;">On</td> </tr> <tr> <td>IP address</td> <td style="text-align: right;">192.168.178.47</td> </tr> <tr> <td>TCP Port</td> <td style="text-align: right;">502</td> </tr> <tr> <td>Telegram</td> <td style="text-align: right;">&gt;</td> </tr> <tr> <td>Modbus address</td> <td style="text-align: right;">1</td> </tr> <tr> <td>Virtual modbus slave</td> <td style="text-align: right;">Off</td> </tr> <tr> <td>Data order</td> <td style="text-align: right;">Normal &gt;</td> </tr> <tr> <td>Simulation</td> <td style="text-align: right;">&gt;</td> </tr> <tr> <td>Status</td> <td style="text-align: right;">&gt;</td> </tr> </table>	Modbus TCP	On	IP address	192.168.178.47	TCP Port	502	Telegram	>	Modbus address	1	Virtual modbus slave	Off	Data order	Normal >	Simulation	>	Status	>
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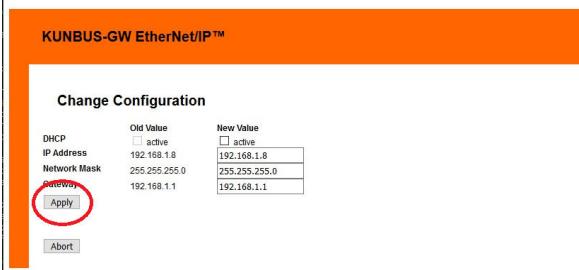
Pasul	Descriere	Imagine
3	<p>Telegrama afișată este un exemplu pentru senzorul LDO sc.</p> <p>Setați Heartbeat (Bătăi cardiace) la Integer (Întreg). Heartbeat (Bătăi cardiace) este un contor care afișează actualizarea valorii în incremente de o secundă.</p> <p><b>Notă:</b> Conținutul telegramei TCP Modbus este același cu cel al telegramei Profibus.</p>	 

Pasul	Descriere	Imagine																																								
4	<p>Meniu Modbus TCP afișează adresa IP a controlerului. <b>192.168.178.47</b> este adresa IP setată în meniul Controler Service (Service controller).</p> <p>Setați Modbus TCP la <b>On</b> (Pornit), apoi apăsați <b>Status (Stare)</b>.</p>	 <table border="1"> <tr><td>Modbus TCP</td><td>On</td></tr> <tr><td>IP address</td><td>192.168.178.47</td></tr> <tr><td>TCP Port</td><td>502</td></tr> <tr><td>Telegram</td><td></td></tr> <tr><td>Modbus address</td><td>1</td></tr> <tr><td>Virtual modbus slave</td><td>Off</td></tr> <tr><td>Data order</td><td>Normal &gt;</td></tr> <tr><td>Simulation</td><td></td></tr> <tr><td>Status</td><td></td></tr> </table>	Modbus TCP	On	IP address	192.168.178.47	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal >	Simulation		Status																							
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5	<p>Meniu Status (Stare) afișează statisticile Modbus TCP. <b>192.168.178.50</b> este adresa IP a modulului RevPi. RevPi este prevăzut cu un master Modbus TCP 7.</p>	 <table border="1"> <tr><td>Client</td><td>192.168.178.50:46338</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td> </td><td> </td></tr> <tr><td>Client</td><td>192.168.178.50:46340</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td> </td><td> </td></tr> <tr><td>Client</td><td>192.168.178.50:46342</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> </table>	Client	192.168.178.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0			Client	192.168.178.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0			Client	192.168.178.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Secțiunea 7 Configurarea Ethernet/IP Gateway

Pasul	Descriere	Imagine
1	<ul style="list-style-type: none"> <li>Conectați Ethernet/IP Gateway la PC cu ajutorul cablului adaptor LAN-la-USB.</li> <li>Consultați <a href="#">Introducere</a> de la pagina 317. Utilizați legătura slave-ului GATEWAY Ethernet/IP. Urmați instrucțiunile din manualul de utilizare al producătorului, <i>Componente Gateway pentru EtherNet/IP</i>.</li> <li>Utilizați comutatorul (A) pentru adresă cu 8 pini pentru a seta identificatorul gazdei în formatul binar al Gateway. <ul style="list-style-type: none"> <li>Exemplu: setați gazda la 8: 00010000</li> </ul> </li> <li>Deschideți site-ul web <a href="http://192.168.1.X">http://192.168.1.X</a> (X=suma tuturor comutatoarelor setate la ON (Pornit)).</li> </ul>	
2	<p>Deschideți navigatorul și introduceți adresa IP 192.168.1.X. Introduceți datele de conectare pentru prima conectare:</p> <p>Utilizator: Admin Parola: 1701 Apăsați <b>Login</b> (Conectare).</p>	

Pasul	Descriere	Imagine																																																																																					
3	<p>Controlerul și Ethernet/IP Gateway transferă domeniul de date 0000 - 01BF, care este un interval de 448 biți sau 112 float sau 224 întreg sau o combinație dintre acestea, în funcție de tipul de telegramă al Modbus TCP de pe controler.</p> <p><b>Notă:</b> Se afișează <i>numai primul interval de date până la 32 întreg</i>. Vizualizați <i>toate datele din PLC</i> (224 întreg).</p> <p>Apăsați <b>Show</b> (Afișare).</p>	<p>KUNBUS-GW EtherNet/IP™</p> <p>Log Out</p> <p>Modbus Register 0x0001 - 0x0010 and 0x0401 - 0x0410 Modbus Register 0x0011 - 0x0020 and 0x0411 - 0x0420 Modbus Register 0x0021 - 0x0030 and 0x0421 - 0x0430 Modbus Register 0x0031 - 0x0040 and 0x0431 - 0x0440</p> <p>Configuration</p> <p>Serial number: 594 Software Version: 1.1.944 MAC Address: c8:3e:37:00:0b:10 IP address: 192.168.1.8 Subnet mask: 255.255.255.0 Gateway: 192.168.1.1 DHCP: <input type="checkbox"/> active <a href="#">Change Configuration</a>   <a href="#">Change Password</a>   <a href="#">Reboot</a></p> <p>Download ECR file</p>																																																																																					
4	Se afișează domeniul de date selectate.	<p>KUNBUS-GW EtherNet/IP™</p> <p>Main page</p> <p>ModbusTCP Input and Output</p> <table border="1"> <thead> <tr> <th>Address</th> <th>Value</th> <th>Address</th> <th>Value</th> <th>Send</th> </tr> </thead> <tbody> <tr> <td>Input 1 0x0001</td> <td>0</td> <td>Output 1 0x0401</td> <td>0</td> <td><input type="button" value="Send"/></td> </tr> <tr> <td>Input 2 0x0002</td> <td>0</td> <td>Output 2 0x0402</td> <td>0</td> <td><input type="button" value="Send"/></td> </tr> <tr> <td>Input 3 0x0003</td> <td>0</td> <td>Output 3 0x0403</td> <td>0</td> <td><input type="button" value="Send"/></td> </tr> <tr> <td>Input 4 0x0004</td> <td>0</td> <td>Output 4 0x0404</td> <td>0</td> <td><input type="button" value="Send"/></td> </tr> <tr> <td>Input 5 0x0005</td> <td>0</td> <td>Output 5 0x0405</td> <td>0</td> <td><input type="button" value="Send"/></td> </tr> <tr> <td>Input 6 0x0006</td> <td>0</td> <td>Output 6 0x0406</td> <td>0</td> <td><input type="button" value="Send"/></td> </tr> <tr> <td>Input 7 0x0007</td> <td>0</td> <td>Output 7 0x0407</td> <td>0</td> <td><input type="button" value="Send"/></td> </tr> <tr> <td>Input 8 0x0008</td> <td>0</td> <td>Output 8 0x0408</td> <td>0</td> <td><input type="button" value="Send"/></td> </tr> <tr> <td>Input 9 0x0009</td> <td>0</td> <td>Output 9 0x0409</td> <td>0</td> <td><input type="button" value="Send"/></td> </tr> <tr> <td>Input 10 0x000a</td> <td>0</td> <td>Output 10 0x040A</td> <td>0</td> <td><input type="button" value="Send"/></td> </tr> <tr> <td>Input 11 0x000b</td> <td>0</td> <td>Output 11 0x040B</td> <td>0</td> <td><input type="button" value="Send"/></td> </tr> <tr> <td>Input 12 0x000c</td> <td>0</td> <td>Output 12 0x040C</td> <td>0</td> <td><input type="button" value="Send"/></td> </tr> <tr> <td>Input 13 0x000d</td> <td>0</td> <td>Output 13 0x040D</td> <td>0</td> <td><input type="button" value="Send"/></td> </tr> <tr> <td>Input 14 0x000e</td> <td>0</td> <td>Output 14 0x040E</td> <td>0</td> <td><input type="button" value="Send"/></td> </tr> <tr> <td>Input 15 0x000f</td> <td>0</td> <td>Output 15 0x040F</td> <td>0</td> <td><input type="button" value="Send"/></td> </tr> <tr> <td>Input 16 0x0010</td> <td>0</td> <td>Output 16 0x0410</td> <td>0</td> <td><input type="button" value="Send"/></td> </tr> </tbody> </table>	Address	Value	Address	Value	Send	Input 1 0x0001	0	Output 1 0x0401	0	<input type="button" value="Send"/>	Input 2 0x0002	0	Output 2 0x0402	0	<input type="button" value="Send"/>	Input 3 0x0003	0	Output 3 0x0403	0	<input type="button" value="Send"/>	Input 4 0x0004	0	Output 4 0x0404	0	<input type="button" value="Send"/>	Input 5 0x0005	0	Output 5 0x0405	0	<input type="button" value="Send"/>	Input 6 0x0006	0	Output 6 0x0406	0	<input type="button" value="Send"/>	Input 7 0x0007	0	Output 7 0x0407	0	<input type="button" value="Send"/>	Input 8 0x0008	0	Output 8 0x0408	0	<input type="button" value="Send"/>	Input 9 0x0009	0	Output 9 0x0409	0	<input type="button" value="Send"/>	Input 10 0x000a	0	Output 10 0x040A	0	<input type="button" value="Send"/>	Input 11 0x000b	0	Output 11 0x040B	0	<input type="button" value="Send"/>	Input 12 0x000c	0	Output 12 0x040C	0	<input type="button" value="Send"/>	Input 13 0x000d	0	Output 13 0x040D	0	<input type="button" value="Send"/>	Input 14 0x000e	0	Output 14 0x040E	0	<input type="button" value="Send"/>	Input 15 0x000f	0	Output 15 0x040F	0	<input type="button" value="Send"/>	Input 16 0x0010	0	Output 16 0x0410	0	<input type="button" value="Send"/>
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Pasul	Descriere	Imagine															
5	Apăsați <b>Change Configuration</b> (Modificare configurație) pentru a seta adresa IP.	 <p>KUNBUS-GW EtherNet/IP™</p> <p>Log Out</p> <p>Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output Modbus Register 0x0001 - 0x0010 and 0x0401 - 0x0410 Modbus Register 0x0011 - 0x0020 and 0x0411 - 0x0420 Modbus Register 0x0021 - 0x0030 and 0x0421 - 0x0430 Modbus Register 0x0031 - 0x0040 and 0x0431 - 0x0440</p> <p>Show Show Show Show</p> <p><b>Configuration</b></p> <p>Serial number: 594 Software Version: 1.1.944 MAC Address: IP address: 192.168.1.8 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 DHCP: <input type="checkbox"/> active</p> <p>Change Configuration Change Password Reboot</p> <p><a href="#">Download EDR file.</a></p>															
6	Modificați adresa IP conform adresei gateway. Apăsați <b>Apply</b> (Aplicare) pentru a confirma. Opriti toate comutatoarele de fază actionate de picior. Opriti alimentarea electrică a gateway-ului, apoi reporniți. Acum se utilizează adresa IP nouă.	 <p>KUNBUS-GW EtherNet/IP™</p> <p><b>Change Configuration</b></p> <table border="1"> <thead> <tr> <th></th> <th>Old Value</th> <th>New Value</th> </tr> </thead> <tbody> <tr> <td>DHCP</td> <td><input type="checkbox"/> active</td> <td><input type="checkbox"/> active</td> </tr> <tr> <td>IP Address</td> <td>192.168.1.8</td> <td>192.168.1.8</td> </tr> <tr> <td>Network Mask</td> <td>255.255.255.0</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>192.168.1.1</td> <td>192.168.1.1</td> </tr> </tbody> </table> <p>Apply Abort</p>		Old Value	New Value	DHCP	<input type="checkbox"/> active	<input type="checkbox"/> active	IP Address	192.168.1.8	192.168.1.8	Network Mask	255.255.255.0	255.255.255.0	Gateway	192.168.1.1	192.168.1.1
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Network Mask	255.255.255.0	255.255.255.0															
Gateway	192.168.1.1	192.168.1.1															

## Secțiunea 8 Configurarea Profinet Gateway

Pasul	Descriere	Imagine
1	<ul style="list-style-type: none"> <li>Conectați Profinet Gateway la PC cu ajutorul adaptorului LAN-la-LAN.</li> <li>Consultați <a href="#">Introducere</a> de la pagina 317. Utilizați legătura slave-ului GATEWAY Profinet IRT. Urmați instrucțiunile din manualul de utilizare al producătorului <i>Componente Gateway pentru PROFINET</i>.</li> <li>Utilizați software-ul PRONETA pentru a seta numele la <b>kunbus-gw-profinet</b>.</li> <li>Introduceți <b>adresa IP</b> utilizată.</li> </ul>	<p>The screenshot shows the PRONETA software interface. On the left, there's a network diagram with nodes labeled 'de-3jdy4z-p PRONETA' and 'cb-3e-a7-00-26-05 KUNBUS-GW Profinet TPS-1'. In the center, there's a 'Geräteanzeige - Online' (Device View - Online) window. On the right, there's a 'Gerätetabelle - Online' (Device Table - Online) window. The table lists one device: '1 cb-3e-a7-00-26-05 KUNBUS-GW Profinet TPS-1 192.168.1.10'. The device name 'kunbus-gw-profinet' is highlighted in the table, and the IP address 'IP-Address' is also highlighted.</p>
2	<p>Deschideți navigatorul și introduceți adresa IP. Introduceți datele de conectare pentru prima conectare:</p> <p>Utilizator: Admin Parola: 1701 Apăsați <b>Login</b> (Conectare).</p>	<p>The screenshot shows a login interface for the 'KUNBUS-GW PROFINET TPS-1' device. It has an orange header bar with the device name. Below it is a white form with fields for 'Username' (containing 'Admin') and 'Password' (containing four dots). There is also a 'Login' button at the bottom.</p>

Pasul	Descriere	Imagine																
3	Apăsați Show (Afișare) (A) pentru a afișa datele de intrare.	<p style="text-align: center;"><b>KUNBUS-GW PROFINET TPS-1</b></p> <p style="text-align: center;"><b>Input data (from neighbour device)</b> <span>Show</span></p> <p style="text-align: center;"><b>Output data (from PROFINET Controller)</b> <span>Show</span></p> <p style="text-align: center;"><b>Configuration</b></p> <table> <tbody> <tr> <td>Serial number</td> <td>4581</td> </tr> <tr> <td>Software Version</td> <td>1.2</td> </tr> <tr> <td>MAC Address</td> <td>c8:3e:a7:01:2c:3a</td> </tr> <tr> <td>IP address</td> <td>192.168.0.230</td> </tr> <tr> <td>Subnet mask</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>0.0.0.0</td> </tr> <tr> <td>IO Controller state</td> <td>no AR established, access from web page possible</td> </tr> <tr> <td>PROFINET Name of Station</td> <td>kunbus-gw-profinet</td> </tr> </tbody> </table> <p style="text-align: right;"><span>Change Password</span></p>	Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:2c:3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
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4	Afișează toate datele trimise de pe controler pe Profinet Gateway. 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style="text-align: center;">C</th> <th style="text-align: center;">D</th> <th style="text-align: center;">E</th> <th style="text-align: center;">F</th> </tr> </thead> <tbody> <tr><td>0x0000</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0010</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0020</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0030</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> 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## Secțiunea 9 Depanare

### 9.1 Depanare RevPi

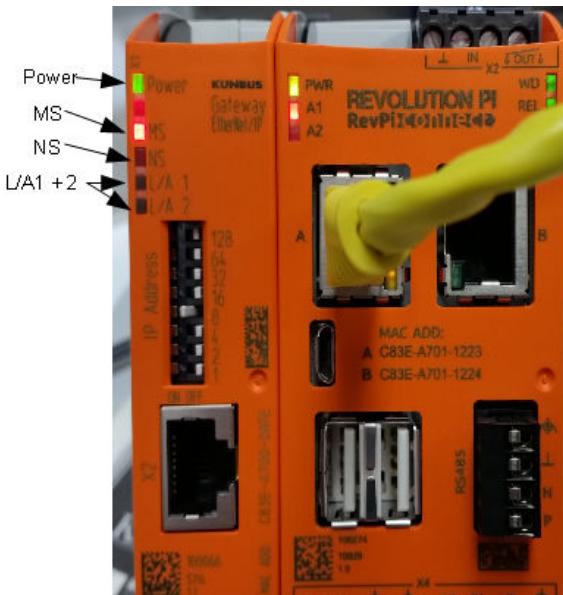
Figura 4 Modul de bază RevPi



Mesaj	Descriere	Soluție
LED-ul A2 luminează intermitent în roșu.	Comunicația s-a oprit.	<ul style="list-style-type: none"><li>Conectați cablul de rețea (cablu sau ruter).</li><li>Setați setarea adresei Modbus de pe Claros la 1.</li><li>Setați Modbus TCP din meniul Claros la On (Pornit).</li></ul>
LED-ul A3 luminează intermitent încet în roșu.	Configurația Ethernet/IP și Profinet Gateway este combinată.	Consultați <a href="#">Începerea configurației USB</a> de la pagina 319, pasul 4 și selectați tipul de Gateway corect: <ul style="list-style-type: none"><li>en – Ethernet/IP</li><li>pn – Profinet</li></ul>

## 9.2 Depanare Ethernet/IP

Figura 5 Ethernet/IP Gateway



Mesaj	Descriere	Soluție
LED-ul indicator de alimentare este stins.	Ethernet/IP Gateway este setat la Off (Oprit).	Porniți alimentarea electrică.
LED-ul indicator de alimentare luminează intermitent în verde.	Procedura de pornire nu este finalizată.	Așteptați câteva minute.
LED-ul indicator de alimentare luminează intermitent în roșu.	Afișează un avertisment.	Examinați dacă toate dispozitivele sunt conectate.
LED-ul indicator de alimentare este roșu.	Afișează o eroare.	Ethernet/IP Gateway este defect. Înlocuiți Ethernet/IP Gateway.
LED-ul MS este stins.	Ethernet/IP Gateway este setat la Off (Oprit).	Porniți alimentarea electrică.
LED-ul MS luminează intermitent în verde.	Procedura de configurare nu este finalizată.	Așteptați câteva minute.
LED-ul MS luminează intermitent în roșu.	Afișează o eroare de configurare.	Consultați <a href="#">Configurarea Ethernet/IP Gateway</a> de la pagina 329 pentru a examina configurația.
LED-ul MS este roșu.	Afișează o eroare.	Ethernet/IP Gateway este defect. Înlocuiți Ethernet/IP Gateway.
LED-ul MS luminează intermitent în roșu și verde.	Auto testul nu este finalizat.	Așteptați câteva minute.

Mesaj	Descriere	Soluție
LED-ul NS este stins.	Ethernet/IP Gateway este setat ca oprit sau nu are o adresă IP.	Porniți alimentarea electrică. Setați adresa IP.
LED-ul NS luminează intermitent în verde.	Adresa IP este setată, însă conexiunea CIP nu este stabilită.	Așteptați câteva minute.
LED-ul NS luminează intermitent în roșu.	Conexiunea CIP s-a oprit.	Examinați dacă există o expirare.
LED-ul NS este roșu.	Adresa IP selectată este utilizată de un alt dispozitiv.	Schimbați adresa IP cu o adresă IP unică.
LED-ul 1 sau 2 L/A este stins.	Nu există conexiune cu alte dispozitive.	Conectați la un dispozitiv.
LED-ul 1 sau 2 L/A luminează intermitent în verde.	Nu există un schimb de date.	Așteptați următorul schimb de date.

### 9.3 Depanare Profinet

Figura 6 Profinet Gateway



Mesaj	Descriere	Soluție
LED-ul indicator de alimentare este stins.	Profinet Gateway este oprit.	Porniți alimentarea electrică.
LED-ul indicator de alimentare luminează intermitent în verde.	Procedura de pornire nu este finalizată.	Așteptați câteva minute.
LED-ul indicator de alimentare luminează intermitent în roșu.	Afișează un avertisment.	Examinați dacă toate dispozitivele sunt instalate.

Mesaj	Descriere	Soluție
LED-ul indicator de alimentare este roșu.	Afișează eroare.	Profinet Gateway este defect. Înlocuți Profinet Gateway.
LED-ul indicator de rulare este stins.	Nu există conexiune la o rețea.	Conectați la rețea.
LED-ul indicator de rulare luminează intermitent în verde.	Controlerul Profinet este conectat, însă nu există un schimb de date.	Așteptați următorul schimb de date.
LED-ul indicator de rulare luminează intermitent încet în verde.	Declanșat cu ajutorul instrumentului pentru identificarea componentei gateway.	Așteptați câteva minute.
LED-ul indicator de diagnosticare luminează intermitent în roșu.	Declanșat cu ajutorul instrumentului pentru identificarea componentei gateway.	Așteptați câteva minute.
LED-ul indicator de diagnosticare luminează intermitent rapid în roșu.	Nu există conexiune la controler. Nu există nume Profinet setat pe modul.	Consultați <a href="#">Configurarea Profinet Gateway</a> de la pagina 332 pentru a seta numele.
LED-ul indicator de diagnosticare este roșu.	Un dispozitiv Gateway raportează date de diagnosticare.	Consultați raportul de diagnosticare.
LED-ul 1 sau 2 L/A este stins.	Nu există conexiune la o rețea.	Conectați la rețea.
LED-ul 1 sau 2 L/A luminează intermitent în verde.	Schimb de date.	Așteptați până când schimbul de date este finalizat.

# Obsah

- |   |  |
|---|--|
| 1 Účel použitia na strane 339   | 6 Nastavenia telegramu Modbus TCP pre kontrolér pre SC1500 na strane 348 |
| 2 Úvod na strane 339  | 7 Konfigurácia rozhrania Ethernet/IP na strane 351                       |
| 3 Spustenie konfigurácie USB na strane 341                                | 8 Konfigurácia rozhrania Profinet na strane 354                          |
| 4 Príklady inštalácie na strane 342                                       | 9 Riešenie problémov na strane 357                                       |
| 5 Nastavenia telegramu Modbus TCP pre kontrolér pre SC4200c na strane 345 |  |

## Odsek 1 Účel použitia

Tieto pokyny na nastavenie sú určené pre osoby, ktoré integrujú externé rozhranie Ethernet/IP alebo rozhranie Profinet ako hardvérové súčasti v sieti systému Claros.

## Odsek 2 Úvod

Výrobca nie je zodpovedný za škody spôsobené nesprávnym alebo chybným používaním tohto zariadenia vrátane, okrem iného, priame, náhodné a následné škody, a odmieta zodpovednosť za takéto škody v plnom rozsahu povolenom príslušným zákonom. Používateľ je výhradne zodpovedný za určenie kritického rizika pri používaní a zavedenie náležitých opatrení na ochranu procesov počas prípadnej poruchy prístroja.

### ▲ NEBEZPEČIE



Nebezpečenstvo smrteľného úrazu elektrickým prúdom. Pred vykonaním elektrických pripojení vždy odpojte zariadenie od napájania.

#### Potrebné príslušenstvo:

- Zariadenie USB formátované ako FAT32
- Počítač so systémom Windows<sup>1</sup> 10
- Modul:
  - Implementácia protokolu Ethernet/IP:
    - LXZ446.99.00001: GATEWAY IIoT RevPi – základný modul
    - LXZ446.99.00002: GATEWAY Ethernet/IP Slave
    - LXZ446.99.00003: Jumper pre PiBridge
  - Implementácia protokolu Profinet:
    - LXZ446.99.00001: GATEWAY IIoT RevPi – základný modul
    - LXZ446.99.00007: GATEWAY Profinet IRT Slave
    - LXZ446.99.00003: Jumper pre PiBridge

Pripojte všetky tri moduly RevPi, Slave a PiBridge k sieti napájania a sieti LAN.

Odkazy v nasledujúcej tabuľke obsahujú ďalšie informácie od výrobcu modulov.

Modul	Odkaz
GATEWAY Profinet IRT Slave	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
GATEWAY Ethernet/IP Slave	<a href="https://www.kunbus.com/ethernet-ip-gateway-module.html">https://www.kunbus.com/ethernet-ip-gateway-module.html</a>

<sup>1</sup> Microsoft® Windows® je registrovaná ochranná známka spoločnosti Microsoft Corporation v Spojených štátach a iných krajinách.

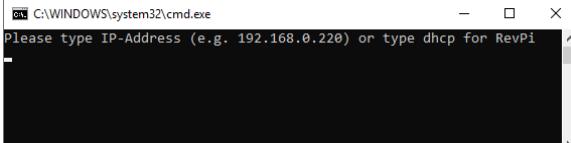
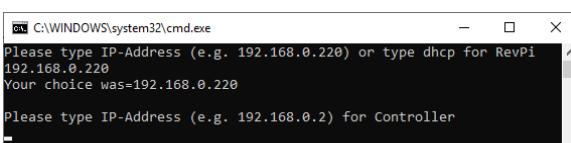
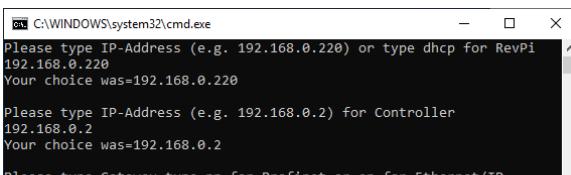
Modul	Odkaz
GATEWAY IIoT RevPi – základný modul	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>
Pripojenie modulov RevPi	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>
Inštalácia modulov RevPi na lištu DIN	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
Pripojenie zdroja napájania	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

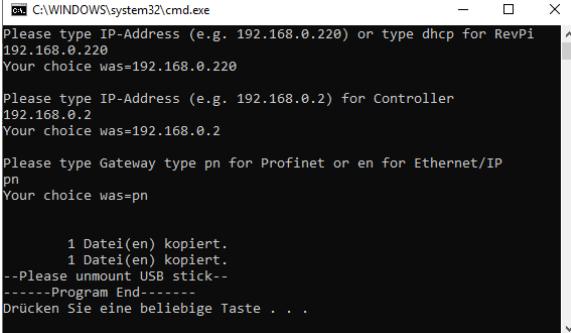
## **Príprava zariadenia USB**

1. Vložte prázdne zariadenie USB do počítača.
2. Navštívte stránku <https://www.hach.com> a vyhľadajte heslá „usb ethernet/IP installation“ (inštalácia pripojenia usb ethernet/IP) alebo „usb profinet installation“ (inštalácia pripojenia usb profinet).
3. Stiahnite súbor USB\_ETHIP\_PRNET.zip.
4. Rozbalte súbor do koreňového adresára zariadenia USB.

## **Odsek 3 Spustenie konfigurácie USB**

Vložte pripravené zariadenie USB do počítača.

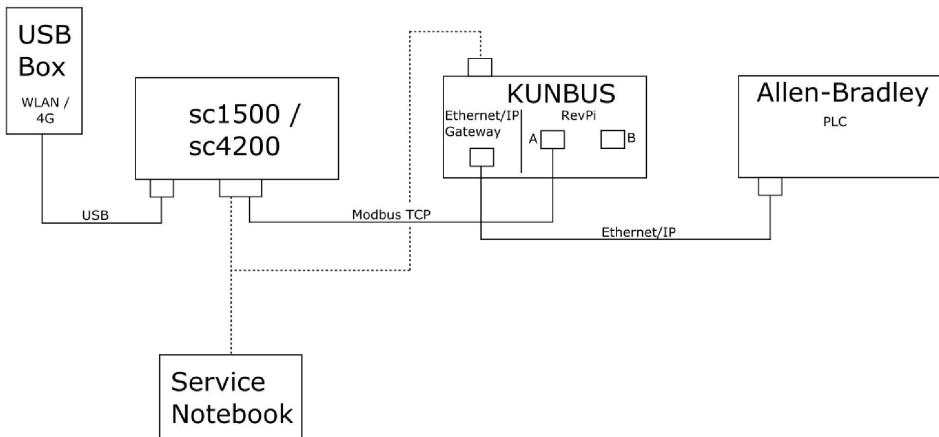
Krok	Popis	Obrázok
1	Spusťte položku start_usb_config.bat. Otvorí sa okno terminála. Postupujte podľa návodu krok za krokom.	
2	Zadajte IP adresu modulu RevPi.	
3	Zadajte IP adresu kontroléra SC. Skontrolujte, či je sieťová predpona rovnaká ako z modulu RevPi (napr. 192.168.0). Skontrolujte, či je identifikátor hostiteľa iný ako pre modul RevPi (napr. 220 RevPi, 2 Controller).	
4	Zadajte typ rozhrania: <ul style="list-style-type: none"><li>• pn – Profinet</li><li>• en – Ethernet/IP</li></ul>	

Krok	Popis	Obrázok
5	Potvrďte nastavenia stlačením klávesu Enter. Vyberte zariadenie USB.	
6	Vložte zariadenie USB do ľavej zásuvky USB modulu RevPi.	
7	Opis LED diód: <ul style="list-style-type: none"><li>A1/A2 oranžová: RevPi – začína sa inštalácia.</li><li>A1 červená, A2 nesveti: – vložte zariadenie USB.</li><li>A1 zelená, A2 nesveti: zariadenie USB vložené úspešne.</li><li>A1 nesveti, A2 zelená: RevPi sťahuje/nahráva údaje zo zariadenia USB.</li><li>A3 červená: RevPi sa reštartuje.</li></ul> Ked' je A3 červená, vyberte zariadenie USB.	
8	Nastavenia systému RevPi sú ukončené.	

## Odsek 4 Príklady inštalácie

Obrázok 1 Znázorňuje inštaláciu s dvoma rôznymi pripojeniami LAN.

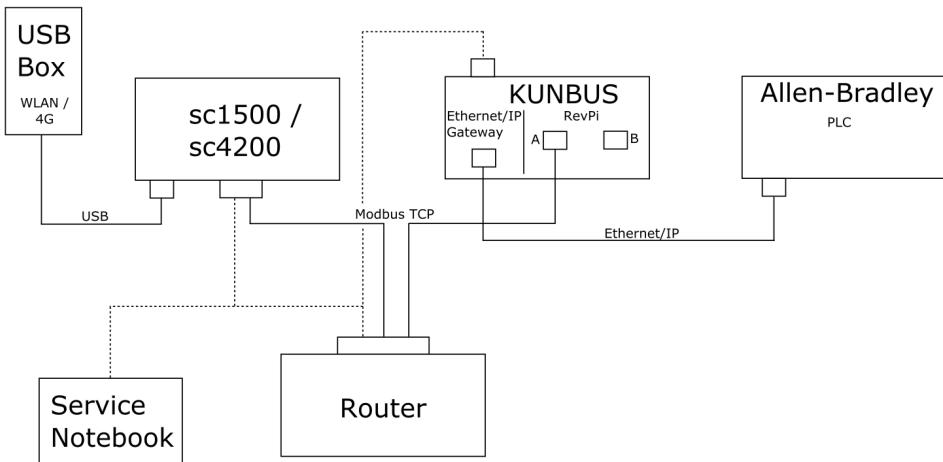
## Obrázok 1 Príklad 1



- Protokoly Modbus TCP a Ethernet/IP používajú dve rôzne pripojenia LAN.
- Všetky zariadenia majú statickú IP adresu.
- Kontrolér má prístup na internet s pripojením WiFi alebo mobilným pripojením.
- Na nastavenie IP adresy kontroléra a rozhrania Ethernet/IP je potrebný notebook.

Obrázok 2 zobrazuje inštaláciu so smerovačom pre pripojenie zariadenia Modbus TCP.

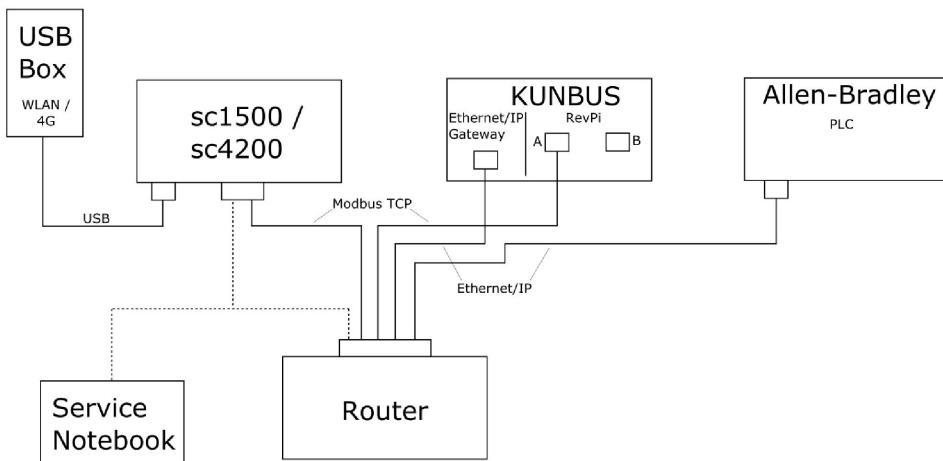
### Obrázok 2 Príklad 2



- Zariadenie Modbus TCP je pripojené k smerovaču.
- Všetky zariadenia majú statickú IP adresu alebo smerovač nastaví IP adresu prostredníctvom protokolu DHCP.  
*Poznámka: Ak používate protokol DHCP, zabezpečte, aby smerovač vždy používal rovnakú IP adresu pre rovnaké zariadenia (MAC).*
- Kontrolér má prístup na internet s pripojením WiFi alebo mobilným pripojením.
- Na nastavenie IP adresy kontroléra, rozhrania Ethernet/IP a smerovača je potrebný notebook.

Obrázok 3 zobrazuje inštaláciu so smerovačom alebo prepínačom pre všetky zariadenia.

### Obrázok 3 Príklad 3

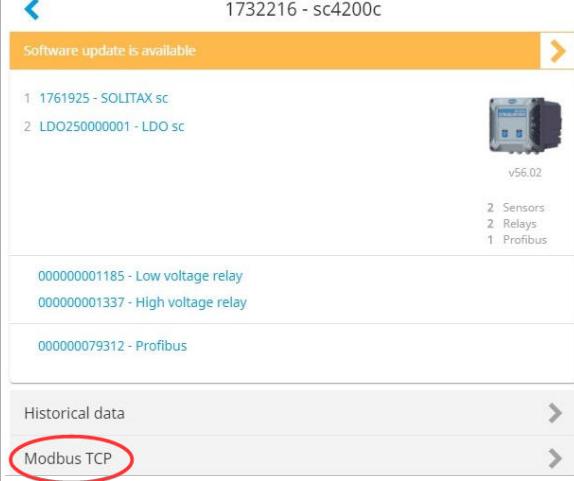
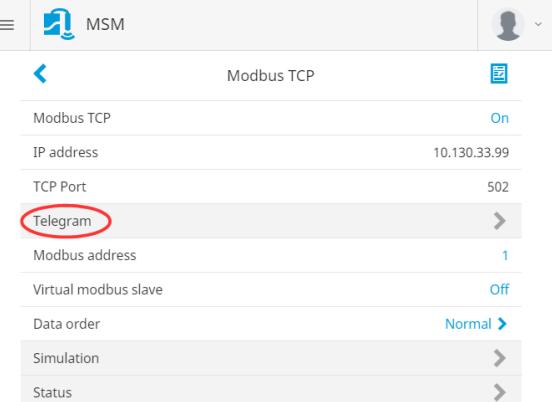


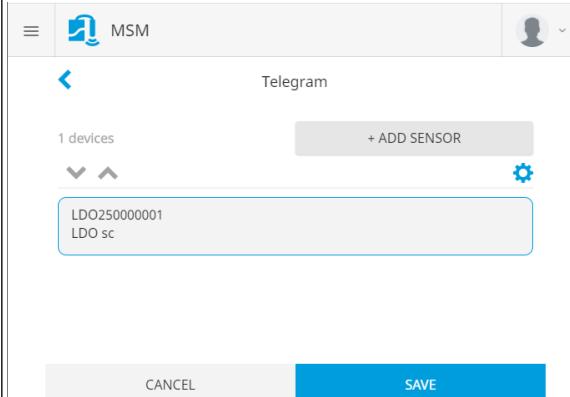
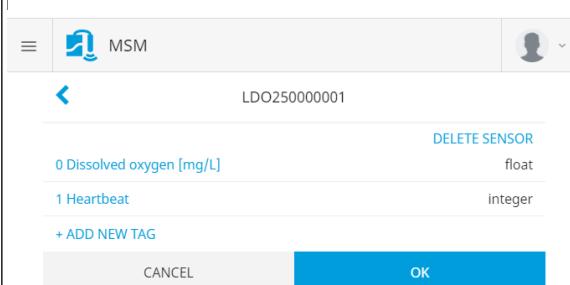
- Všetky zariadenia sú pripojené smerovačom alebo prepínačom.

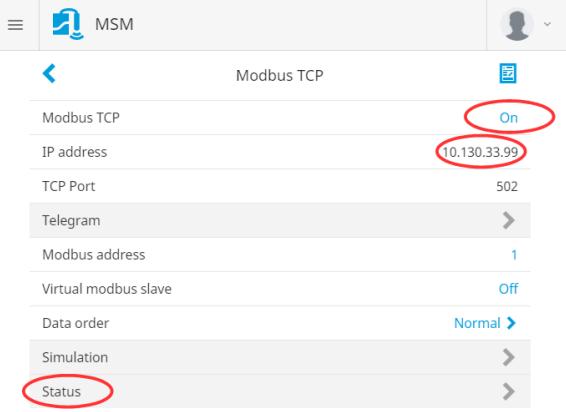
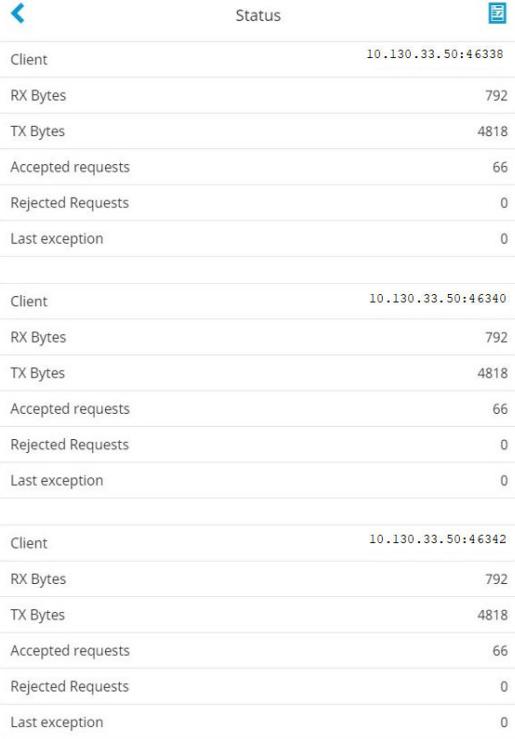
- Všetky zariadenia majú statickú IP adresu alebo smerovač či prepínač nastaví IP adresu prostredníctvom protokolu DHCP.  
*Poznámka: Ak používate protokol DHCP, zabezpečte, aby smerovač vždy používal rovnakú IP adresu pre rovnaké zariadenia (MAC).*
- Kontrolér má prístup na internet s pripojením WiFi alebo mobilným pripojením.
- Na nastavenie IP adresy kontroléra a smerovača je potrebný notebook.

## Odsek 5 Nastavenia telegramu Modbus TCP pre kontrolér pre SC4200c

Spuštite aplikáciu Claros a postupujte podľa návodu krok za krokom.

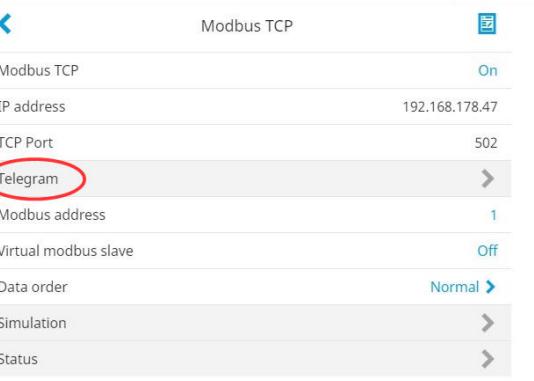
Krok	Popis	Obrázok
1	Vyberte ponuku kontroléra a stlačte <b>Modbus TCP</b> .	 <p>The screenshot shows the software update screen for the SC4200c. It lists two devices: 1761925 - SOLITAX sc and LDO250000001 - LDO sc. Below the device list, there are three categories: Low voltage relay, High voltage relay, and Profibus. At the bottom, there are two sections: Historical data and Modbus TCP. The 'Modbus TCP' section is circled in red.</p>
2	Vyberte <b>Telegram</b> na nastavenie telegramu pre Modbus TCP.	 <p>The screenshot shows the Modbus TCP configuration screen. It includes settings for Modbus TCP (On), IP address (10.130.33.99), TCP Port (502), Telegram (highlighted with a red circle), Modbus address (1), Virtual modbus slave (Off), Data order (Normal), Simulation, and Status.</p>

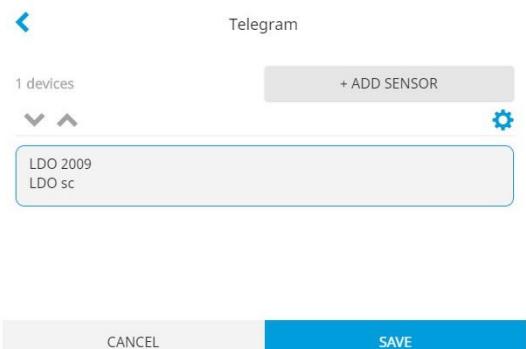
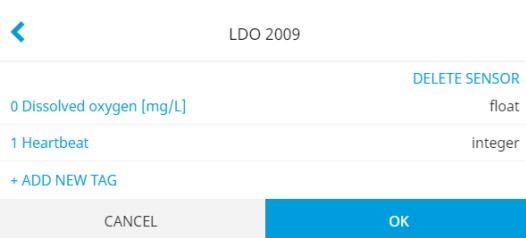
Krok	Popis	Obrázok
3	Zobrazený telegram je príklad pre sondu LDO sc. Nastavte hodnotu Heartbeat (Signál funkcie) na celé číslo. Signál funkcie je počítadlo, ktoré znázorňuje aktualizáciu hodnoty v prírastkoch o jednu sekundu.  <i>Poznámka:</i> Obsah telegramu pre Modbus TCP je rovnaký ako v prípade telegramu pre Profibus.	 

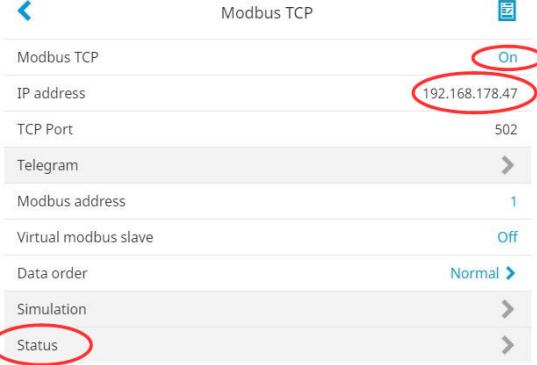
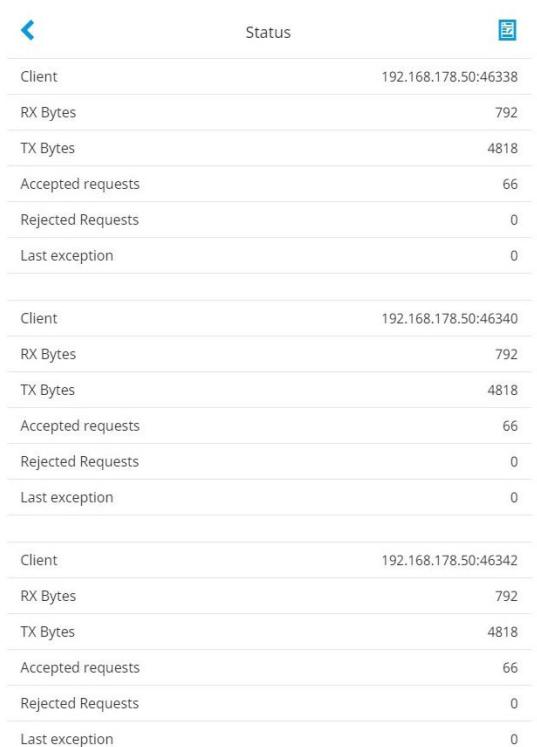
Krok	Popis	Obrázok																																								
4	Ponuka Modbus TCP zobrazuje IP adresu kontroléra. <b>10.130.33.99</b> je IP adresa nastavená v ponuke služieb kontroléra. Nastavte hodnotu Modbus TCP na <b>On</b> (Zap.) a stlačte <b>Status</b> (Stav).	 <p>Modbus TCP</p> <p>IP address: 10.130.33.99 (highlighted with a red circle)</p> <p>TCP Port: 502</p> <p>Modbus address: 1</p> <p>Virtual modbus slave: Off</p> <p>Data order: Normal</p> <p>Status (highlighted with a red circle)</p>																																								
5	Ponuka Status (Stav) zobrazuje štatistické údaje protokolu Modbus TCP. <b>10.130.33.50</b> je IP adresa modulu RevPi. Modul RevPi má zariadenie master 5 Modbus TCP.	 <table border="1"> <tbody> <tr> <td>Client</td> <td>10.130.33.50:46338</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td>Client</td> <td>10.130.33.50:46340</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td>Client</td> <td>10.130.33.50:46342</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table>	Client	10.130.33.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0			Client	10.130.33.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0			Client	10.130.33.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Odsek 6 Nastavenia telegramu Modbus TCP pre kontrolér pre SC1500

Spustite aplikáciu Claros a postupujte podľa návodu krok za krokom.

Krok	Popis	Obrázok
1	Vyberte ponuku kontroléra a stlačte <b>Modbus TCP</b> .	 <p>The screenshot shows the device configuration interface for a SC1500 controller. At the top, the device ID is 1694389 - sc1500. Below it, there are three sensor entries: 1 1327087 - AN-ISE sc, 2 1555058 - AN-ISE sc, and 3 LDO 2009 - LDO sc. To the right, there is a small image of the SC1500 module and its specifications: v20.12, 3 Sensors, 1 Outputs, 1 Profibus. Below these, there are two output types: 000000074854 - mA output and 000005009872 - Profibus. Under the 'Modbus TCP' section, 'Historical data' is shown with a right-pointing arrow, and 'Modbus TCP' is circled in red with a right-pointing arrow.</p>
2	Vyberte <b>Telegram</b> na nastavenie telegramu pre Modbus TCP.	 <p>The screenshot shows the 'Modbus TCP' configuration screen. It includes fields for IP address (192.168.178.47), TCP Port (502), and Modbus address (1). The 'Telegram' option is circled in red. Other visible options include Virtual modbus slave (Off), Data order (Normal), Simulation, and Status.</p>

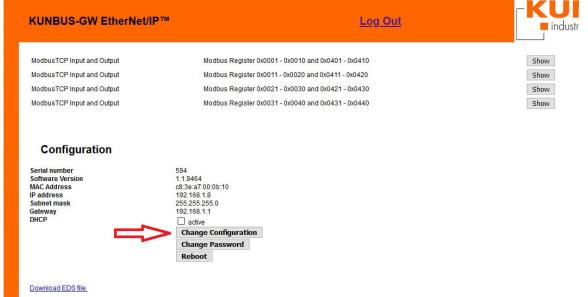
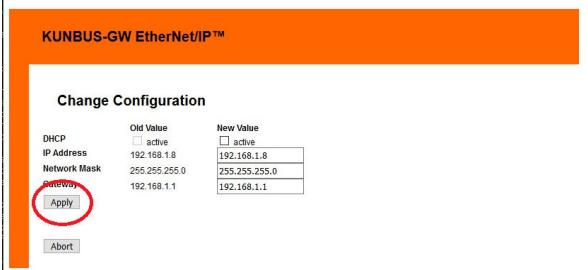
Krok	Popis	Obrázok
3	Zobrazený telegram je príklad pre sondu LDO sc. Nastavte hodnotu Heartbeat (Signál funkcie) na celé číslo. Signál funkcie je počítadlo, ktoré znázorňuje aktualizáciu hodnoty v prírastkoch o jednu sekundu.  <i>Poznámka:</i> Obsah telegramu pre Modbus TCP je rovnaký ako v prípade telegramu pre Profibus.	 

Krok	Popis	Obrázok																																					
4	<p>Ponuka Modbus TCP zobrazuje IP adresu kontroléra.  <b>192.168.178.47</b> je IP adresa nastavená v ponuke služieb kontroléra.</p> <p>Nastavte hodnotu Modbus TCP na <b>On</b> (Zap.) a stlačte <b>Status</b> (Stav).</p>	 <table border="1"> <thead> <tr> <th>Modbus TCP</th> </tr> </thead> <tbody> <tr> <td>IP address</td> <td>192.168.178.47</td> </tr> <tr> <td>TCP Port</td> <td>502</td> </tr> <tr> <td>Telegram</td> <td></td> </tr> <tr> <td>Modbus address</td> <td>1</td> </tr> <tr> <td>Virtual modbus slave</td> <td>Off</td> </tr> <tr> <td>Data order</td> <td>Normal &gt;</td> </tr> <tr> <td>Simulation</td> <td></td> </tr> <tr> <td>Status</td> <td></td> </tr> </tbody> </table>	Modbus TCP	IP address	192.168.178.47	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal >	Simulation		Status																					
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Telegram																																							
Modbus address	1																																						
Virtual modbus slave	Off																																						
Data order	Normal >																																						
Simulation																																							
Status																																							
5	<p>Ponuka Status (Stav) zobrazuje štatistické údaje protokolu Modbus TCP.  <b>192.168.178.50</b> je IP adresa modulu RevPi. Modul RevPi má zariadenie master 7 Modbus TCP.</p>	 <table border="1"> <thead> <tr> <th>Status</th> </tr> </thead> <tbody> <tr> <td>Client</td> <td>192.168.178.50:46338</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> <tr> <td>Client</td> <td>192.168.178.50:46340</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> <tr> <td>Client</td> <td>192.168.178.50:46342</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table>	Status	Client	192.168.178.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Odsek 7 Konfigurácia rozhrania Ethernet/IP

Krok	Popis	Obrázok
1	<ul style="list-style-type: none"> <li>Pripojte rozhranie Ethernet/IP k počítaču s káblom adaptéra na pripojenie typu LAN-to-USB.</li> <li>Pozri časť <a href="#">Úvod</a> na strane 339. Použite odkaz v časti GATEWAY Ethernet/IP Slave. Postupujte podľa pokynov v návode na obsluhu od výrobcu <i>Gateway component for EtherNet/IP</i> (Súčasť rozhrania pre Ethernet/IP).</li> <li>Pomocou 8-kolíkového prepínača adres (A) nastavte identifikátor hostiteľa na binárny formát rozhrania. <ul style="list-style-type: none"> <li>Príklad: nastavenie hostiteľa na 8:00010000</li> </ul> </li> <li>Otvorte webovú stránku <a href="http://192.168.1.X">http://192.168.1.X</a> (X = súčet všetkých prepnutí nastavených na hodnotu ON (Zap.)).</li> </ul>	
2	<p>Otvorte prehliadač a zadajte IP adresu 192.168.1.X. Prihlásovacie údaje pri prvom prihlásení:</p> <p>Používateľ: Admin Heslo: 1701</p> <p>Stlačte položku <b>Login</b> (<b>Prihlásenie</b>).</p>	

Krok	Popis	Obrázok																																																																																					
3	<p>Kontrolér a rozhranie Ethernet/IP prenáša oblasť údajov 0000 – 01BF, čo je rozsah 448 bytov alebo 112 floatov alebo 224 integerov alebo ich zmes, na základe typu telegramu protokolu Modbus TCP v kontroléri.</p> <p><i>Poznámka:</i> Zobrazuje sa iba prvý rozsah údajov po 32 integerov. Zobrazenie všetkých údajov v PLC (224 integerov).</p> <p>Stlačte Show (Zobrazit).</p>																																																																																						
4	Zobrazí sa vybraná oblasť údajov.	<table border="1"> <thead> <tr> <th>Address</th> <th>Value</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr><td>Input 1 0x00001</td><td>0</td><td>Output 1 0x0401</td><td>0</td><td>Send</td></tr> <tr><td>Input 2 0x00002</td><td>0</td><td>Output 2 0x0402</td><td>0</td><td>Send</td></tr> <tr><td>Input 3 0x00003</td><td>0</td><td>Output 3 0x0403</td><td>0</td><td>Send</td></tr> <tr><td>Input 4 0x00004</td><td>0</td><td>Output 4 0x0404</td><td>0</td><td>Send</td></tr> <tr><td>Input 5 0x00005</td><td>0</td><td>Output 5 0x0405</td><td>0</td><td>Send</td></tr> <tr><td>Input 6 0x00006</td><td>0</td><td>Output 6 0x0406</td><td>0</td><td>Send</td></tr> <tr><td>Input 7 0x00007</td><td>0</td><td>Output 7 0x0407</td><td>0</td><td>Send</td></tr> <tr><td>Input 8 0x00008</td><td>0</td><td>Output 8 0x0408</td><td>0</td><td>Send</td></tr> <tr><td>Input 9 0x00009</td><td>0</td><td>Output 9 0x0409</td><td>0</td><td>Send</td></tr> <tr><td>Input 10 0x0000a</td><td>0</td><td>Output 10 0x040A</td><td>0</td><td>Send</td></tr> <tr><td>Input 11 0x0000b</td><td>0</td><td>Output 11 0x040B</td><td>0</td><td>Send</td></tr> <tr><td>Input 12 0x0000c</td><td>0</td><td>Output 12 0x040C</td><td>0</td><td>Send</td></tr> <tr><td>Input 13 0x0000d</td><td>0</td><td>Output 13 0x040D</td><td>0</td><td>Send</td></tr> <tr><td>Input 14 0x0000e</td><td>0</td><td>Output 14 0x040E</td><td>0</td><td>Send</td></tr> <tr><td>Input 15 0x0000f</td><td>0</td><td>Output 15 0x040F</td><td>0</td><td>Send</td></tr> <tr><td>Input 16 0x00010</td><td>0</td><td>Output 16 0x0410</td><td>0</td><td>Send</td></tr> </tbody> </table>	Address	Value				Input 1 0x00001	0	Output 1 0x0401	0	Send	Input 2 0x00002	0	Output 2 0x0402	0	Send	Input 3 0x00003	0	Output 3 0x0403	0	Send	Input 4 0x00004	0	Output 4 0x0404	0	Send	Input 5 0x00005	0	Output 5 0x0405	0	Send	Input 6 0x00006	0	Output 6 0x0406	0	Send	Input 7 0x00007	0	Output 7 0x0407	0	Send	Input 8 0x00008	0	Output 8 0x0408	0	Send	Input 9 0x00009	0	Output 9 0x0409	0	Send	Input 10 0x0000a	0	Output 10 0x040A	0	Send	Input 11 0x0000b	0	Output 11 0x040B	0	Send	Input 12 0x0000c	0	Output 12 0x040C	0	Send	Input 13 0x0000d	0	Output 13 0x040D	0	Send	Input 14 0x0000e	0	Output 14 0x040E	0	Send	Input 15 0x0000f	0	Output 15 0x040F	0	Send	Input 16 0x00010	0	Output 16 0x0410	0	Send
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Krok	Popis	Obrázok															
5	Stlačte tlačidlo <b>Change Configuration (Zmeniť konfiguráciu)</b> na nastavenie IP adresy.	 <p>KUNBUS-GW EtherNet/IP™</p> <p>Log Out</p> <p>Modbus Register 0x0001 - 0x0010 and 0x0401 - 0x0410 Modbus Register 0x0011 - 0x0020 and 0x0411 - 0x0420 Modbus Register 0x0021 - 0x0030 and 0x0421 - 0x0430 Modbus Register 0x0031 - 0x0040 and 0x0431 - 0x0440</p> <p>Show / Show / Show / Show</p> <p><b>Configuration</b></p> <p>Serial number: 594 Software Version: 1.1.9444 MAC Address: IP address: 192.168.1.8 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 DHCP: <input type="checkbox"/> active</p> <p>Change Configuration Change Password Reboot</p> <p><a href="#">Download EDR file.</a></p>															
6	Zmeňte IP adresu podľa adresy rozhrania. Na potvrdenie stlačte možnosť <b>Apply (Použiť)</b> . Vypnú sa tým všetky prepínače DIP. Vypnite rozhranie a potom reštartujte. Teraz sa bude používať nová IP adresa.	 <p>KUNBUS-GW EtherNet/IP™</p> <p><b>Change Configuration</b></p> <table border="1"> <thead> <tr> <th></th> <th>Old Value</th> <th>New Value</th> </tr> </thead> <tbody> <tr> <td>DHCP</td> <td><input type="checkbox"/> active</td> <td><input type="checkbox"/> active</td> </tr> <tr> <td>IP Address</td> <td>192.168.1.8</td> <td>192.168.1.8</td> </tr> <tr> <td>Network Mask</td> <td>255.255.255.0</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>192.168.1.1</td> <td>192.168.1.1</td> </tr> </tbody> </table> <p>Abort</p> <p>Apply</p>		Old Value	New Value	DHCP	<input type="checkbox"/> active	<input type="checkbox"/> active	IP Address	192.168.1.8	192.168.1.8	Network Mask	255.255.255.0	255.255.255.0	Gateway	192.168.1.1	192.168.1.1
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IP Address	192.168.1.8	192.168.1.8															
Network Mask	255.255.255.0	255.255.255.0															
Gateway	192.168.1.1	192.168.1.1															

## Odsek 8 Konfigurácia rozhrania Profinet

Krok	Popis	Obrázok
1	<ul style="list-style-type: none"> <li>Pripojte rozhranie Profinet k počítaču s adaptérom na pripojenie typu LAN-to-LAN.</li> <li>Pozri časť <b>Úvod</b> na strane 339. Použite odkaz v časti GATEWAY Profinet IRT Slave. Postupujte podľa pokynov v návode na obsluhu od výrobcu <i>Gateway Component for PROFINET</i> (Súčasť rozhrania pre Profinet).</li> <li>Pomocou softvéru PRONETA nastavte názov na <b>kunbus-gw-profinet</b>.</li> <li>Zadajte používanú IP adresu.</li> </ul>	<p>The screenshot shows the Siemens PRONETA software interface. On the left, there's a tree view with nodes like 'de-3jdy4z2-p PRONETA' and 'cb-3e-a7-00-26-05 KUNBUS-GW Profinet TPS-1'. In the center, there's a 'Geräteansicht - Online' (Device View - Online) window. On the right, there's a 'Gerätetabelle - Online' (Device Table - Online) window. The table lists one device: 'cb-3e-a7-00-26-05 KUNBUS-GW Profinet TPS-1' with IP address '192.168.1.10'. Two specific fields are circled: 'kunbus-gw-profinet' under 'Name' and 'IP-Address' under 'IP-Adresse'.</p>
2	<p>Otvorte prehliadač a zadajte IP adresu. Prihlásovacie údaje pri prvom prihlásení: Používateľ: Admin Heslo: 1701 Stlačte položku <b>Login (Prihlásenie)</b>.</p>	<p>The screenshot shows a login form for the KUNBUS-GW PROFINET TPS-1. It has fields for 'Username' (Admin) and 'Password' (represented by four dots). Below the password field is a 'Login' button.</p>

Krok	Popis	Obrázok																
3	Stlačte tlačidlo <b>Show (Zobrazit)</b> (A), čím zobrazíte zadané údaje.	<p><b>KUNBUS-GW PROFINET TPS-1</b></p> <p>A</p> <p>Input data (from neighbour device) <input type="button" value="Show"/></p> <p>Output data (from PROFINET Controller) <input type="button" value="Show"/></p> <p><b>Configuration</b></p> <table> <tbody> <tr> <td>Serial number</td> <td>4581</td> </tr> <tr> <td>Software Version</td> <td>1.2</td> </tr> <tr> <td>MAC Address</td> <td>c8:3e:a7:01:2c:3a</td> </tr> <tr> <td>IP address</td> <td>192.168.0.230</td> </tr> <tr> <td>Subnet mask</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>0.0.0.0</td> </tr> <tr> <td>IO Controller state</td> <td>no AR established, access from web page possible</td> </tr> <tr> <td>PROFINET Name of Station</td> <td>kunbus-gw-profinet</td> </tr> </tbody> </table> <p><input type="button" value="Change Password"/></p>	Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:2c:3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
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Kontrolér a rozhranie Profinet prenáša oblasť údajov 0000 – 01BF, čo je rozsah 448 bytov alebo 112 floatov alebo 224 integerov alebo ich zmes, na základe typu telegramu protokolu Modbus TCP v kontroléri.	<p style="text-align: center;"><b>KUNBUS-GW PROFINET TPS-1</b></p> <p style="text-align: center;"><b>Input (from neighbour device)</b></p> <p>Main page</p> <table border="1"> <thead> <tr> <th>Address</th> <th>0</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>F</th> </tr> </thead> <tbody> <tr><td>0x0000</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0010</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> 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## Odsek 9 Riešenie problémov

### 9.1 Riešenie problémov so systémom RevPi

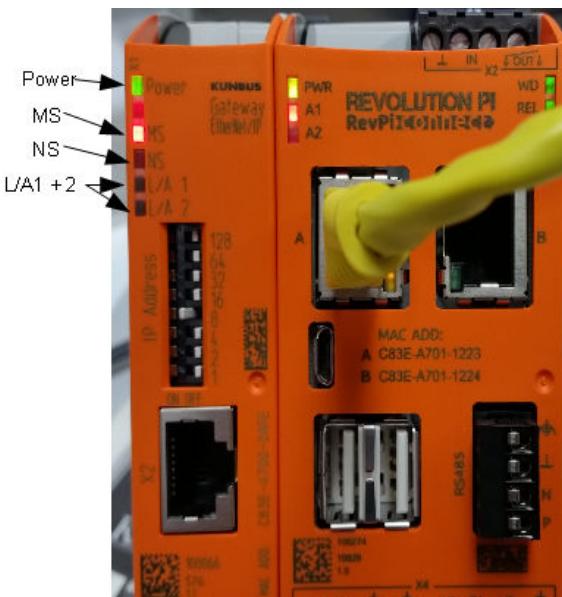
Obrázok 4 Základný modul RevPi



Hlásenie	Popis	Riešenie
Dióda LED A2 bliká načerveno.	Komunikácia sa zastavila.	<ul style="list-style-type: none"><li>Pripojte sietový kábel (kábel alebo smerovač).</li><li>Nastavte nastavenie adresy Modbus v systéme Claros na 1.</li><li>Nastavte možnosť Modbus TCP v ponuke systému Claros na zapnutú.</li></ul>
Dióda LED A3 bliká pomaly načerveno.	Konfigurácia Ethernet/IP a rozhrania Profinet je spletená.	Riadte sa krokom 4 v časti <a href="#">Spustenie konfigurácie USB</a> na strane 341 a vyberte správny typ rozhrania: <ul style="list-style-type: none"><li>en – Ethernet/IP</li><li>pn – Profinet</li></ul>

## 9.2 Riešenie problémov s pripojením Ethernet/IP

Obrázok 5 Rozhranie Ethernet/IP

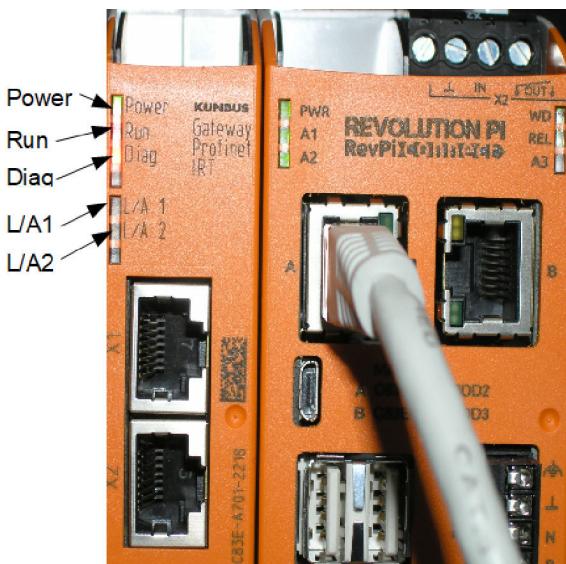


Hlásenie	Popis	Riešenie
LED dióda napájania nesvieti.	Rozhranie Ethernet/IP je nastavené na vypnuté.	Zapnite napájanie.
LED dióda napájania bliká nazeleno.	Proces spúšťania nie je ukončený.	Počkajte niekoľko minút.
LED dióda napájania bliká načerveno.	Zobrazuje sa tým výstraha.	Skontrolujte, či sú pripojené všetky zariadenia.
LED dióda napájania má červenú farbu.	Zobrazuje sa tým chyba.	Rozhranie Ethernet/IP má poruchu. Vymeňte rozhranie Ethernet/IP.
MS LED dióda nesvieti.	Rozhranie Ethernet/IP je nastavené na vypnuté.	Zapnite napájanie.
MS LED dióda bliká nazeleno.	Konfigurácia nie je ukončená.	Počkajte niekoľko minút.
MS LED dióda bliká načerveno.	Zobrazuje sa tým chyba konfigurácie.	Informácie o kontrole konfigurácie nájdete v časti <b>Konfigurácia rozhrania Ethernet/IP</b> na strane 351.
MS LED dióda má červenú farbu.	Zobrazuje sa tým chyba.	Rozhranie Ethernet/IP má poruchu. Vymeňte rozhranie Ethernet/IP.
MS LED dióda bliká načerveno a nazeleno.	Automatický test nie je ukončený.	Počkajte niekoľko minút.

Hľásenie	Popis	Riešenie
NS LED dióda nesveti.	Rozhranie Ethernet/IP je nastavené na vypnuté alebo nemá IP adresu.	Zapnite napájanie. Nastavte IP adresu.
NS LED dióda bliká nazeleno.	IP adresa je nastavená, ale pripojenie CIP nie je zavedené.	Počkajte niekoľko minút.
NS LED dióda bliká načerveno.	Pripojenie CIP sa zastavilo.	Skontrolujte, či nedošlo k vypršaniu časového limitu.
NS LED dióda má červenú farbu.	Vybranú IP adresu používa iné zariadenie.	Zmeníte IP adresu na jedinečnú IP adresu.
L/A 1 alebo 2 LED dióda nesveti.	Neexistuje žiadne pripojenie k iným zariadeniam.	Pripojte k zariadeniu.
L/A 1 alebo 2 LED dióda bliká nazeleno.	Žiadna výmena údajov.	Počkajte do ďalšej výmeny údajov.

### 9.3 Riešenie problémov so systémom Profinet

Obrázok 6 Rozhranie Profinet



Hľásenie	Popis	Riešenie
LED dióda napájania nesveti.	Rozhranie systému Profinet je vypnuté.	Zapnite napájanie.
LED dióda napájania bliká nazeleno.	Proces spúšťania nie je ukončený.	Počkajte niekoľko minút.
LED dióda napájania bliká načerveno.	Zobrazuje sa tým výstraha.	Skontrolujte, či sú nainštalované všetky zariadenia.

Hľásenie	Popis	Riešenie
LED dióda napájania má červenú farbu.	Zobrazuje sa tým chyba.	Rozhranie systému Profinet má poruchu. Vymeňte rozhranie systému Profinet.
LED dióda prevádzky nesvieti.	Žiadne pripojenie k sieti.	Pripojte k sieti.
LED dióda prevádzky bliká nazeleno.	Kontrolér systému Profinet je pripojený, ale nevymieňajú sa údaje.	Počkajte do ďalšej výmeny údajov.
LED dióda prevádzky bliká pomaly nazeleno.	Spustené nástrojom na identifikáciu súčasti rozhrania.	Počkajte niekoľko minút.
Diagnostická LED dióda bliká načerveno.	Spustené nástrojom na identifikáciu súčasti rozhrania.	Počkajte niekoľko minút.
Diagnostická LED dióda bliká rýchlo načerveno.	Žiadne pripojenie ku kontroléru. V module nie je nastavený názov pre Profinet.	Informácie o nastavení názvu nájdete v časti <a href="#">Konfigurácia rozhrania Profinet</a> na strane 354.
Diagnostická LED dióda má červenú farbu.	Zariadenie rozhrania zaznamenáva diagnostické údaje.	Preštudujte si diagnostický záznam.
L/A 1 alebo 2 LED dióda nesvieti.	Žiadne pripojenie k sieti.	Pripojte k sieti.
L/A 1 alebo 2 LED dióda bliká nazeleno.	Výmena údajov.	Počkajte, kým sa neskončí výmena údajov.

# Vsebina

- |   |  |
|---|--|
| 1 <a href="#">Predvidena uporaba</a> na strani 361                                      | 6 <a href="#">Nastavitev telegrama Modbus TCP kontrolne enote SC1500</a> na strani 370 |
| 2 <a href="#">Uvod</a> na strani 361  | 7 <a href="#">Konfiguracija prehoda Ethernet/IP</a> na strani 373                      |
| 3 <a href="#">Zagon konfiguracije USB</a> na strani 363                                 | 8 <a href="#">Konfiguracija prehoda Profinet</a> na strani 376                         |
| 4 <a href="#">Primeri namestitev</a> na strani 365                                      | 9 <a href="#">Odpravljanje težav</a> na strani 379                                     |
| 5 <a href="#">Nastavitev telegrama Modbus TCP kontrolne enote SC4200c</a> na strani 367 |  |

## Razdelek 1 Predvidena uporaba

Ta navodila za nastavitev so predvidena za uporabo s strani oseb, ki vgrajujejo zunanji prehod Ethernet/IP ali prehod Profinet kot komponente strojne opreme v omrežje Claros.

## Razdelek 2 Uvod

Proizvajalec ne odgovarja za škodo, ki bi nastala kot posledica napačne aplikacije ali uporabe tega izdelka, kar med drugim zajema neposredno, naključno in posledično škodo, in zavrača odgovornost za vso škodo v največji meri, dovoljeni z zadevno zakonodajo. Uporabnik je v celoti odgovoren za prepoznavo tveganj, ki jih predstavljajo kritične aplikacije, in namestitev ustreznih mehanizmov za zaščito procesov med potencialno okvaro opreme.

### **▲ NEVARNOST**



Smrtna nevarnost zaradi električnega udara. Pred vsemi posegi v električne povezave vedno izključite napajanje.

#### Potrebujete:

- pomnilniški ključ USB, formatiran kot FAT32
- osebni računalnik z operacijskim sistemom Windows<sup>1</sup> 10
- modul:
  - za implementacijo Ethernet/IP:
    - LXZ446.99.00001: PREHOD IIoT, osnovni modul RevPi
    - LXZ446.99.00002: PREHOD Ethernet/IP, podrejena enota
    - LXZ446.99.00003: mostiček za PiBridge
  - za implementacijo Profinet:
    - LXZ446.99.00001: PREHOD IIoT, osnovni modul RevPi
    - LXZ446.99.00007: PREHOD Profinet IRT, podrejena enota
    - LXZ446.99.00003: mostiček za PiBridge

Priključite tri module RevPi, podrejeno enoto in PiBridge na napajanje ter jih povežite z omrežjem LAN.

Prek povezav, ki so navedene v spodnji tabeli, vam je na voljo več informacij s strani proizvajalca modulov.

<sup>1</sup> Microsoft® Windows® je registrirana blagovna znamka podjetja Microsoft Corporation v ZDA in drugih državah.

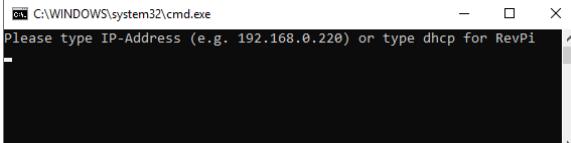
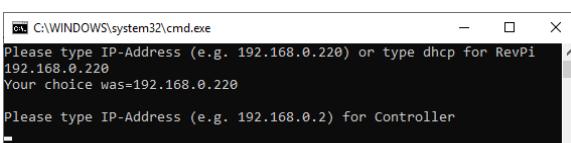
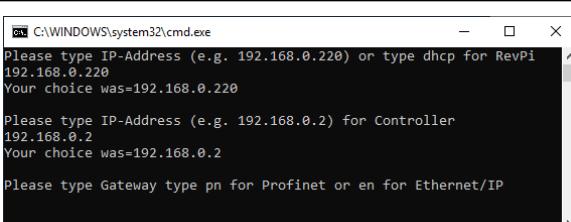
<b>Modul</b>	<b>Povezava</b>
PREHOD Profinet IRT, podrejena enota	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
PREHOD Ethernet/IP, podrejena enota	<a href="https://www.kunbus.com/ethernet-ip-gateway-module.html">https://www.kunbus.com/ethernet-ip-gateway-module.html</a>
PREHOD IIoT, osnovni modul RevPi	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>
Kako priključite module RevPi na vodilo DIN	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>
Kako namestite module RevPi na vodilo DIN	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
Kako priključite napajanje	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

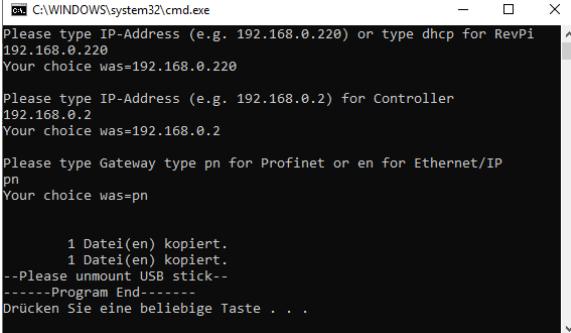
## Pripravite pomnilniški ključ USB

1. V osebni računalnik vstavite prazen pomnilniški ključ USB.
2. Pojdite na <https://www.hach.com> in iščite po ključnih besedah »usb ethernet/IP installation« (Namestitev Ethernet/IP prek pomnilniškega ključa USB) ali »usb profinet installation« (Namestitev Profinet prek pomnilniškega ključa USB).
3. Prenesite datoteko USB\_ETHIP\_PRNET.zip.
4. Razširite datoteko v korenski imenik pomnilniškega ključa USB.

## Razdelek 3 Zagon konfiguracije USB

V osebni računalnik vstavite pripravljen pomnilniški ključ USB.

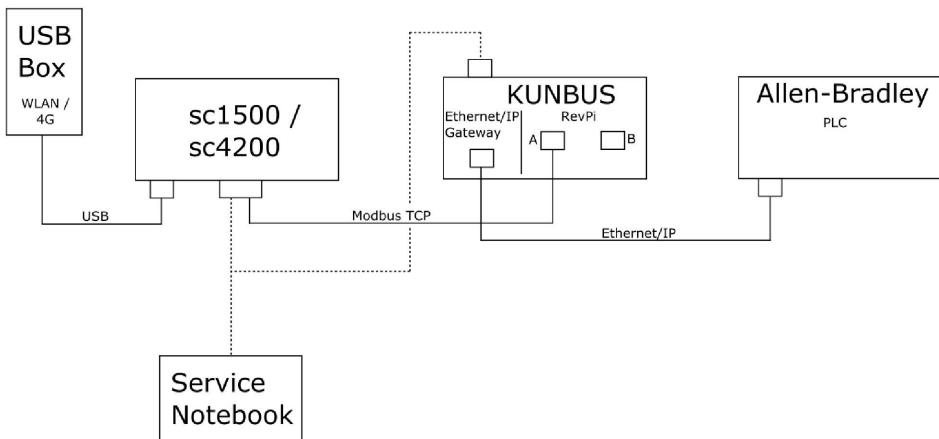
Korak	Opis	Slika
1	Zaženite datoteko start_usb_config.bat. Odpre se okno terminala. Sledite navodilom po korakih.	
2	Vnesite IP-naslov modula RevPi.	
3	Vnesite IP-naslov kontrolne enote SC. Predpona omrežja mora biti enaka kot pri modulu RevPi (npr. 192.168.0). Označevalnik gostitelja se mora razlikovati od modula RevPi (npr. 220 RevPi, 2 kontrolna enota).	
4	Vnesite vrsto prehoda: <ul style="list-style-type: none"><li>• pn – Profinet</li><li>• en – Ethernet/IP</li></ul>	

Korak	Opis	Slika
5	Potrdite nastavitev s tipko ENTER. Izvlecite pomnilniški ključ USB.	
6	Pomnilniški ključ USB vstavite v levi priključek USB modula RevPi.	
7	Opis diod LED: <ul style="list-style-type: none"><li>• A1/A2 oranžna: zažene se namestitev RevPi.</li><li>• A1 rdeča, A2 ne sveti: vstavite pomnilniški ključ USB v RevPi.</li><li>• A1 zelena, A2 ne sveti: pomnilniški ključ USB je uspešno vstavljen.</li><li>• A1 ne sveti, A2 zelena: RevPi prenasa podatke s pomnilniškega ključa USB ali pa jih na slednjega nalaga.</li><li>• A3 rdeča: RevPi se ponovno zaganja.</li></ul> Ko je A3 rdeča, izvlecite pomnilniški ključ USB.	
8	Nastavitev za RevPi so dokončane.	

## Razdelek 4 Primeri namestitev

Slika 1 prikazuje namestitev z dvema različnima povezavama z omrežjem LAN.

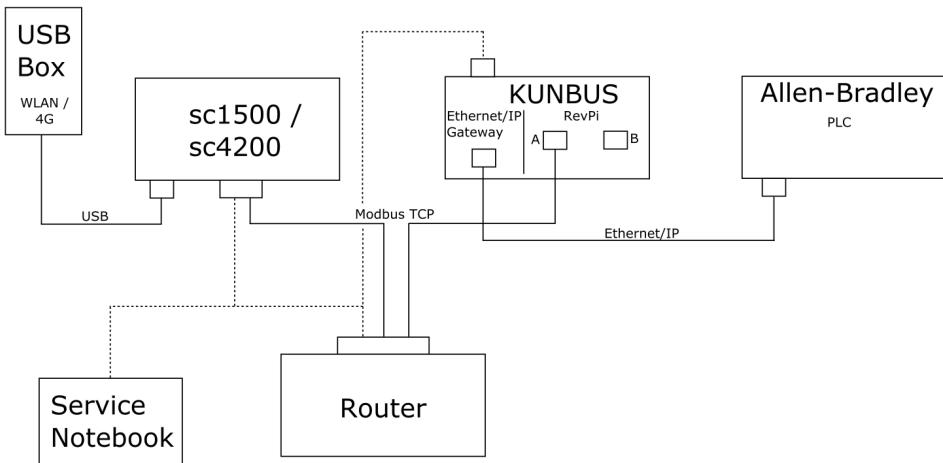
**Slika 1 Primer 1**



- Modbus TCP in Ethernet/IP uporabljata dve različni povezavi z omrežjem LAN.
- Vse naprave imajo statičen IP-naslov.
- Kontrolna enota ima internetni dostop prek povezave Wi-Fi ali mobilne povezave.
- Za nastavitev IP-naslovov kontrolne enote in prehoda Ethernet/IP je potreben prenosnik.

Slika 2 prikazuje namestitev z usmerjevalnikom za povezavo Modbus TCP.

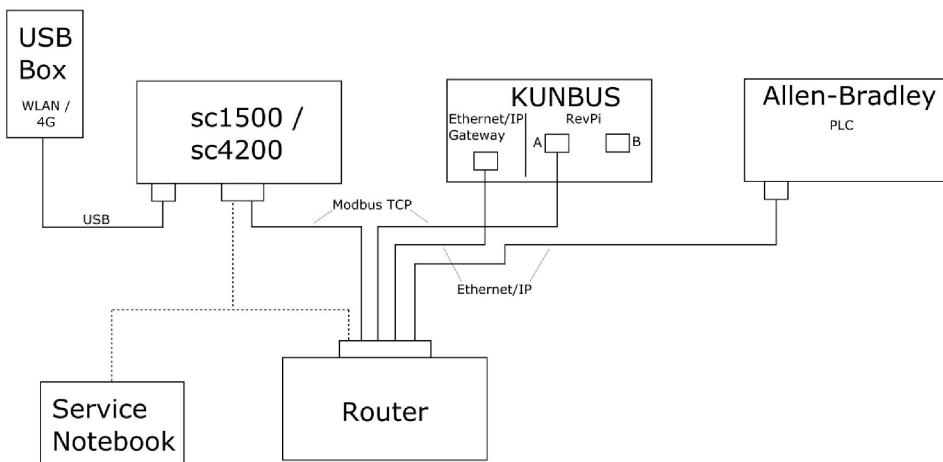
### Slika 2 Primer 2



- Modbus TCP je priključen na usmerjevalnik.
- Vse naprave imajo statičen IP-naslov ali pa usmerjevalnik nastavi IP-naslov prek DHCP.  
**Napotek:** Zagotovite, da usmerjevalnik vedno uporablja isti IP-naslov za iste naprave (MAC), če se uporablja DHCP.
- Kontrolna enota ima internetni dostop prek povezave Wi-Fi ali mobilne povezave.
- Za nastavitev IP-naslova kontrolne enote, prehoda Ethernet/IP in nastavitev usmerjevalnika je potreben prenosnik.

Slika 3 prikazuje namestitev z usmerjevalnikom ali stikalom za vse naprave.

### Slika 3 Primer 3

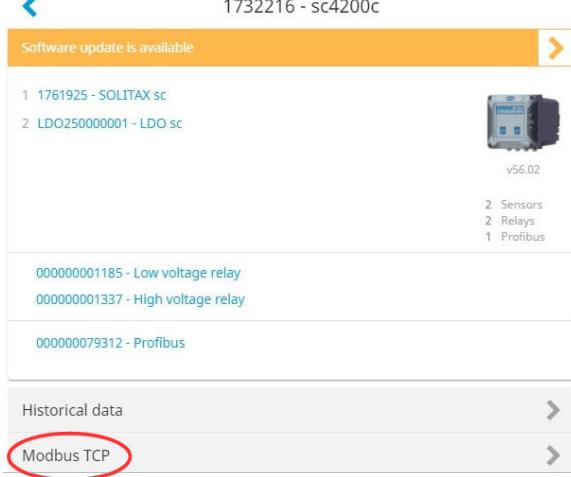
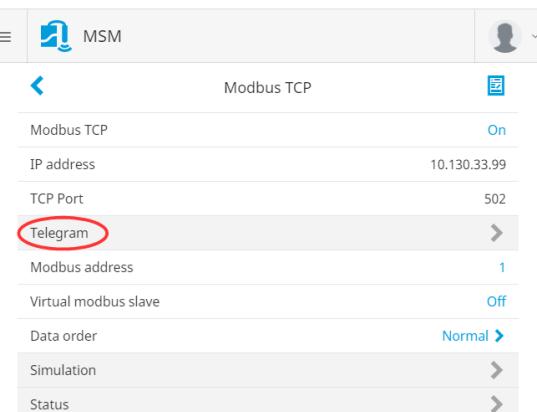


- Vse naprave so povezane z usmerjevalnikom ali stikalom.

- Vse naprave imajo statičen IP-naslov ali pa usmerjevalnik ali stikalo nastavita IP-naslov prek DHCP.  
*Napotek:* Zagotovite, da usmerjevalnik vedno uporablja isti IP-naslov za iste naprave (MAC), če se uporablja DHCP.
- Kontrolna enota ima internetni dostop prek povezave Wi-Fi ali mobilne povezave.
- Za nastavitev IP-naslova kontrolne enote in nastavitev usmerjevalnika je potreben prenosnik.

## Razdelek 5 Nastavitev telegrama Modbus TCP kontrolne enote SC4200c

Zaženite aplikacijo Claros in sledite navodilom po korakih.

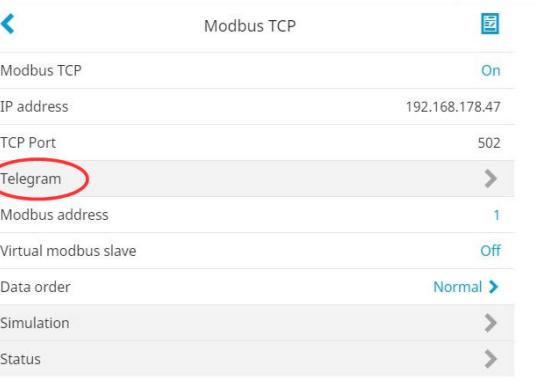
Korak	Opis	Slika
1	Izberite meni kontrolne enote, nato pritisnite <b>Modbus TCP</b> .	 <p>1732216 - sc4200c</p> <p>Software update is available</p> <p>1 1761925 - SOLITAX sc 2 LDO250000001 - LDO sc</p> <p>v56.02</p> <p>2 Sensors 2 Relays 1 Profibus</p> <p>000000001185 - Low voltage relay 000000001337 - High voltage relay</p> <p>000000079312 - Profibus</p> <p>Historical data</p> <p>Modbus TCP</p>
2	Izberite <b>Telegram</b> , da nastavite telegram Modbus TCP.	 <p>MSM</p> <p>Modbus TCP</p> <p>Modbus TCP On</p> <p>IP address 10.130.33.99</p> <p>TCP Port 502</p> <p>Telegram</p> <p>Modbus address 1</p> <p>Virtual modbus slave Off</p> <p>Data order Normal</p> <p>Simulation</p> <p>Status</p>

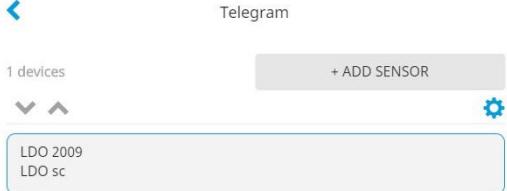
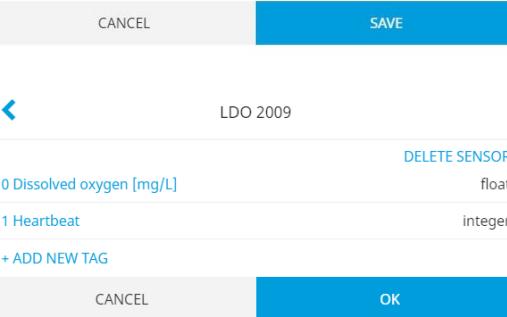
Korak	Opis	Slika
3	<p>Prikazan telegram je primer za senzor LDO sc. Nastavite Heartbeat (Utrip) na celo število. Heartbeat (Utrip) je števec, ki prikazuje posodobitev vrednosti v korakih po eno sekundo.</p> <p><b>Napotek:</b> Vsebina telegrama Modbus TCP je enaka kot pri telegramu Profibus.</p>	<p>The screenshot shows the MSM mobile application interface. At the top, there is a header with a profile icon and the text 'MSM'. Below the header, the word 'Telegram' is visible. A button labeled '+ ADD SENSOR' is present. The main area displays a list with one item: 'LDO250000001' and 'LDO sc'. There are up and down arrows for reordering. At the bottom of the screen are two buttons: 'CANCEL' and 'SAVE'.</p> <p>This screenshot shows the same MSM application interface, but it has zoomed into the configuration of the 'LDO250000001' sensor. It lists two tags: '0 Dissolved oxygen [mg/L]' (float type) and '1 Heartbeat' (integer type). A 'DELETE SENSOR' button is visible at the top right. At the bottom, there is a '+ ADD NEW TAG' button, a 'CANCEL' button, and a large blue 'OK' button.</p>

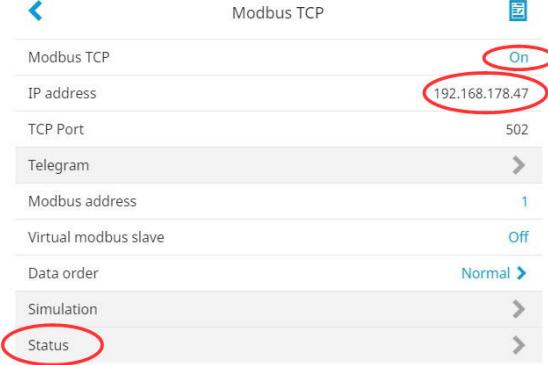
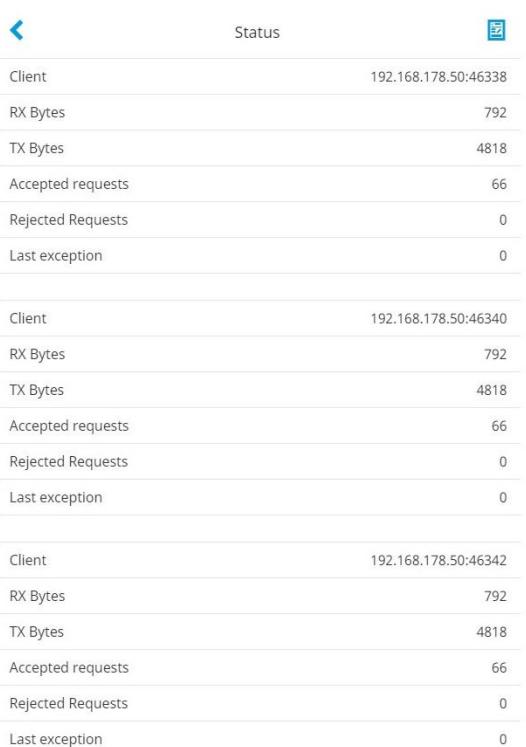
Korak	Opis	Slika																																				
4	<p>Meni Modbus TCP prikazuje IP-naslov kontrolne enote. <b>10.130.33.99</b> je IP-naslov, ki je nastavljen v servisnem meniju kontrolne enote.</p> <p>Nastavite Modbus TCP na <b>On</b> (Vklapljeno), nato pritisnite <b>Status</b> (Stanje).</p>	<table border="1"> <tr><td>Modbus TCP</td><td>On</td></tr> <tr><td>IP address</td><td>10.130.33.99</td></tr> <tr><td>TCP Port</td><td>502</td></tr> <tr><td>Telegram</td><td></td></tr> <tr><td>Modbus address</td><td>1</td></tr> <tr><td>Virtual modbus slave</td><td>Off</td></tr> <tr><td>Data order</td><td>Normal</td></tr> <tr><td>Simulation</td><td></td></tr> <tr><td>Status</td><td></td></tr> </table>	Modbus TCP	On	IP address	10.130.33.99	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal	Simulation		Status																			
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Telegram																																						
Modbus address	1																																					
Virtual modbus slave	Off																																					
Data order	Normal																																					
Simulation																																						
Status																																						
5	<p>Meni Status (Stanje) prikazuje statistiko Modbus TCP. <b>10.130.33.50</b> je IP-naslov modula RevPi. RevPi ima 5 glavnih enot Modbus TCP.</p>	<table border="1"> <tr><td>Client</td><td>10.130.33.50:46338</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td>Client</td><td>10.130.33.50:46340</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td>Client</td><td>10.130.33.50:46342</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> </table>	Client	10.130.33.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	10.130.33.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	10.130.33.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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Last exception	0																																					

## Razdelek 6 Nastavitev telegrama Modbus TCP kontrolne enote SC1500

Zaženite aplikacijo Claros in sledite navodilom po korakih.

Korak	Opis	Slika
1	Izberite meni kontrolne enote, nato pritisnite <b>Modbus TCP</b> .	 <p>The screenshot shows the device configuration interface for an SC1500 unit. At the top, it displays the device ID '1694389 - sc1500'. Below this, there are three sections: '1 1327087 - AN-ISE sc', '2 1555058 - AN-ISE sc', and '3 LDO 2009 - LDO sc'. Further down, there are sections for '000000074854 - mA output', '000005009872 - Profibus', 'Historical data', and 'Modbus TCP'. The 'Modbus TCP' section is circled in red.</p>
2	Izberite <b>Telegram</b> , da nastavite telegram Modbus TCP.	 <p>The screenshot shows the 'Modbus TCP' configuration screen. It includes fields for 'Modbus TCP' (set to 'On'), 'IP address' (192.168.178.47), 'TCP Port' (502), and 'Telegram'. The 'Telegram' field is circled in red. Other options shown include 'Modbus address' (1), 'Virtual modbus slave' (Off), 'Data order' (Normal), 'Simulation', and 'Status'.</p>

Korak	Opis	Slika
3	<p>Prikazan telegram je primer za senzor LDO sc.</p> <p>Nastavite Heartbeat (Utrip) na celo število. Heartbeat (Utrip) je števec, ki prikazuje posodobitev vrednosti v korakih po eno sekundo.</p> <p><b>Napotek:</b> Vsebina telegrama Modbus TCP je enaka kot pri telegramu Profibus.</p>	 

Korak	Opis	Slika																																				
4	<p>Meni Modbus TCP prikazuje IP-naslov kontrolne enote. <b>192.168.178.47</b> je IP-naslov, ki je nastavljen v servisnem meniju kontrolne enote.</p> <p>Nastavite Modbus TCP na <b>On</b> (Vklapljeno), nato pritisnite <b>Status</b> (Stanje).</p>	 <table border="1"> <tr><td>Modbus TCP</td><td>On</td></tr> <tr><td>IP address</td><td>192.168.178.47</td></tr> <tr><td>TCP Port</td><td>502</td></tr> <tr><td>Telegram</td><td></td></tr> <tr><td>Modbus address</td><td>1</td></tr> <tr><td>Virtual modbus slave</td><td>Off</td></tr> <tr><td>Data order</td><td>Normal &gt;</td></tr> <tr><td>Simulation</td><td></td></tr> <tr><td>Status</td><td></td></tr> </table>	Modbus TCP	On	IP address	192.168.178.47	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal >	Simulation		Status																			
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5	<p>Meni Status (Stanje) prikazuje statistiko Modbus TCP. <b>192.168.178.50</b> je IP-naslov modula RevPi. RevPi ima 7 glavnih enot Modbus TCP.</p>	 <table border="1"> <tr><td>Client</td><td>192.168.178.50:46338</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td>Client</td><td>192.168.178.50:46340</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td>Client</td><td>192.168.178.50:46342</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> </table>	Client	192.168.178.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	Client	192.168.178.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Razdelek 7 Konfiguracija prehoda Ethernet/IP

Korak	Opis	Slika
1	<ul style="list-style-type: none"> <li>Z vmesniškim kablom LAN-do-USB povežite prehod Ethernet/IP z osebnim računalnikom.</li> <li>Glejte <a href="#">Uvod</a> na strani 361. Uporabite povezavo podrejene enote PREHODA Ethernet/IP. Upoštevajte navodila v proizvajalčevem uporabniškem priročniku – <i>Komponenta prehoda za EtherNet/IP</i>.</li> <li>Uporabite 8-pinsko stikalo (A) za naslov, da označevalnik gostitelja nastavite na binarno obliko zapisa prehoda.</li> <ul style="list-style-type: none"> <li>Primer: nastavite gostitelja na 8: 00010000</li> </ul> <li>Odprite spletno stran <a href="http://192.168.1.X">http://192.168.1.X</a> (X = vsota vseh stikal, nastavljenih na ON (Vklapljeno)).</li> </ul>	
2	<p>Odprite brskalnik in vnesite naslednji IP-naslov: 192.168.1.X.</p> <p>Prijavni podatki za prvo prijavo:</p> <p>Uporabnik: Admin Geslo: 1701 Pritisnite <b>Login</b> (Prijava).</p>	

Korak	Opis	Slika																																																																																																						
3	<p>Kontrolna enota in prehod Ethernet/IP preneseta podatkovno območje 0000 - 01BF, ki ga sestavlja 448 bajtov ali 112 števil s plavajočo vejico ali 224 celih števil ali kombinacija omenjenih, in sicer na osnovi vrste telegrama Modbus TCP v kontrolni enoti.</p> <p><b>Napotek:</b> Prikazano je samo prvo podatkovno območje do 32 celih števil. Oglejte si vse podatke v sistemu PLC (224 celih števil).</p> <p>Pritisnite Show (Prikaži).</p>	<p>KUNBUS-GW EtherNet/IP™</p> <p>Log Out</p> <p>Modbus Register 0x0001 - 0x0010 and 0x0401 - 0x0410 Modbus Register 0x0011 - 0x0020 and 0x0411 - 0x0420 Modbus Register 0x0021 - 0x0030 and 0x0421 - 0x0430 Modbus Register 0x0031 - 0x0040 and 0x0431 - 0x0440</p> <p>Show Show Show Show</p> <p>Configuration</p> <p>Serial number: 594 Software Version: 1.1.3444 MAC Address: c8:3e:37:00:0b:10 IP address: 192.168.1.0 Subnet mask: 255.255.255.0 Gateway: 192.168.1.1 <input type="checkbox"/> adsl Change Configuration Change Configuration Change Password Reboot</p> <p>Download ECF file</p>																																																																																																						
4	Prikaže se izbrano podatkovno območje.	<p>KUNBUS-GW EtherNet/IP™</p> <p>Main page</p> <p>ModbusTCP Input and Output</p> <table border="1"> <thead> <tr> <th>Address</th> <th>Value</th> <th>Address</th> <th>Value</th> <th>Address</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Input 1</td> <td>0</td> <td>Output 1</td> <td>0x0401</td> <td>Output 2</td> <td>0</td> </tr> <tr> <td>Input 2</td> <td>0</td> <td>Output 2</td> <td>0x0402</td> <td>Output 3</td> <td>0</td> </tr> <tr> <td>Input 3</td> <td>0</td> <td>Output 3</td> <td>0x0403</td> <td>Output 4</td> <td>0</td> </tr> <tr> <td>Input 4</td> <td>0</td> <td>Output 4</td> <td>0x0404</td> <td>Output 5</td> <td>0</td> </tr> <tr> <td>Input 5</td> <td>0</td> <td>Output 5</td> <td>0x0405</td> <td>Output 6</td> <td>0</td> </tr> <tr> <td>Input 6</td> <td>0</td> <td>Output 6</td> <td>0x0406</td> <td>Output 7</td> <td>0</td> </tr> <tr> <td>Input 7</td> <td>0</td> <td>Output 7</td> <td>0x0407</td> <td>Output 8</td> <td>0</td> </tr> <tr> <td>Input 8</td> <td>0</td> <td>Output 8</td> <td>0x0408</td> <td>Output 9</td> <td>0</td> </tr> <tr> <td>Input 9</td> <td>0</td> <td>Output 9</td> <td>0x0409</td> <td>Output 10</td> <td>0</td> </tr> <tr> <td>Input 10</td> <td>0</td> <td>Output 10</td> <td>0x040A</td> <td>Output 11</td> <td>0</td> </tr> <tr> <td>Input 11</td> <td>0</td> <td>Output 11</td> <td>0x040B</td> <td>Output 12</td> <td>0</td> </tr> <tr> <td>Input 12</td> <td>0</td> <td>Output 12</td> <td>0x040C</td> <td>Output 13</td> <td>0</td> </tr> <tr> <td>Input 13</td> <td>0</td> <td>Output 13</td> <td>0x040D</td> <td>Output 14</td> <td>0</td> </tr> <tr> <td>Input 14</td> <td>0</td> <td>Output 14</td> <td>0x040E</td> <td>Output 15</td> <td>0</td> </tr> <tr> <td>Input 15</td> <td>0</td> <td>Output 15</td> <td>0x040F</td> <td>Output 16</td> <td>0</td> </tr> <tr> <td>Input 16</td> <td>0</td> <td>Output 16</td> <td>0x0410</td> <td></td> <td></td> </tr> </tbody> </table>	Address	Value	Address	Value	Address	Value	Input 1	0	Output 1	0x0401	Output 2	0	Input 2	0	Output 2	0x0402	Output 3	0	Input 3	0	Output 3	0x0403	Output 4	0	Input 4	0	Output 4	0x0404	Output 5	0	Input 5	0	Output 5	0x0405	Output 6	0	Input 6	0	Output 6	0x0406	Output 7	0	Input 7	0	Output 7	0x0407	Output 8	0	Input 8	0	Output 8	0x0408	Output 9	0	Input 9	0	Output 9	0x0409	Output 10	0	Input 10	0	Output 10	0x040A	Output 11	0	Input 11	0	Output 11	0x040B	Output 12	0	Input 12	0	Output 12	0x040C	Output 13	0	Input 13	0	Output 13	0x040D	Output 14	0	Input 14	0	Output 14	0x040E	Output 15	0	Input 15	0	Output 15	0x040F	Output 16	0	Input 16	0	Output 16	0x0410		
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Input 16	0	Output 16	0x0410																																																																																																					

Korak	Opis	Slika
5	Pritisnite <b>Change Configuration</b> (Zamenjaj konfiguracijo), da nastavite IP-naslov.	<p>The screenshot shows the 'Configuration' section of the KUNBUS-GW EtherNet/IP interface. At the bottom right of this section, there is a small menu with three options: 'Change Configuration', 'Change Password', and 'Reboot'. A red arrow points to the 'Change Configuration' option.</p>
6	Zamenjajte IP-naslov v skladu z naslovom prehoda. Za potrditev pritisnite <b>Apply</b> (Uporabi). Izklopite vsa stikala DIP. Izklopite napajanje prehoda, nato ponovno zaženite. Zdaj je v uporabi novi IP-naslov.	<p>The screenshot shows the 'Change Configuration' dialog box. In the 'Gateway' row, the 'Old Value' is '192.168.1.8' and the 'New Value' is '192.168.1.1'. The 'Apply' button at the bottom left of the dialog box is circled in red.</p>

## Razdelek 8 Konfiguracija prehoda Profinet

Korak	Opis	Slika
1	<ul style="list-style-type: none"> <li>Z adapterjem LAN-do-LAN povežite prehod Profinet z osebnim računalnikom.</li> <li>Glejte <a href="#">Uvod</a> na strani 361. Uporabite povezavo podnjene enote PREHODA Profinet IRT. Upoštevajte navodila v proizvajalčevem uporabniškem priročniku – <i>Komponenta prehoda za PROFINET</i>.</li> <li>Uporabite programsko opremo PRONETA, da nastavite ime na <b>kunbus-gw-profinet</b>.</li> <li>Vnesite <b>IP-naslov</b>, ki je v uporabi.</li> </ul>	
2	<p>Odprite brskalnik in vnesite IP-naslov. Prijavni podatki za prvo prijavo: Uporabnik: Admin Geslo: 1701 Pritisnite <b>Login</b> (Prijava).</p>	

Korak	Opis	Slika																
3	Pritisnite <b>Show</b> (Prikaži; A) za prikaz vhodnih podatkov.	<p><b>KUNBUS-GW PROFINET TPS-1</b></p> <p>A</p> <p><b>Input data (from neighbour device)</b> <input type="button" value="Show"/></p> <p><b>Output data (from PROFINET Controller)</b> <input type="button" value="Show"/></p> <p><b>Configuration</b></p> <table> <tbody> <tr> <td>Serial number</td> <td>4581</td> </tr> <tr> <td>Software Version</td> <td>1.2</td> </tr> <tr> <td>MAC Address</td> <td>c8:3e:a7:01:2c:3a</td> </tr> <tr> <td>IP address</td> <td>192.168.0.230</td> </tr> <tr> <td>Subnet mask</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>0.0.0.0</td> </tr> <tr> <td>IO Controller state</td> <td>no AR established, access from web page possible</td> </tr> <tr> <td>PROFINET Name of Station</td> <td>kunbus-gw-profinet</td> </tr> </tbody> </table> <p><input type="button" value="Change Password"/></p>	Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:2c:3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
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4	<p>Prikaže vse podatke, ki so bili s kontrolne enote poslani na prehod Profinet.</p> <p>Kontrolna enota in prehod Profinet preneseta podatkovno območje 0000 - 01BF, ki je v razponu 448 bajtov ali 112 števil s plavajočo vejico ali 224 celih števil ali kombinacije omenjenih, in sicer na osnovi vrste telegrama Modbus TCP v kontrolni enoti.</p>	<p><b>KUNBUS-GW PROFINET TPS-1</b></p> <p><b>Input (from neighbour device)</b></p> <p>Main page</p> <table border="1"> <thead> <tr> <th>Address</th> <th>0</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr><td>0x0000</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> 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## Razdelek 9 Odpravljanje težav

### 9.1 Odpravljanje težav – RevPi

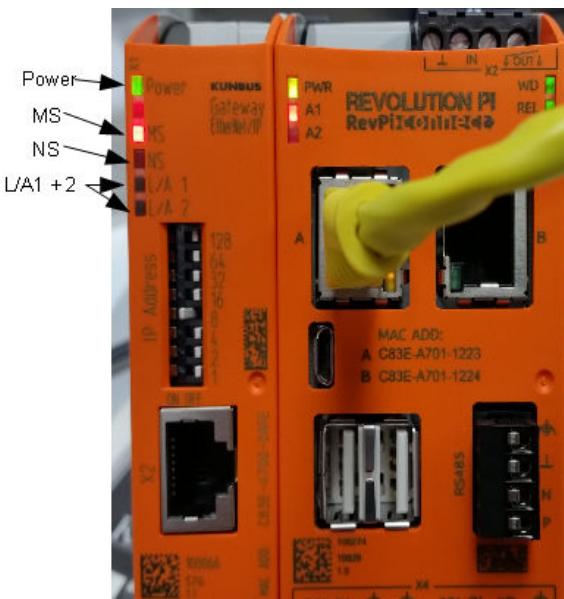
Slika 4 Osnovni modul RevPi



Sporočilo	Opis	Rešitev
Dioda LED A2 utripa rdeče.	Komunikacija je zaustavljena.	<ul style="list-style-type: none"><li>Priključite omrežni kabel (kabel ali usmerjevalnik).</li><li>Nastavitev »Modbus address« (Naslov Modbus) v sistemu Claros nastavite na 1.</li><li>Modbus TCP v meniju sistema Claros nastavite na »On« (Vklapljen).</li></ul>
Dioda LED A3 počasi utripa rdeče.	Konfiguracija prehodov Ethernet/IP in Profinet je pomešana.	Oglejte si <a href="#">Zagon konfiguracije USB</a> na strani 363, korak 4 in izberite ustrezno vrsto prehoda: <ul style="list-style-type: none"><li>en – Ethernet/IP</li><li>pn – Profinet</li></ul>

## 9.2 Odpravljanje težav – Ethernet/IP

Slika 5 Prehod Ethernet/IP



Sporočilo	Opis	Rešitev
Indikator vklopa ne sveti.	Prehod Ethernet/IP je izklopljen.	Vklopite enoto.
Indikator vklopa utripa zeleno.	Postopek zagona ni dokončan.	Počakajte nekaj minut.
Indikator vklopa utripa rdeče.	Opozarja.	Preverite, ali so priključene vse naprave.
Indikator vklopa sveti rdeče.	Kaže na napako.	Prehod Ethernet/IP je v okvari. Zamenjajte prehod Ethernet/IP.
Dioda LED MS ne sveti.	Prehod Ethernet/IP je izklopljen.	Vklopite enoto.
Dioda LED MS utripa zeleno.	Postopek konfiguracije ni dokončan.	Počakajte nekaj minut.
Dioda LED MS utripa rdeče.	Kaže na napako konfiguracije.	Za pregled konfiguracije glejte <a href="#">Konfiguracija prehoda Ethernet/IP</a> na strani 373.
Dioda LED MS sveti rdeče.	Kaže na napako.	Prehod Ethernet/IP je v okvari. Zamenjajte prehod Ethernet/IP.
Dioda LED MS utripa rdeče in zeleno.	Samopreverjanje ni dokončano.	Počakajte nekaj minut.
Dioda LED NS ne sveti.	Prehod Ethernet/IP je izklopljen ali nima IP-naslova.	Vklopite enoto. Nastavite IP-naslov.
Dioda LED NS utripa zeleno.	IP-naslov je nastavljen, vendar povezava CIP ni vzpostavljena.	Počakajte nekaj minut.

Sporočilo	Opis	Rešitev
Dioda LED NS utripa rdeče.	Povezava CIP je zaustavljena.	Preverite, ali je prišlo do preteka časa.
Dioda LED NS sveti rdeče.	Izbrani IP-naslov uporablja druga naprava.	IP-naslov spremenite v edinstven naslov IP.
Dioda LED L/A 1 ali 2 ne sveti.	Ni povezave z drugimi napravami.	Povežite z napravo.
Dioda LED L/A 1 ali 2 utripa zeleno.	Ni izmenjave podatkov.	Počakajte do naslednje izmenjave podatkov.

### 9.3 Odpravljanje težav – Profinet

Slika 6 Prehod Profinet



Sporočilo	Opis	Rešitev
Indikator vklopa ne sveti.	Prehod Profinet je izklopljen.	Vklopite enoto.
Indikator vklopa utripa zeleno.	Postopek zagona ni dokončan.	Počakajte nekaj minut.
Indikator vklopa utripa rdeče.	Opozarja.	Preverite, ali so nameščene vse naprave.
Indikator vklopa sveti rdeče.	Kaže na napako.	Prehod Profinet je v okvari. Zamenjajte prehod Profinet.
Indikator delovanja ne sveti.	Ni povezave z omrežjem.	Povežite z omrežjem.
Indikator delovanja utripa zeleno.	Kontrolna enota Profinet je povezana, a ni izmenjave podatkov.	Počakajte do naslednje izmenjave podatkov.

Sporočilo	Opis	Rešitev
Indikator delovanja počasi utripa zeleno.	Sproži ga orodje za identifikacijo komponente prehoda.	Počakajte nekaj minut.
Indikator diagnostike utripa rdeče.	Sproži ga orodje za identifikacijo komponente prehoda.	Počakajte nekaj minut.
Indikator diagnostike hitro utripa rdeče.	Ni povezave s kontrolno enoto. V modulu ni nastavljeno ime za Profinet.	Za nastavitev imena glejte <a href="#">Konfiguracija prehoda Profinet</a> na strani 376.
Indikator diagnostike sveti rdeče.	Naprava prehoda poroča diagnostične podatke.	Oglejte si diagnostično poročilo.
Dioda LED L/A 1 ali 2 ne sveti.	Ni povezave z omrežjem.	Povežite z omrežjem.
Dioda LED L/A 1 ali 2 utripa zeleno.	Izmenjava podatkov.	Počakajte, da je izmenjava podatkov dokončana.

## Innehållsförteckning

- |   |  |
|---|--|
| 1 Avsedd användning på sidan 383                                    | 6 Konfigurera SC1500-styrenhetens Modbus TCP-telegram på sidan 392 |
| 2 Inledning på sidan 383  | 7 Konfigurera Ethernet/IP-gatewayen på sidan 395                   |
| 3 Starta USB-konfigurationen på sidan 385                           | 8 Konfigurera Profinet-gatewayen på sidan 398                      |
| 4 Installationsexempel på sidan 386                                 | 9 Felsökning på sidan 401  |
| 5 Konfigurera SC4200c-styrenhetens Modbus TCP-telegram på sidan 389 |  |

## Avsnitt 1 Avsedd användning

Dessa konfigurationsanvisningar är avsedda för personer som integrerar en extern Ethernet/IP-gateway eller Profinet-gateway som maskinvarukomponenter i Claros-nätverket.

## Avsnitt 2 Inledning

Tillverkaren tar inget ansvar för skador till följd av att produkten används på fel sätt eller missbrukas. Det omfattar utan begränsning direkta skador, oavsiktliga skador eller följdskador. Tillverkaren avsäger sig allt ansvar i den omfattning gällande lag tillåter. Användaren är ensam ansvarig för att identifiera kritiska användningsrisker och installera lämpliga mekanismer som skyddar processer vid eventuella utrustningsfel.

### **FARA**



Risk för dödande elchock. Koppla alltid bort strömmen till instrumentet innan du gör elektriska kopplingar.

### Artiklar som ska finnas tillgängliga:

- USB-minne formaterat som FAT32
- Windows-dator<sup>1</sup> 10
- Modul:
  - För Ethernet/IP-implementering:
    - LXZ446.99.00001: GATEWAY IIoT RevPi-basmodul
    - LXZ446.99.00002: GATEWAY Ethernet/IP-slav
    - LXZ446.99.00003: Bygel för PiBridge
  - För Profinet-implementering:
    - LXZ446.99.00001: GATEWAY IIoT RevPi-basmodul
    - LXZ446.99.00007: GATEWAY Profinet IRT-slav
    - LXZ446.99.00003: Bygel för PiBridge

Anslut de tre modulerna RevPi, slaven och PiBridge till ström och LAN-nätverket.

Se länkarna i tabellen nedan för att få mer information från modulernas tillverkare.

Modul	Länk
GATEWAY Profinet IRT-slav	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
GATEWAY Ethernet/IP-slav	<a href="https://www.kunbus.com/ethernet-ip-gateway-module.html">https://www.kunbus.com/ethernet-ip-gateway-module.html</a>
GATEWAY IIoT RevPi-basmodul	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>

<sup>1</sup> Microsoft® Windows® är ett registrerat varumärke som tillhör Microsoft Corporation i USA och andra länder.

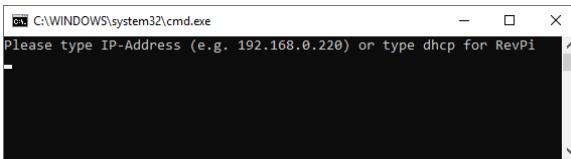
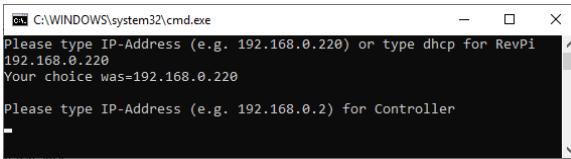
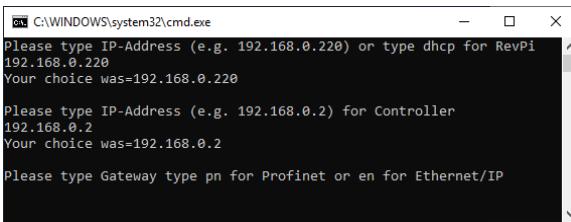
Modul	Länk
Hur man ansluter RevPi-moduler	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>
Hur man installerar RevPi-moduler på en DIN-skena	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
Hur man ansluter du strömförslingen	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

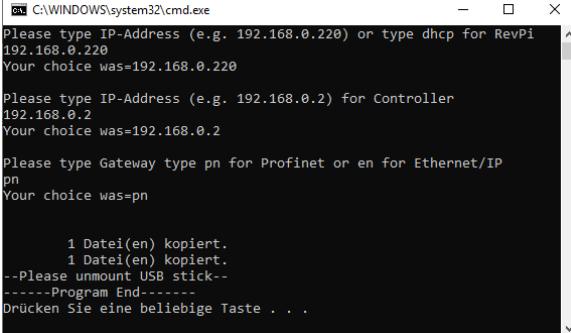
## Förbered USB-minnet

1. Sätt i ett tomt USB-minne i datorn.
2. Gå till <https://www.hach.com> och sök efter nyckelorden "usb ethernet/IP installation" eller "usb profinet installation".
3. Hämta filen USB\_ETHIP\_PRNET.zip.
4. Packa upp filen i USB-minnets rotkatalog.

## Avsnitt 3 Starta USB-konfigurationen

Sätt i det förberedda USB-minnet i datorn.

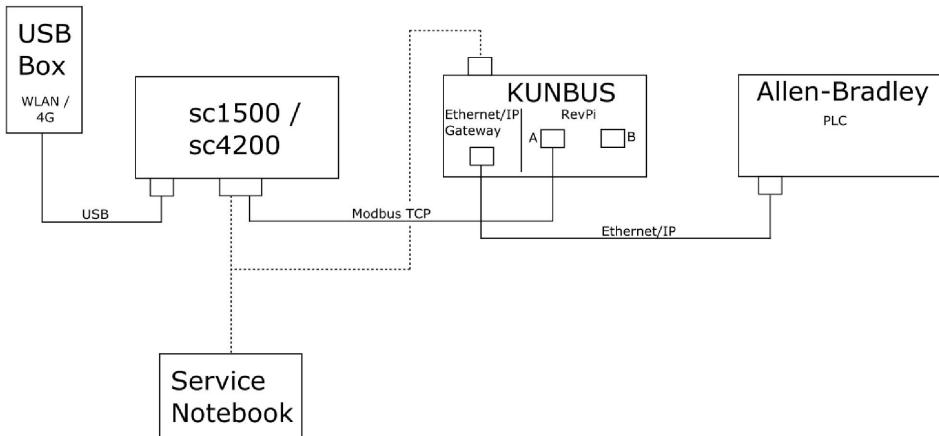
Steg	Beskrivning	Bild
1	Starta start_usb_config.bat. Ett terminalfönster öppnas. Följ den stegvisa guiden.	
2	Ange RevPi-modulens IP-adress.	
3	Ange SC-styrenhetens IP-adress. Se till att nätverksprefixet är detsamma som för RevPi-modulen (t.ex. 192.168.0). Se till att värdidentifieraren skiljer sig från RevPi-modulen (t.ex. 220 för RevPi, 2 för styrenheten).	
4	Ange typ av gateway: <ul style="list-style-type: none"><li>• pn – Profinet</li><li>• en – Ethernet/IP</li></ul>	

Steg	Beskrivning	Bild
5	Bekräfta varje inställning genom att trycka på Enter. Ta ut USB-minnet.	
6	Sätt in USB-minnet i det vänstra USB-uttaget på RevPi-modulen.	
7	LED-beskrivning: <ul style="list-style-type: none"> <li>• A1/A2 orange: RevPi-installationen startar.</li> <li>• A1 röd, A2 av: Sätt i USB-minnet för RevPi.</li> <li>• A1 grön, A2 av: USB-minnet har satts i.</li> <li>• A1 av, A2 grön: RevPi hämtar/överför data från/till USB-minnet.</li> <li>• A3 röd: RevPi startar om.</li> </ul> Ta ut USB-minnet när A3 är röd.	
8	RevPi-inställningarna är slutförda.	

## Avsnitt 4 Installationsexempel

Figur 1 visar en installation med två olika LAN-anslutningar.

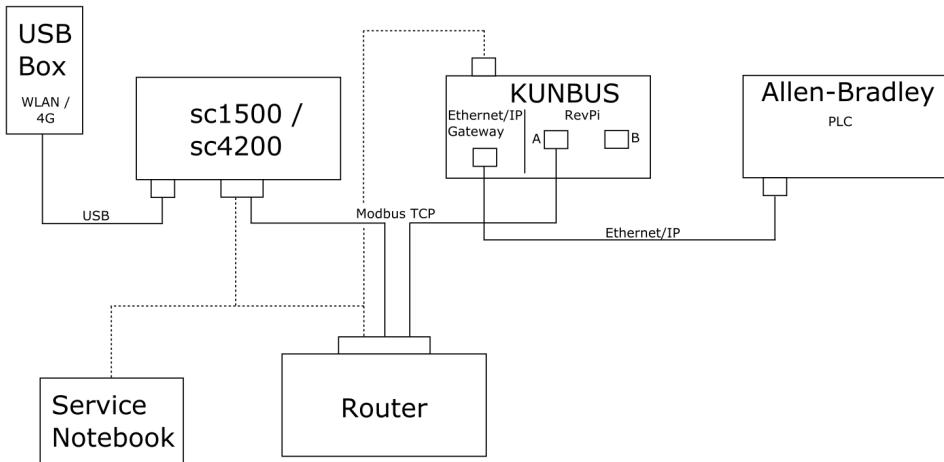
**Figur 1 Exempel 1**



- Modbus TCP och Ethernet/IP använder två olika LAN-anslutningar.
- Alla enheter har en statisk IP-adress.
- Styrenheten har internetåtkomst via Wi-Fi- eller mobilanslutning.
- Du måste använda en bärbar dator för att konfigurera styrenhetens och Ethernet/IP-gatewayens IP-adress.

Figur 2 visar en installation med en router för Modbus TCP-anslutningen.

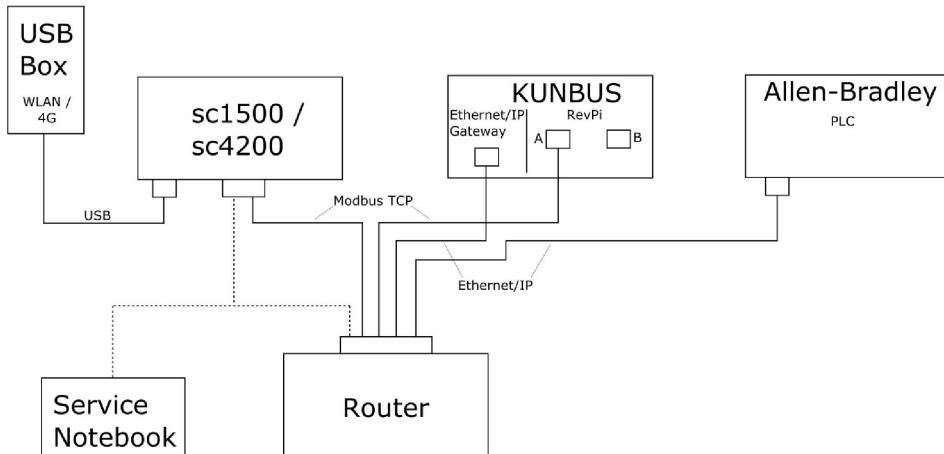
Figur 2 Exempel 2



- Modbus TCP är ansluten till en router.
- Alla enheter har en statisk IP-adress eller också ställer routern in IP-adressen via DHCP.  
*Observera: Se till att routern alltid använder samma IP-adress för samma enheter (MAC) om DHCP används.*
- Styrenheten har internetåtkomst via Wi-Fi- eller mobilanslutning.
- Du måste använda en bärbar dator för att konfigurera styrenhetens, Ethernet/IP-gatewayens och routerns IP-adress.

Figur 3 visar en installation med en router eller switch för alla enheter.

Figur 3 Exempel 3

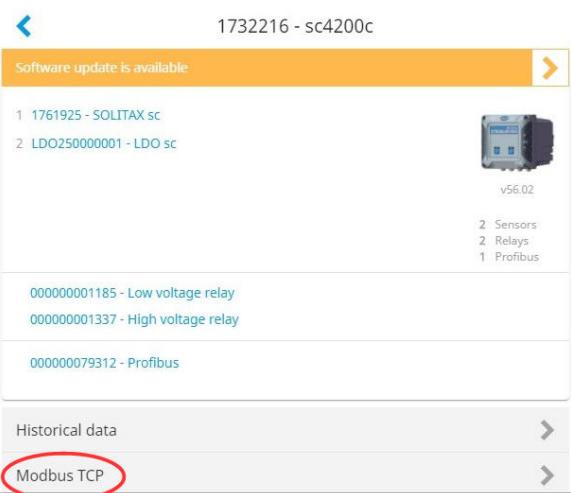
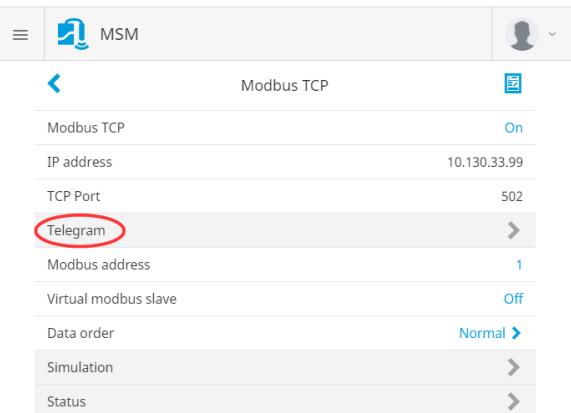


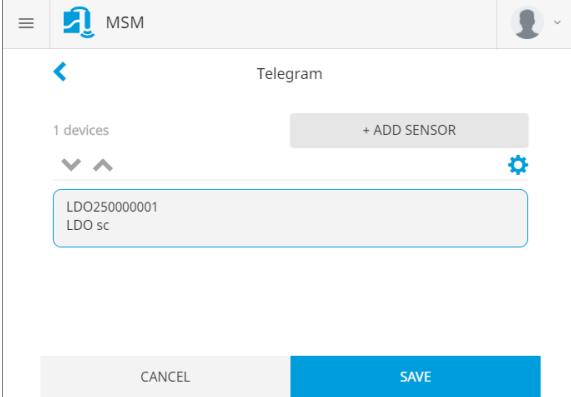
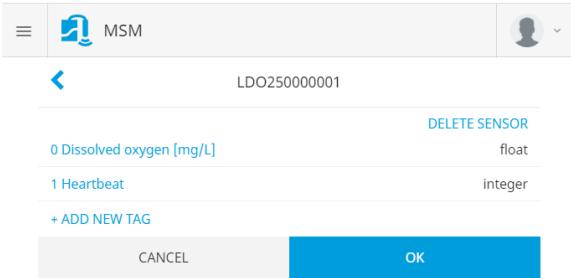
- Alla enheter är anslutna via en router eller switch.
- Alla enheter har en statisk IP-adress eller också ställer routern eller switchen in IP-adressen via DHCP.

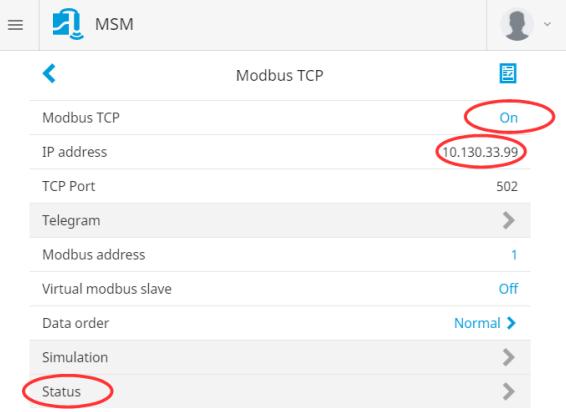
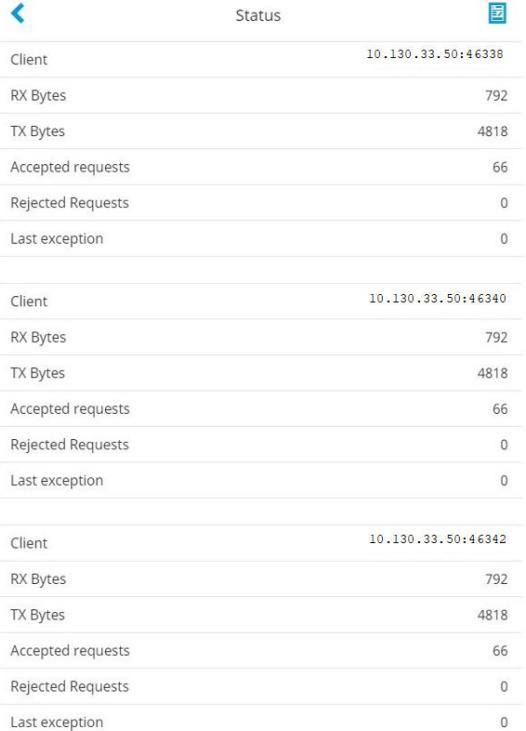
- Observera:** Se till att routern alltid använder samma IP-adress för samma enheter (MAC) om DHCP används.
- Styrenheten har internetåtkomst via Wi-Fi- eller mobilanslutning.
  - Du måste använda en bärbar dator för att konfigurera styrenhetens och routerns IP-adress.

## Avsnitt 5 Konfigurera SC4200c-styrenhetens Modbus TCP-telegram

Starta Claros-programmet och följ den stegvisa guiden.

Steg	Beskrivning	Bild
1	Välj styrenhetsmenyn och tryck sedan på <b>Modbus TCP</b> .	 <p>1732216 - sc4200c</p> <p>Software update is available</p> <p>1 1761925 - SOLITAX sc 2 LDO250000001 - LDO sc</p> <p>v56.02</p> <p>2 Sensors 2 Relays 1 Profibus</p> <p>000000001185 - Low voltage relay 000000001337 - High voltage relay</p> <p>000000079312 - Profibus</p> <p>Historical data</p> <p>Modbus TCP</p>
2	Välj <b>Telegram</b> för att ställa in Modbus TCP-telegram.	 <p>MSM</p> <p>Modbus TCP</p> <p>Modbus TCP On</p> <p>IP address 10.130.33.99</p> <p>TCP Port 502</p> <p>Telegram</p> <p>Modbus address 1</p> <p>Virtual modbus slave Off</p> <p>Data order Normal</p> <p>Simulation</p> <p>Status</p>

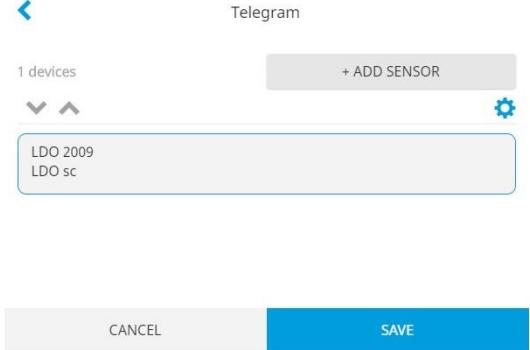
Steg	Beskrivning	Bild
3	<p>Det telegram som visas är ett exempel på LDO sc-sensorn. Ställ in Heartbeat på heltalet. Heartbeat är en räknare som visar värdelets uppdatering i steg på en sekund.</p> <p><b>Observera:</b> Innehållet i Modbus TCP-telegram är detsamma som Profibus-telegram.</p>	 

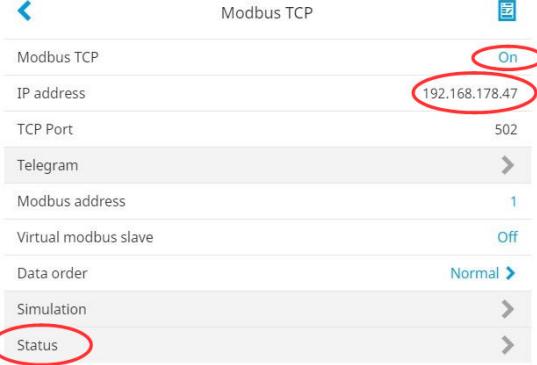
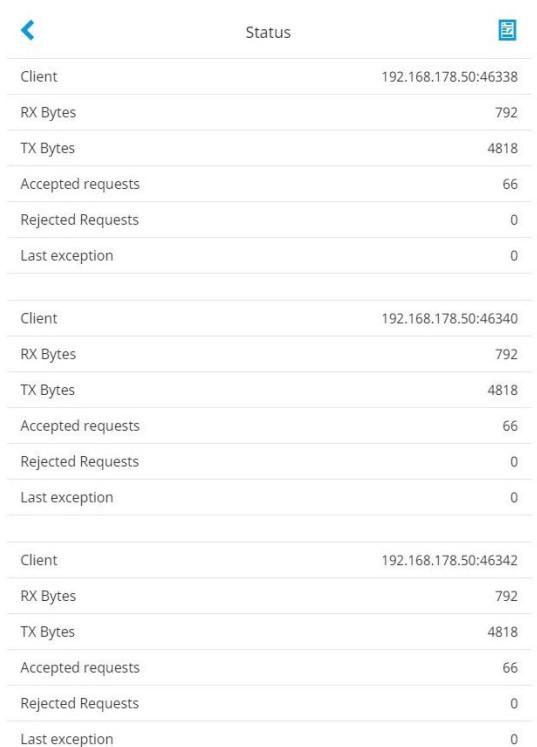
Steg	Beskrivning	Bild																																								
4	Modbus TCP-menyn visar styrenhetens IP-adress. <b>10.130.33.99</b> är den IP-adress som är inställt i styrenhetens servicemeny. Ställ in Modbus TCP på <b>On (På)</b> och tryck sedan på <b>Status</b> .	 <p>Modbus TCP</p> <p>IP address <b>10.130.33.99</b></p> <p>Status</p>																																								
5	Statusmenyn visar Modbus TCP-statistik. <b>10.130.33.50</b> är RevPi-modulens IP-adress. RevPi har fem Modbus TCP-master.	 <table border="1"> <tbody> <tr> <td>Client</td> <td>10.130.33.50:46338</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td>Client</td> <td>10.130.33.50:46340</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td>Client</td> <td>10.130.33.50:46342</td> </tr> <tr> <td>RX Bytes</td> <td>792</td> </tr> <tr> <td>TX Bytes</td> <td>4818</td> </tr> <tr> <td>Accepted requests</td> <td>66</td> </tr> <tr> <td>Rejected Requests</td> <td>0</td> </tr> <tr> <td>Last exception</td> <td>0</td> </tr> </tbody> </table>	Client	10.130.33.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0			Client	10.130.33.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0			Client	10.130.33.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Avsnitt 6 Konfigurera SC1500-styrenhetens Modbus TCP-telegram

Starta Claros-programmet och följ den stegvisa guiden.

Steg	Beskrivning	Bild
1	Välj styrenhetsmenyn och tryck sedan på <b>Modbus TCP</b> .	<p>The screenshot shows the SC1500 configuration interface. At the top, there's a navigation bar with a back arrow and the identifier "1694389 - sc1500". Below this, there are three numbered items: 1 1327087 - AN-ISE sc, 2 1555058 - AN-ISE sc, and 3 LDO 2009 - LDO sc. To the right of these items is a small icon of the SC1500 device labeled "v20.12". Further down, there are sections for "000000074854 - mA output" and "000005009872 - Profibus". A section titled "Historical data" has two arrows pointing right. Below this is a section titled "Modbus TCP" which is circled in red.</p>
2	Välj <b>Telegram</b> för att ställa in Modbus TCP-telegram.	<p>This screenshot shows the "Modbus TCP" configuration screen. It includes fields for "Modbus TCP" (set to "On"), "IP address" (set to "192.168.178.47"), "TCP Port" (set to "502"), and "Modbus address" (set to "1"). The "Telegram" option is highlighted with a red circle. Other visible options include "Virtual modbus slave" (set to "Off"), "Data order" (set to "Normal"), "Simulation", and "Status".</p>

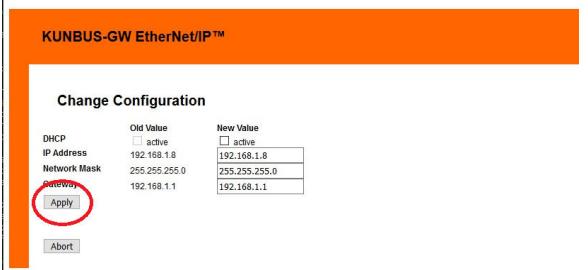
Steg	Beskrivning	Bild
3	<p>Det telegram som visas är ett exempel på LDO sc-sensorn. Ställ in Heartbeat på heltalet. Heartbeat är en räknare som visar värdets uppdatering i steg på en sekund.</p> <p><b>Observera:</b> Innehållet i Modbus TCP-telegram är detsamma som Profibus-telegram.</p>	 

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4	Modbus TCP-menyn visar styrenhetens IP-adress. <b>192.168.178.47</b> är den IP-adress som är inställd i styrenhetens servicemeny. Ställ in Modbus TCP på <b>On (På)</b> och tryck sedan på <b>Status</b> .	 <table border="1"> <tr><td>Modbus TCP</td><td>On</td></tr> <tr><td>IP address</td><td>192.168.178.47</td></tr> <tr><td>TCP Port</td><td>502</td></tr> <tr><td>Telegram</td><td></td></tr> <tr><td>Modbus address</td><td>1</td></tr> <tr><td>Virtual modbus slave</td><td>Off</td></tr> <tr><td>Data order</td><td>Normal &gt;</td></tr> <tr><td>Simulation</td><td></td></tr> <tr><td>Status</td><td></td></tr> </table>	Modbus TCP	On	IP address	192.168.178.47	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal >	Simulation		Status																			
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## Avsnitt 7 Konfigurera Ethernet/IP-gatewayen

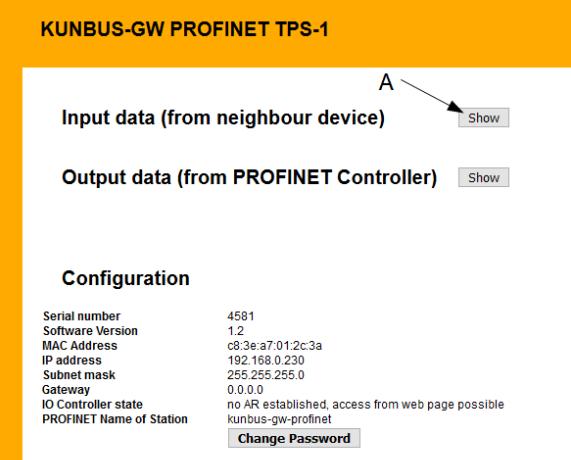
Steg	Beskrivning	Bild
1	<ul style="list-style-type: none"> <li>Anslut Ethernet/IP-gatewayen till datorn via LAN till USB-adapterkabeln.</li> <li>Mer information finns i <a href="#">Inledning</a> på sidan 383. Använd GATEWAY Ethernet/IP Slave-länken. Följ anvisningarna i tillverkarens användarhandbok <i>Gateway Component for Ethernet/IP</i>.</li> <li>Använd adresswitchen (A) med åtta stift för att ställa in värdidentifieraren på gatewayens binära format.           <ul style="list-style-type: none"> <li>Exempel: Ställ in värdena på 8: 00010000</li> </ul> </li> <li>Gå till webbplatsen <a href="http://192.168.1.X">http://192.168.1.X</a> (X = summan av alla switchar som är inställda på ON).</li> </ul>	
2	<p>Öppna webbläsaren och ange IP-adressen 192.168.1.X. Inloggningsuppgifter för första inloggning:</p> <p>Användarnamn: Admin Lösenord: 1701 Tryck på <b>Login (Logga in)</b>.</p>	<div style="background-color: orange; color: white; padding: 10px; text-align: center;"> <p><b>KUNBUS-GW EtherNet/IP™</b></p> <hr/> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="flex: 1;"> <p>Username: <input type="text" value="Admin"/></p> <p>Password: <input type="password"/></p> </div> <div style="flex: 1;"> <input type="button" value="Login"/> </div> </div> <p><a href="#">Download EDS file.</a></p> </div>

Steg	Beskrivning	Bild																																																																																																			
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5	Tryck på <b>Change Configuration (Ändra konfiguration)</b> för att ställa in IP-adressen.	 <p>KUNBUS-GW EtherNet/IP™</p> <p>Log Out</p> <p>Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output</p> <p>Modbus Register 0x0001 - 0x0010 and 0x0401 - 0x0410 Modbus Register 0x0011 - 0x0020 and 0x0411 - 0x0420 Modbus Register 0x0021 - 0x0030 and 0x0421 - 0x0430 Modbus Register 0x0031 - 0x0040 and 0x0431 - 0x0440</p> <p>Show Show Show Show</p> <p><b>Configuration</b></p> <p>Serial number: 594 Software Version: 1.1.3444 MAC Address: IP address: 192.168.1.8 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 DHCP: <input type="checkbox"/> active</p> <p><b>Change Configuration</b> <b>Change Password</b> <b>Reboot</b></p> <p><a href="#">Download EDR file.</a></p>															
6	<p>Ändra IP-adressen i enlighet med gatewayadressen. Bekräfta genom att trycka på <b>Apply (Verkställ)</b>. Ställ in alla DIP-switchar på OFF. Stäng av strömmen till gatewayen och starta sedan om. Nu används den nya IP-adressen.</p>	 <p>KUNBUS-GW EtherNet/IP™</p> <p><b>Change Configuration</b></p> <table border="1"> <thead> <tr> <th></th> <th>Old Value</th> <th>New Value</th> </tr> </thead> <tbody> <tr> <td>DHCP</td> <td><input type="checkbox"/> active</td> <td><input type="checkbox"/> active</td> </tr> <tr> <td>IP Address</td> <td>192.168.1.8</td> <td>192.168.1.8</td> </tr> <tr> <td>Network Mask</td> <td>255.255.255.0</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>192.168.1.1</td> <td>192.168.1.1</td> </tr> </tbody> </table> <p><b>Apply</b> <b>Abort</b></p>		Old Value	New Value	DHCP	<input type="checkbox"/> active	<input type="checkbox"/> active	IP Address	192.168.1.8	192.168.1.8	Network Mask	255.255.255.0	255.255.255.0	Gateway	192.168.1.1	192.168.1.1
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## Avsnitt 8 Konfigurera Profinet-gatewayen

Steg	Beskrivning	Bild
1	<ul style="list-style-type: none"> <li>Anslut Profinet-gatewayen till datorn via LAN till LAN-adapttern.</li> <li>Mer information finns i <a href="#">Inledning</a> på sidan 383. Använd GATEWAY Profinet IRT Slave-länken. Följ anvisningarna i tillverkarens användarhandbok <i>Gateway Component for PROFINET</i>.</li> <li>Använd programmet PRONETA för att ange namnet som <b>kunbus-gw-profinet</b>.</li> <li>Ange den <b>IP-adress</b> som används.</li> </ul>	<p>The screenshot shows the PRONETA software interface. On the left, there's a network diagram with nodes labeled 'de-3dydy42-p PRONETA' and 'cb-3e-a7-00-26-05 KUNBUS-GW Profinet TPS-1'. In the center, there's a 'Geräteabelle - Online' (Device Table) window. It lists one device: '1 cb-3e-a7-00-26-05 KUNBUS-GW Profinet TPS-1' with the IP address '192.168.1.10'. Two specific fields are circled with red arrows pointing to them: 'kunbus-gw-profinet' under 'Name' and 'IP-Address' under 'Netzwerk'.</p>
2	<p>Öppna webbläsaren och ange IP-adressen. Inloggningsuppgifter för första inloggning: Användarnamn: Admin Lösenord: 1701 Tryck på <b>Login (Logga in)</b>.</p>	<p>The screenshot shows a yellow-themed login page for 'KUNBUS-GW PROFINET TPS-1'. It has two input fields: 'Username:' containing 'Admin' and 'Password:' containing four dots ('••••'). Below the password field is a 'Login' button.</p>

Steg	Beskrivning	Bild																
3	Tryck på <b>Show (Visa)</b> (A) för att visa indata.	 <p>KUNBUS-GW PROFINET TPS-1</p> <p>A</p> <p>Input data (from neighbour device) <input type="button" value="Show"/></p> <p>Output data (from PROFINET Controller) <input type="button" value="Show"/></p> <p><b>Configuration</b></p> <table> <tbody> <tr> <td>Serial number</td> <td>4581</td> </tr> <tr> <td>Software Version</td> <td>1.2</td> </tr> <tr> <td>MAC Address</td> <td>c8:3e:a7:01:2c:3a</td> </tr> <tr> <td>IP address</td> <td>192.168.0.230</td> </tr> <tr> <td>Subnet mask</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>0.0.0.0</td> </tr> <tr> <td>IO Controller state</td> <td>no AR established, access from web page possible</td> </tr> <tr> <td>PROFINET Name of Station</td> <td>kunbus-gw-profinet</td> </tr> </tbody> </table> <p><input type="button" value="Change Password"/></p>	Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:2c:3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
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Subsequent rows show all zeros for each address.</p> <table border="1"> <thead> <tr> <th>Address</th> <th>0</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr><td>0x0000</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0010</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0020</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> 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## Avsnitt 9 Felsökning

### 9.1 Felsökning av RevPi

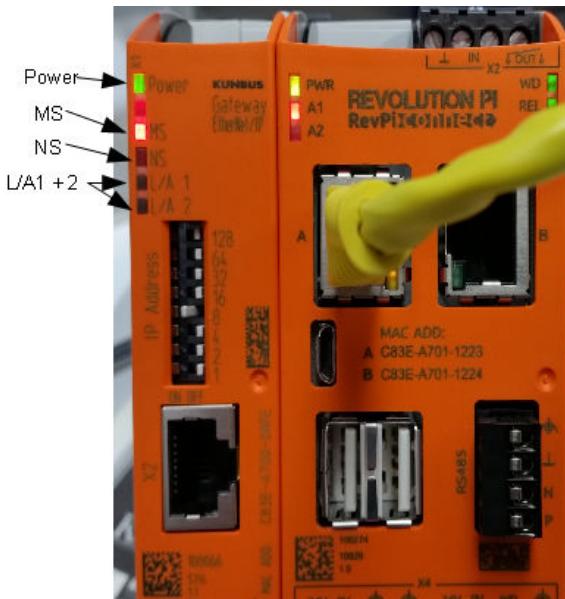
Figur 4 RevPi Basic-modul



Meddelande	Beskrivning	Lösning
Lampa A2 blinkar rött.	Kommunikationen har avbrutits.	<ul style="list-style-type: none"><li>Anslut nätverkskabeln (kabel eller router).</li><li>Ställ in Modbus-adressinställningen i Claros på 1.</li><li>Ställ in Modbus TCP i Claros-menyn på ON.</li></ul>
Lampa A3 blinkar långsamt rött.	Konfigurationen av Ethernet/IP- och Profinet-gateway har blandats ihop.	Se <a href="#">Starta USB-konfigurationen</a> på sidan 385, steg 4 och välj rätt typ av gateway: <ul style="list-style-type: none"><li>en – Ethernet/IP</li><li>pn – Profinet</li></ul>

## 9.2 Felsökning av Ethernet/IP

Figur 5 Ethernet/IP-gateway

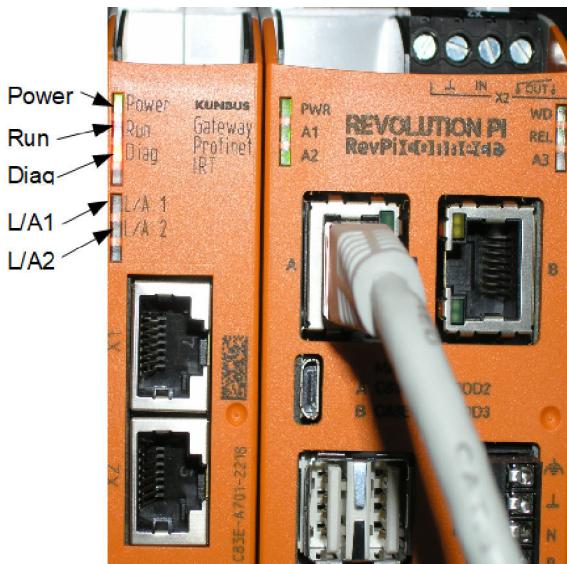


Meddelande	Beskrivning	Lösning
Strömlampan är släckt.	Ethernet/IP-gatewayen är avstängd.	Slå på strömmen.
Strömlampan blinkar grönt.	Startproceduren har inte slutförts.	Vänta några minuter.
Strömlampan blinkar rött.	Anger en varning.	Se efter om alla enheter är anslutna.
Strömlampan lyser rött.	Anger ett fel.	Ethernet/IP-gatewayen är defekt. Byt ut Ethernet/IP-gatewayen.
MS-lampan är släckt.	Ethernet/IP-gatewayen är avstängd.	Slå på strömmen.
MS-lampan blinkar grönt.	Konfigurationsproceduren har inte slutförts.	Vänta några minuter.
MS-lampan blinkar rött.	Anger ett konfigurationsfel.	Se <a href="#">Konfigurera Ethernet/IP-gatewayen</a> på sidan 395 för att ta reda på hur man undersöker konfigurationen.
MS-lampan lyser rött.	Anger ett fel.	Ethernet/IP-gatewayen är defekt. Byt ut Ethernet/IP-gatewayen.
MS-lampan blinkar rött och grönt.	Självtestet har inte slutförts.	Vänta några minuter.

Meddelande	Beskrivning	Lösning
NS-lampan är släckt.	Ethernet/IP-gatewayen är avstängd eller också har den ingen IP-adress.	Slå på strömmen. Konfigurera IP-adressen.
NS-lampan blinkar grönt.	IP-adressen är inställd, men CIP-anslutningen har inte upprättats.	Vänta några minuter.
NS-lampan blinkar rött.	CIP-anslutningen har avbrutits.	Kontrollera om det förekommer en timeout.
NS-lampan lyser rött.	Den valda IP-adressen används av en annan enhet.	Ändra IP-adressen till en unik IP-adress.
Lampa L/A 1 eller 2 är släckt.	Det finns ingen anslutning till andra enheter.	Anslut till en enhet.
Lampa L/A 1 eller 2 blinkar grönt.	Inget datautbyte.	Vänta tills nästa datautbyte.

### 9.3 Felsökning av Profinet

Figur 6 Profinet-gateway



Meddelande	Beskrivning	Lösning
Strömlampan är släckt.	Profinet-gatewayen är avstängd.	Slå på strömmen.
Strömlampan blinkar grönt.	Startproceduren har inte slutförts.	Vänta några minuter.
Strömlampan blinkar rött.	Anger en varning.	Se efter om alla enheter är installerade.
Strömlampan lyser rött.	Anger ett fel.	Profinet-gatewayen är defekt. Byt ut Profinet-gatewayen.

Meddelande	Beskrivning	Lösning
Körningslampan är släckt.	Ingen nätverksanslutning.	Anslut till nätverket.
Körningslampan blinkar grönt.	Profinet-styrenheten är ansluten men det förekommer inget datautbyte.	Vänta tills nästa datautbyte.
Körningslampan blinkar långsamt grönt.	Aktiveras av ett verktyg för identifiering av gatewaykomponenten.	Vänta några minuter.
Diagnoslampan blinkar rött.	Aktiveras av ett verktyg för identifiering av gatewaykomponenten.	Vänta några minuter.
Diagnoslampan blinkar snabbt rött.	Ingen anslutning till styrenheten. Inget Profinet-namn inställt i modulen.	Se <a href="#">Konfigurera Profinet-gatewayen</a> på sidan 398 för att ta reda på hur man ställer in namnet.
Diagnoslampan är röd.	En gatewayenhet rapporterar diagnosdata.	Se diagnostikrapporten.
Lampa L/A 1 eller 2 är släckt.	Ingen nätverksanslutning.	Anslut till nätverket.
Lampa L/A 1 eller 2 blinkar grönt.	Datautbyte pågår.	Vänta tills datautbytet har slutförts.

## İçindekiler

- |   |  |
|---|--|
| 1 Kullanım amacı sayfa 405                                  | 6 SC1500 Denetleyici Modbus TCP telgraf kurulumu sayfa 414 |
| 2 Giriş sayfa 405   | 7 Ethernet/IP Ağ Geçidi yapılandırın sayfa 417             |
| 3 USB yapılandırmasını başlatın sayfa 407                   | 8 Profinet Ağ Geçidini yapılandırın sayfa 420              |
| 4 Kurulum örnekleri sayfa 408                               | 9 Sorun giderme sayfa 423                                  |
| 5 SC4200c Denetleyici Modbus TCP telgraf kurulumu sayfa 411 |  |

## Bölüm 1 Kullanım amacı

Bu kurulum talimatlarını, Claros ağında donanım bileşenleri olarak harici Ethernet/IP Ağ Geçidi veya Profinet Ağ Geçidi'ni entegre eden kişilerin kullanması amaçlanmıştır.

## Bölüm 2 Giriş

Üretici, doğrudan, arizi ve sonuç olarak ortaya çıkan zararlar dahil olacak ancak bunlarla sınırlı olmayacak şekilde bu ürünün hatalı uygulanması veya kullanılmasından kaynaklanan hiçbir zarardan sorumlu değildir ve yürürlükteki yasaların izin verdiği ölçüde bu tür zararları reddeder. Kritik uygulama risklerini tanımlamak ve olası bir cihaz arızasında prosesleri koruyabilmek için uygun mekanizmaların bulunmasını sağlamak yalnızca kullanıcının sorumluluğundadır.

### ⚠ TEHLIKE



Elektrik çarpması nedeniyle ölüm tehlikesi. Elektrik bağlantısı yapmadan önce cihaza giden elektriği mutlaka kesin.

### Gerekli araç gereçler:

- FAT32 olarak biçimlendirilmiş USB bellek
- Windows yüklü bilgisayar<sup>1</sup> 10
- Modül:
  - Ethernet/IP uygulaması için:
    - LXZ446.99.00001: AĞ GEÇİDİ IIoT RevPi Temel Modülü
    - LXZ446.99.00002: AĞ GEÇİDİ Ethernet/IP Slave
    - LXZ446.99.00003: PiBridge için Atlatıcı
  - Profinet uygulaması için:
    - LXZ446.99.00001: AĞ GEÇİDİ IIoT RevPi Temel Modülü
    - LXZ446.99.00007: AĞ GEÇİDİ Profinet IRT Slave
    - LXZ446.99.00003: PiBridge için Atlatıcı

RevPi, Slave ve PiBridge üç modülünü güç ve LAN'ye bağlayın.

Modüllerin üreticisinden daha fazla bilgi almak için aşağıdaki tabloda bulunan bağlantılarla bakın.

Module (Modül)	Bağlantı
AĞ GEÇİDİ Profinet IRT Slave	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
AĞ GEÇİDİ Ethernet/IP Slave	<a href="https://www.kunbus.com/ethernet-ip-gateway-module.html">https://www.kunbus.com/ethernet-ip-gateway-module.html</a>

<sup>1</sup> Microsoft® Windows®, Microsoft Corporation'ın Amerika Birleşik Devletleri ve diğer ülkelerdeki tescilli ticari markasıdır.

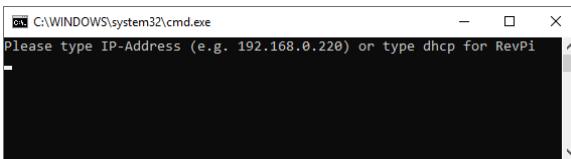
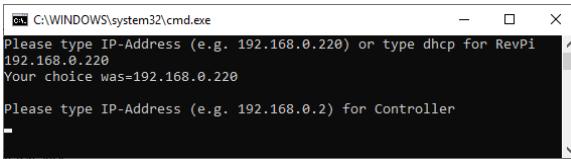
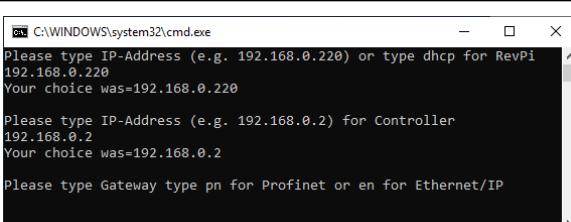
Module (Modül)	Bağlantı
GATEWAY IIoT RevPi Temel Modülü	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>
RevPi Modüllerini bağlama yöntemi	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>
DIN rayına RevPi Modüllerini takma	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
Güç kaynağını bağlama	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

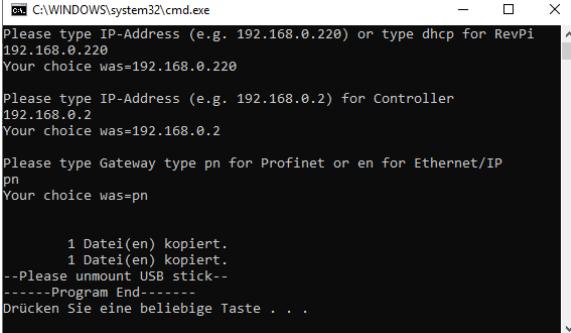
## USB belleği hazırlayın

1. Bilgisayara boş bir USB bellek takın.
2. Şuraya gidin: <https://www.hach.com> ve "usb ethernet/IP kurulumu" anahtar sözcüklerini arayın.
3. USB\_ETHIP\_PRNET.zip dosyasını indirin.
4. Sıkıştırılmış dosyayı USB belleğin kök dizinine açın.

## Bölüm 3 USB yapılandırmasını başlatın

Hazırlanan USB belleği bilgisayara takın.

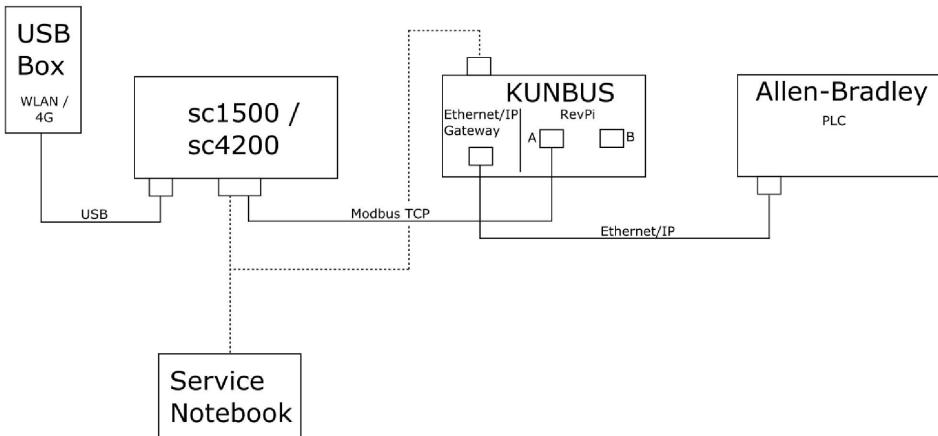
Adım	Açıklama	Resim
1	Start_usb_config.bat dosyasını başlatın. Terminal penceresi açılır. Adım adım kılavuzu takip edin.	
2	RevPi modülünün IP adresini girin.	
3	SC denetleyicisinin IP adresini girin. Ağ ön ekinin RevPi modülü ile aynı olduğundan emin olun (ör. 192.168.0). Ana bilgisayar tanımlayıcısının RevPi modülünden farklı olduğundan emin olun (ör. 220 RevPi, 2 Denetleyici).	
4	Ağ geçidi türünü girin: <ul style="list-style-type: none"><li>• pn—Profinet</li><li>• en—Ethernet/IP</li></ul>	

Adım	Açıklama	Resim
5	Ayarları Enter tuşıyla onaylayın. USB belleği çıkarın.	
6	USB belleği RevPi Modülünün sol USB soketine takın.	
7	LED açıklaması: <ul style="list-style-type: none"> <li>• A1/A2 turuncu: RevPi kurulumu başlar.</li> <li>• A1 kırmızı, A2 kapalı: RevPi USB belleği takın.</li> <li>• A1 yeşil, A2 kapalı: USB bellek başarıyla takıldı.</li> <li>• A1 kapalı, A2 yeşil: RevPi verileri USB bellekten indirir/USB belleğe yükler.</li> <li>• A3 kırmızı: RevPi yeniden başlatılır.</li> </ul> <p>A3 kırmızı olduğunda USB belleği çıkarın.</p>	
8	RevPi ayarları tamamlanmıştır.	

## Bölüm 4 Kurulum örnekleri

Şekil 1, iki farklı LAN bağlantısı bulunan kurulumu gösterir.

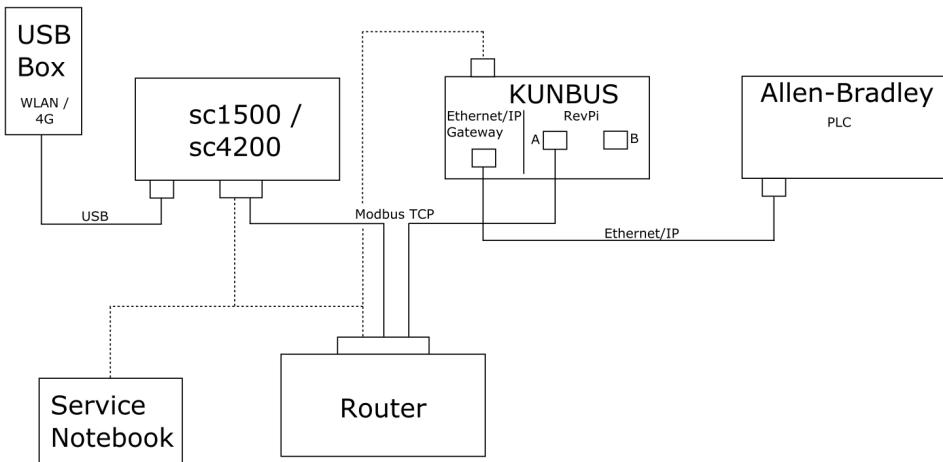
## Şekil 1 Örnek 1



- Modbus TCP ve Ethernet/IP, iki farklı LAN bağlantısı kullanır.
- Tüm cihazların statik bir IP adresi vardır.
- Denetleyicide Wi-Fi veya hücresel bağlantı ile internet erişimi bulunur.
- Denetleyicinin IP adreslerini ve Ethernet/IP ağ geçidini ayarlamak için bir dizüstü bilgisayar gereklidir.

[Şekil 2](#), Modbus TCP bağlantısı için bir yönlendirici bulunan kurulumu gösterir.

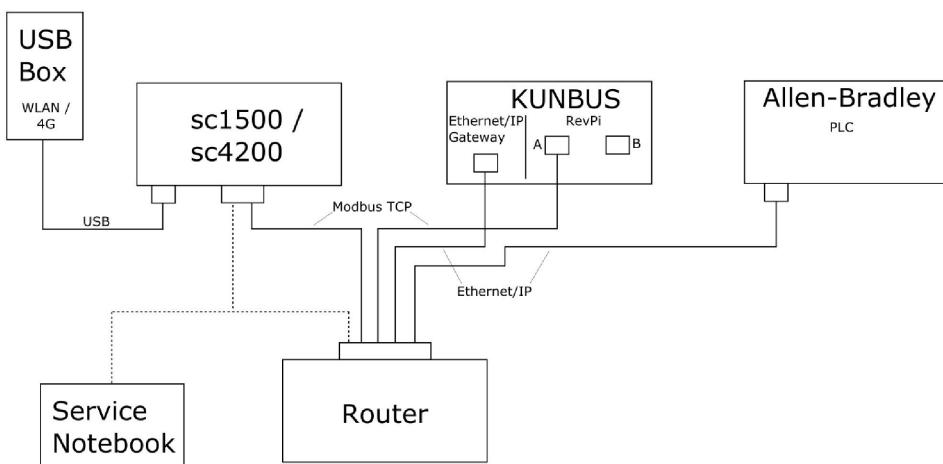
### Sekil 2 Örnek 2



- Modbus TCP, bir yönlendiriciye bağlıdır.
- Tüm cihazların statik bir IP adresi vardır veya yönlendirici DHCP üzerinden IP adresini ayarlar.  
**Not:** DHCP kullanılıyorsa yönlendiricinin her zaman aynı cihazlar (MAC) için aynı IP adresini kullandığından emin olun.
- Denetleyicide Wi-Fi veya hücresel bağlantı ile internet erişimi bulunur.
- Denetleyicinin IP adresini, yönlendirici ayarlarını ve Ethernet/IP ağ geçidini ayarlamak için bir dizüstü bilgisayar gereklidir.

[Şekil 3](#), tüm cihazlar için bir yönlendirici veya anahtar bulunan kurulumu gösterir.

### Sekil 3 Örnek 3

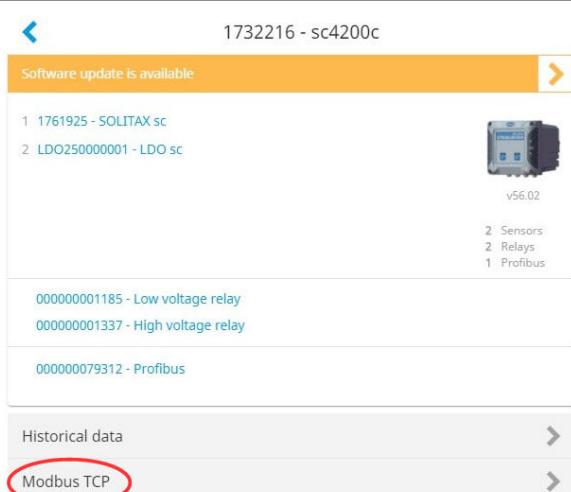
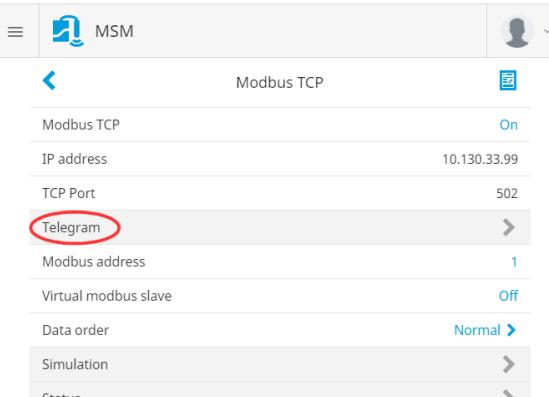


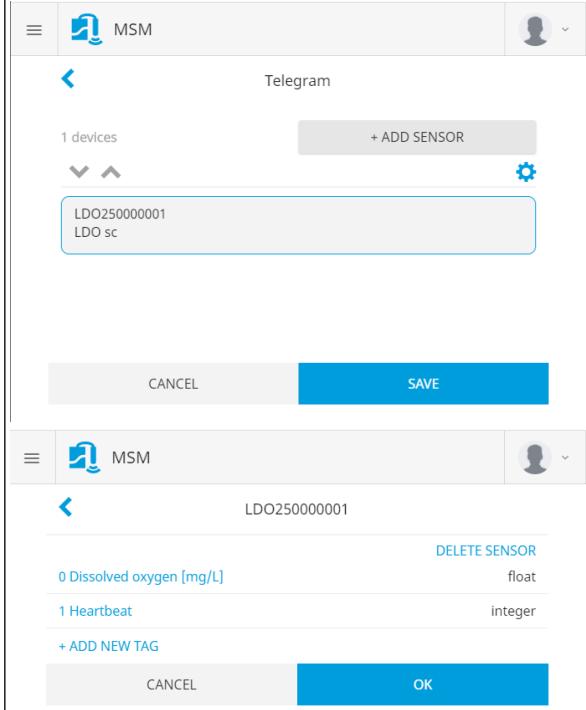
- Tüm cihazlar bir yönlendirici veya anahtar ile bağlıdır.

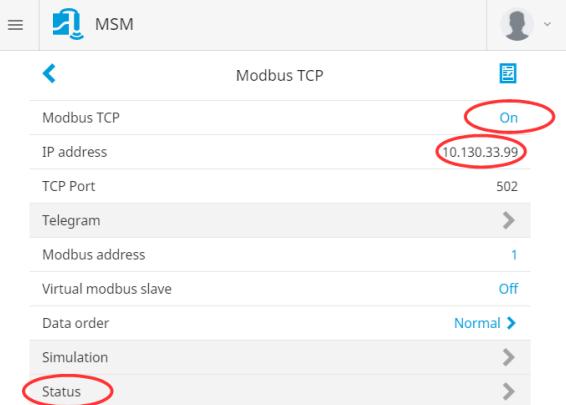
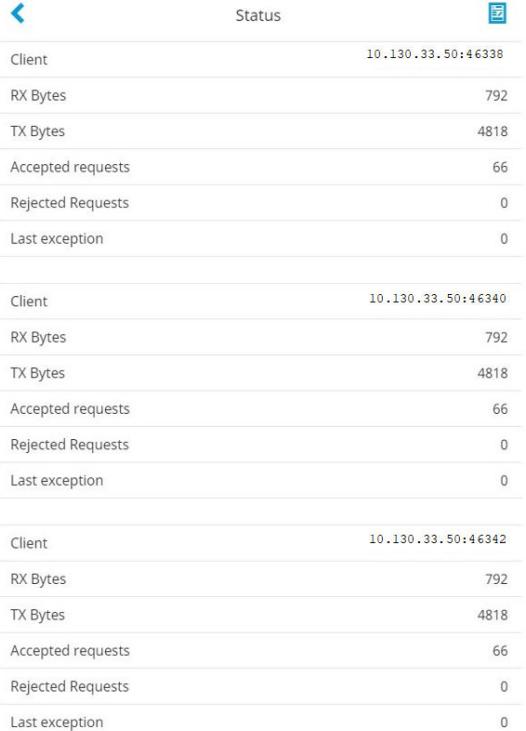
- Tüm cihazların statik bir IP adresi vardır veya yönlendirici ya da anahtar, DHCP üzerinden IP adresini ayarlar.  
**Not:** DHCP kullanılıyorsa yönlendiricinin her zaman aynı cihazlar (MAC) için aynı IP adresini kullandığından emin olun.
- Denetleyicide Wi-Fi veya hücresel bağlantı ile internet erişimi bulunur.
- Denetleyicinin IP adresini ayarlamak ve yönlendirici ayarlarını yapmak için bir dizüstü bilgisayar gereklidir.

## Bölüm 5 SC4200c Denetleyici Modbus TCP telgraf kurulumu

Claros uygulamasını başlatın ve adım adım kılavuzu takip edin.

Adım	Açıklama	Resim
1	Denetleyici menüsünü seçin ve ardından <b>Modbus TCP</b> düğmesine basın.	 <p>1732216 - sc4200c</p> <p>Software update is available</p> <p>1 1761925 - SOLITAX sc 2 LDO250000001 - LDO sc</p> <p>v56.02</p> <p>2 Sensors 2 Relays 1 Profibus</p> <p>000000001185 - Low voltage relay 000000001337 - High voltage relay</p> <p>000000079312 - Profibus</p> <p>Historical data</p> <p>Modbus TCP</p>
2	Modbus TCP telgrafını ayarlamak için <b>Telegram (Telgraf)</b> öğesini seçin.	 <p>MSM</p> <p>Modbus TCP</p> <p>Modbus TCP On</p> <p>IP address 10.130.33.99</p> <p>TCP Port 502</p> <p>Telegram</p> <p>Modbus address 1</p> <p>Virtual modbus slave Off</p> <p>Data order Normal</p> <p>Simulation</p> <p>Status</p>

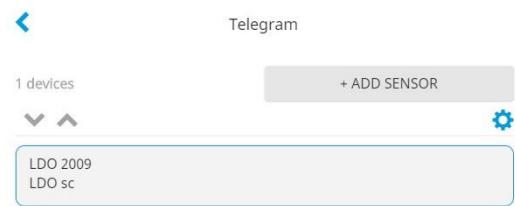
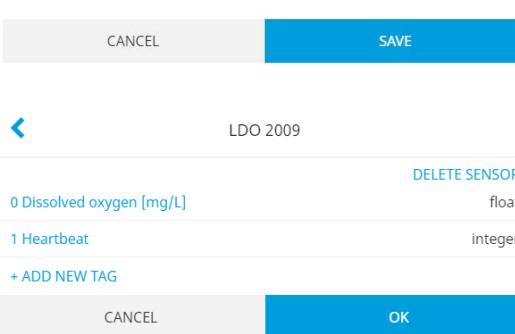
Adım	Açıklama	Resim
3	<p>Gösterilen telgraf, LDO sc sensörü için bir örnektir. Sinyali tam sayı olarak ayarlayın. Sinyal, değerin bir saniyelik artışlarla güncellenmesini gösteren bir sayaçtır.</p> <p><i>Not: Modbus TCP telgrafının içeriği Profibus telgrafıyla ayndır.</i></p>	 <p>LDO250000001 LDO sc</p> <p>0 Dissolved oxygen [mg/L] float</p> <p>1 Heartbeat integer</p> <p>+ ADD NEW TAG</p> <p>DELETE SENSOR</p> <p>CANCEL OK</p>

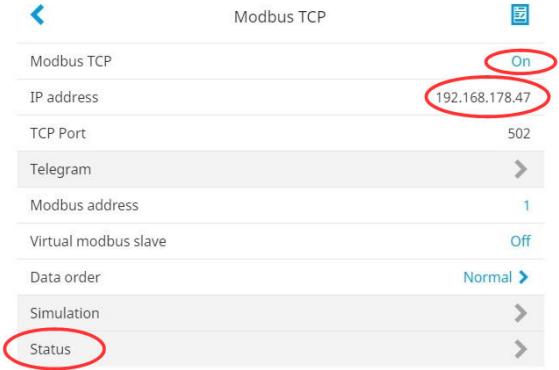
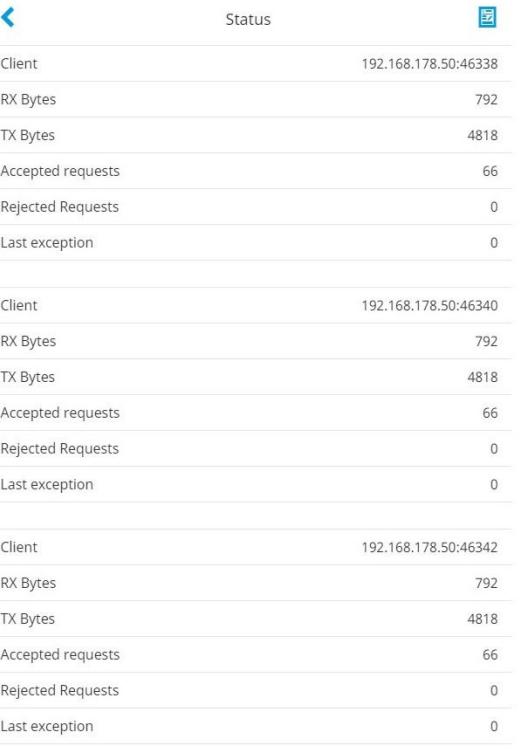
Adım	Açıklama	Resim																														
4	Modbus TCP menüsünde denetleyicinin IP adresi gösterilir. <b>10.130.33.99</b> , denetleyici hizmet menüsünde ayarlanan IP adresidir. Modbus TCP'yi <b>On (Açık)</b> olarak ayarlayın ve ardından <b>Status (Durum)</b> düğmesine basın.	 <p>The screenshot shows the MSM software interface with the 'Modbus TCP' configuration screen. The 'IP address' field is highlighted with a red circle and contains the value '10.130.33.99'. The 'Status' field is also highlighted with a red circle and has the value 'On'.</p>																														
5	Status (Durum) menüsü Modbus TCP istatistiklerini gösterir. <b>10.130.33.50</b> , RevPi Modülünün IP adresidir. RevPi'de 5 adet Modbus TCP master bulunur.	 <p>The screenshot shows the 'Status' menu of the MSM software. It displays three sections of Modbus TCP statistics for different clients:</p> <ul style="list-style-type: none"> <li>Client 10.130.33.50:46338:       <table border="1"> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> </table> </li> <li>Client 10.130.33.50:46340:       <table border="1"> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> </table> </li> <li>Client 10.130.33.50:46342:       <table border="1"> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> </table> </li> </ul>	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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## Bölüm 6 SC1500 Denetleyici Modbus TCP telgraf kurulumu

Claro uygulamasını başlatın ve adım adım kılavuzu takip edin.

Adım	Açıklama	Resim
1	Denetleyici menüsünü seçin ve ardından <b>Modbus TCP</b> düğmesine basın.	<p>The screenshot shows the SC1500 configuration interface. In the main menu, the 'Modbus TCP' option is highlighted and circled in red. Other options visible include '1327087 - AN-ISE sc', '1555058 - AN-ISE sc', 'LDO 2009 - LDO sc', '000000074854 - mA output', '000005009872 - Profibus', 'Historical data', and 'Modbus TCP' again.</p>
2	Modbus TCP telgrafini ayarlamak için <b>Telegram (Telgraf)</b> öğesini seçin.	<p>The screenshot shows the 'Modbus TCP' configuration screen. The 'Telegram' section is highlighted and circled in red. Other settings shown include 'Modbus TCP' (On), 'IP address' (192.168.178.47), 'TCP Port' (502), 'Modbus address' (1), 'Virtual modbus slave' (Off), 'Data order' (Normal), 'Simulation', and 'Status'.</p>

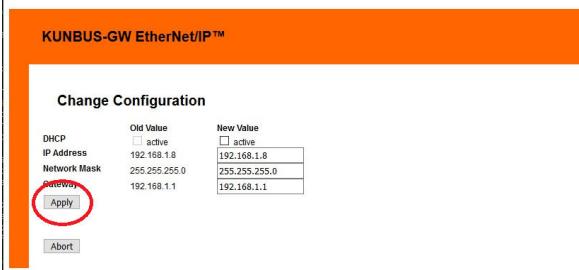
Adım	Açıklama	Resim
3	<p>Gösterilen telgraf, LDO sc sensörü için bir örnektir. Sinyali tam sayı olarak ayarlayın. Sinyal, değerin bir saniyelik artışlarla güncellenmesini gösteren bir sayaçtır.</p> <p><b>Not:</b> Modbus TCP telgrafının içeriği Profibus telgrafıyla aynıdır.</p>	 

Adım	Açıklama	Resim																																										
4	<p>Modbus TCP menüsünde denetleyicinin IP adresi gösterilir. <b>192.168.178.47</b>, denetleyici hizmet menüsünde ayarlanan IP adresidir.</p> <p>Modbus TCP'yi <b>On (Açık)</b> olarak ayarlayın ve ardından <b>Status (Durum)</b> düğmesine basın.</p>	 <table border="1"> <tr><td>Modbus TCP</td><td>On</td></tr> <tr><td>IP address</td><td>192.168.178.47</td></tr> <tr><td>TCP Port</td><td>502</td></tr> <tr><td>Telegram</td><td></td></tr> <tr><td>Modbus address</td><td>1</td></tr> <tr><td>Virtual modbus slave</td><td>Off</td></tr> <tr><td>Data order</td><td>Normal &gt;</td></tr> <tr><td>Simulation</td><td>&gt;</td></tr> <tr><td>Status</td><td>&gt;</td></tr> </table>	Modbus TCP	On	IP address	192.168.178.47	TCP Port	502	Telegram		Modbus address	1	Virtual modbus slave	Off	Data order	Normal >	Simulation	>	Status	>																								
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Simulation	>																																											
Status	>																																											
5	<p>Status (Durum) menüsü Modbus TCP istatistiklerini gösterir. <b>192.168.178.50</b>, RevPi Modülünün IP adresidir. RevPi'de 7 adet Modbus TCP master bulunur.</p>	 <table border="1"> <tr><td colspan="2">Status</td></tr> <tr><td>Client</td><td>192.168.178.50:46338</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td> </td><td> </td></tr> <tr><td>Client</td><td>192.168.178.50:46340</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> <tr><td> </td><td> </td></tr> <tr><td>Client</td><td>192.168.178.50:46342</td></tr> <tr><td>RX Bytes</td><td>792</td></tr> <tr><td>TX Bytes</td><td>4818</td></tr> <tr><td>Accepted requests</td><td>66</td></tr> <tr><td>Rejected Requests</td><td>0</td></tr> <tr><td>Last exception</td><td>0</td></tr> </table>	Status		Client	192.168.178.50:46338	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0			Client	192.168.178.50:46340	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0			Client	192.168.178.50:46342	RX Bytes	792	TX Bytes	4818	Accepted requests	66	Rejected Requests	0	Last exception	0
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Accepted requests	66																																											
Rejected Requests	0																																											
Last exception	0																																											

## Bölüm 7 Ethernet/IP Ağ Geçidini yapılandırın

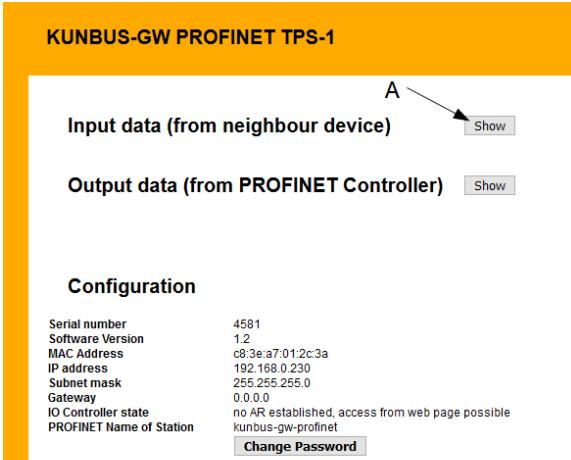
Adım	Açıklama	Resim
1	<ul style="list-style-type: none"> <li>Ethernet/IP Ağ Geçidini LAN-USB bağıdaştırıcı kablosuyla bilgisayara bağlayın.</li> <li><b>Giriş</b> sayfa 405 bölümüne bakın. AĞ GEÇİDİ Ethernet/IP Slave bağlantısını kullanın. Üreticinin <i>Ethernet/IP için ağ geçidi bileşeni</i> için kullanım kılavuzundaki talimatları uygulayın.</li> <li>Ana bilgisayar tanımlayıcısını Ağ Geçidinin ikili biçimine ayarlamak için 8 pinli adres anahtarını (A) kullanın. <ul style="list-style-type: none"> <li>Örnek: Ana bilgisayarı 8: 00010000 olarak ayarlayın</li> </ul> </li> <li><b>web sitesini açın</b> (X= ON (AÇIK) olarak ayarlanmış tüm anahtarların toplamı).</li> </ul>	
2	<p>Tarayıcıyı açın ve 192.168.1.X IP adresini girin. İlk oturum için oturum açma verileri: User (Kullanıcı): Admin Password (Parola): 1701 <b>Giriş</b> ögesine basın.</p>	<div style="background-color: orange; color: white; padding: 10px; text-align: center;"> <b>KUNBUS-GW EtherNet/IP™</b> </div> <div style="background-color: white; padding: 10px; margin-top: -10px;"> <p style="margin: 0;">Username: <input type="text" value="Admin"/></p> <p style="margin: 0;">Password: <input type="password"/></p> <p style="margin: 0;"><input type="button" value="Login"/></p> <p style="margin: 10px 0;"><a href="#" style="color: blue; text-decoration: underline;">Download EDS file.</a></p> </div>

Adım	Açıklama	Resim																																																																				
3	<p>Denetleyici ve Ethernet/IP Ağ Geçidi, denetleyicideki Modbus TCP'nin telgraf türüne göre 0000 - 01BF veri alanını aktarır; bu da 448 bayt veya 112 kayan sayı ya da 224 tam sayı aralığı veya bunların karışımıdır.</p> <p><i>Not: Yalnızca 32 tam sayısına ilk veri aralığı gösterilir. PLC'deki tüm verileri görüntüleyin (224 tam sayı).</i></p> <p><b>Show (Göster)</b> düğmesine basın.</p>	<table border="1"> <thead> <tr> <th>Address</th> <th>Value</th> </tr> </thead> <tbody> <tr><td>Modbus Register 0x0001 - 0x0010 and 0x0401 - 0x0410</td><td>0</td></tr> <tr><td>Modbus Register 0x0011 - 0x0020 and 0x0411 - 0x0420</td><td>0</td></tr> <tr><td>Modbus Register 0x0021 - 0x0030 and 0x0421 - 0x0430</td><td>0</td></tr> <tr><td>Modbus Register 0x0031 - 0x0040 and 0x0431 - 0x0440</td><td>0</td></tr> </tbody> </table> <p><b>Configuration</b></p> <p>Serial number: 594 Software Version: 1.1.944 MAC Address: c8:3e:37:00:0b:10 IP address: 192.168.1.0 Subnet mask: 255.255.255.0 Gateway: 192.168.1.1 <input type="checkbox"/> adsl <a href="#">Change Configuration</a> <a href="#">Change Password</a> <a href="#">Reboot</a></p> <p><a href="#">Download ECR file</a></p>	Address	Value	Modbus Register 0x0001 - 0x0010 and 0x0401 - 0x0410	0	Modbus Register 0x0011 - 0x0020 and 0x0411 - 0x0420	0	Modbus Register 0x0021 - 0x0030 and 0x0421 - 0x0430	0	Modbus Register 0x0031 - 0x0040 and 0x0431 - 0x0440	0																																																										
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4	Seçilen veri alanı gösterilir.	<table border="1"> <thead> <tr> <th>Address</th> <th>Value</th> <th>Address</th> <th>Value</th> </tr> </thead> <tbody> <tr><td>Input 1 0x0001</td><td>0</td><td>Output 1 0x0401</td><td>0</td></tr> <tr><td>Input 2 0x0002</td><td>0</td><td>Output 2 0x0402</td><td>0</td></tr> <tr><td>Input 3 0x0003</td><td>0</td><td>Output 3 0x0403</td><td>0</td></tr> <tr><td>Input 4 0x0004</td><td>0</td><td>Output 4 0x0404</td><td>0</td></tr> <tr><td>Input 5 0x0005</td><td>0</td><td>Output 5 0x0405</td><td>0</td></tr> <tr><td>Input 6 0x0006</td><td>0</td><td>Output 6 0x0406</td><td>0</td></tr> <tr><td>Input 7 0x0007</td><td>0</td><td>Output 7 0x0407</td><td>0</td></tr> <tr><td>Input 8 0x0008</td><td>0</td><td>Output 8 0x0408</td><td>0</td></tr> <tr><td>Input 9 0x0009</td><td>0</td><td>Output 9 0x0409</td><td>0</td></tr> <tr><td>Input 10 0x000a</td><td>0</td><td>Output 10 0x040A</td><td>0</td></tr> <tr><td>Input 11 0x000b</td><td>0</td><td>Output 11 0x040B</td><td>0</td></tr> <tr><td>Input 12 0x000c</td><td>0</td><td>Output 12 0x040C</td><td>0</td></tr> <tr><td>Input 13 0x000d</td><td>0</td><td>Output 13 0x040D</td><td>0</td></tr> <tr><td>Input 14 0x000e</td><td>0</td><td>Output 14 0x040E</td><td>0</td></tr> <tr><td>Input 15 0x000f</td><td>0</td><td>Output 15 0x040F</td><td>0</td></tr> <tr><td>Input 16 0x0010</td><td>0</td><td>Output 16 0x0410</td><td>0</td></tr> </tbody> </table>	Address	Value	Address	Value	Input 1 0x0001	0	Output 1 0x0401	0	Input 2 0x0002	0	Output 2 0x0402	0	Input 3 0x0003	0	Output 3 0x0403	0	Input 4 0x0004	0	Output 4 0x0404	0	Input 5 0x0005	0	Output 5 0x0405	0	Input 6 0x0006	0	Output 6 0x0406	0	Input 7 0x0007	0	Output 7 0x0407	0	Input 8 0x0008	0	Output 8 0x0408	0	Input 9 0x0009	0	Output 9 0x0409	0	Input 10 0x000a	0	Output 10 0x040A	0	Input 11 0x000b	0	Output 11 0x040B	0	Input 12 0x000c	0	Output 12 0x040C	0	Input 13 0x000d	0	Output 13 0x040D	0	Input 14 0x000e	0	Output 14 0x040E	0	Input 15 0x000f	0	Output 15 0x040F	0	Input 16 0x0010	0	Output 16 0x0410	0
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5	IP adresini ayarlamak için <b>Change Configuration (Yapilandırmayı Değiştir)</b> düğmesine basın.	 <p>KUNBUS-GW EtherNet/IP™</p> <p><a href="#">Log Out</a></p> <p>Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output Modbus TCP Input and Output Modbus Register 0x0001 - 0x0010 and 0x0401 - 0x0410 Modbus Register 0x0011 - 0x0020 and 0x0411 - 0x0420 Modbus Register 0x0021 - 0x0030 and 0x0421 - 0x0430 Modbus Register 0x0031 - 0x0040 and 0x0431 - 0x0440</p> <p>Show / Show / Show / Show</p> <p><b>Configuration</b></p> <p>Serial number: 594 Software Version: 1.1.9444 MAC Address: IP address: 192.168.1.8 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 DHCP: <input type="checkbox"/> active</p> <p><a href="#">Download EDR file.</a></p> <p><a href="#">Change Configuration</a> <a href="#">Change Password</a> <a href="#">Reboot</a></p>															
6	IP adresini, ağ geçidi adresine göre değiştirin. Onaylamak için <b>OK</b> (Tamam) öğesine basın. Tüm dip anahtarlarını kapalı konuma getirin. Ağ geçidinin gücünü kapalı olarak ayarlayın, ardından yeniden başlatın. Artık yeni IP Adresi kullanılmaktadır.	 <p>KUNBUS-GW EtherNet/IP™</p> <p><b>Change Configuration</b></p> <table border="1"> <thead> <tr> <th></th> <th>Old Value</th> <th>New Value</th> </tr> </thead> <tbody> <tr> <td>DHCP</td> <td><input type="checkbox"/> active</td> <td><input type="checkbox"/> active</td> </tr> <tr> <td>IP Address</td> <td>192.168.1.8</td> <td>192.168.1.8</td> </tr> <tr> <td>Network Mask</td> <td>255.255.255.0</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>192.168.1.1</td> <td>192.168.1.1</td> </tr> </tbody> </table> <p><a href="#">Abort</a> <a href="#">Apply</a></p>		Old Value	New Value	DHCP	<input type="checkbox"/> active	<input type="checkbox"/> active	IP Address	192.168.1.8	192.168.1.8	Network Mask	255.255.255.0	255.255.255.0	Gateway	192.168.1.1	192.168.1.1
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Gateway	192.168.1.1	192.168.1.1															

## Bölüm 8 Profinet Ağ Geçidini yapılandırın

Adım	Açıklama	Resim								
1	<ul style="list-style-type: none"> <li>Profinet Ağ Geçidini LAN-LAN bağıdaştırıcısıyla bilgisayara bağlayın.</li> <li><b>Giriş</b> sayfa 405 bölümüne bakın. Ağ GEÇIDI Profinet IRT Slave bağlantısını kullanın. Üreticinin <i>PROFINET İçin Ağ Geçidi Bileşeni</i> kullanım kılavuzundaki talimatları uygulayın.</li> <li>Adı <b>kunbus-gw-profinet</b> olarak ayarlamak için PRONETA yazılımını kullanın.</li> <li>Kullanılan <b>IP adresini</b> girin.</li> </ul>	<p>The screenshot shows the Siemens PRONETA software interface. On the left, there's a graphical view of two network nodes: 'de-3dyye42-p' (PROFINET) and 'cb-3e-a7-00-26-05' (KUNBUS-GW Profinet TPS-1). On the right, the 'Geräteabelle - Online' (Device Table - Online) window is open, displaying a single row of data:</p> <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Gerätetyp</th> <th>IP-Adresse</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>cb-3e-a7-00-26-05</td> <td>KUNBUS-GW Profinet TPS-1</td> <td>192.168.1.10</td> </tr> </tbody> </table> <p>Two specific fields are highlighted with red circles: 'Name' (containing 'cb-3e-a7-00-26-05') and 'IP-Adresse' (containing '192.168.1.10'). Below the table, there's a 'Details' button.</p>	#	Name	Gerätetyp	IP-Adresse	1	cb-3e-a7-00-26-05	KUNBUS-GW Profinet TPS-1	192.168.1.10
#	Name	Gerätetyp	IP-Adresse							
1	cb-3e-a7-00-26-05	KUNBUS-GW Profinet TPS-1	192.168.1.10							
2	<p>Tarayıcıyı açın ve IP adresini girin. İlk oturum için oturum açma verileri: User (Kullanıcı): Admin Password (Parola): 1701 <b>Giriş</b> öğesine basın.</p>	<p>The screenshot shows a login form titled 'KUNBUS-GW PROFINET TPS-1'. It has two input fields: 'Username:' containing 'Admin' and 'Password:' containing '••••'. Below the password field is a 'Login' button.</p>								

Adım	Açıklama	Resim																
3	Girdi verilerini göstermek için <b>Show (Göster) (A)</b> düğmesine basın.	 <p>KUNBUS-GW PROFINET TPS-1</p> <p>A</p> <p>Input data (from neighbour device) <input type="button" value="Show"/></p> <p>Output data (from PROFINET Controller) <input type="button" value="Show"/></p> <p><b>Configuration</b></p> <table> <tbody> <tr><td>Serial number</td><td>4581</td></tr> <tr><td>Software Version</td><td>1.2</td></tr> <tr><td>MAC Address</td><td>c8:3e:a7:01:2c:3a</td></tr> <tr><td>IP address</td><td>192.168.0.230</td></tr> <tr><td>Subnet mask</td><td>255.255.255.0</td></tr> <tr><td>Gateway</td><td>0.0.0.0</td></tr> <tr><td>IO Controller state</td><td>no AR established, access from web page possible</td></tr> <tr><td>PROFINET Name of Station</td><td>kunbus-gw-profinet</td></tr> </tbody> </table> <p><input type="button" value="Change Password"/></p>	Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:2c:3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
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<tr><td>0x00D0</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x00E0</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x00F0</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0100</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> 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## Bölüm 9 Sorun giderme

### 9.1 RevPi Sorunlarını Giderme

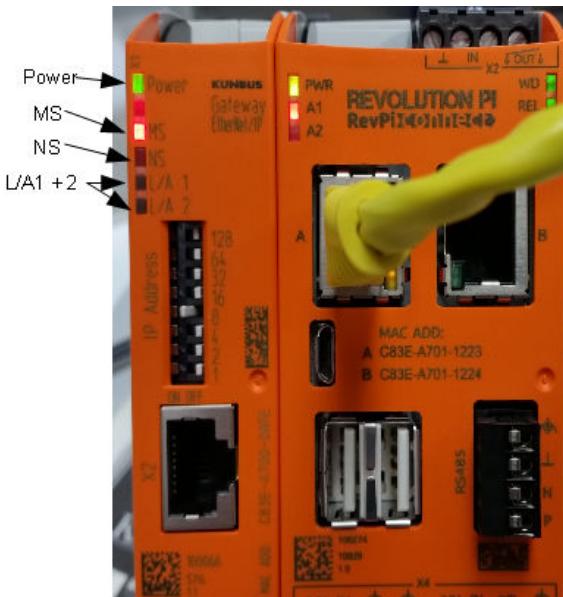
Şekil 4 RevPi Temel modülü



Mesaj	Açıklama	Çözüm
LED A2 kırmızı renkte yanıp söner.	İletişim durdu.	<ul style="list-style-type: none"><li>Ağ kablosunu (kablo veya yönlendirici) bağlayın.</li><li>Modbus adres ayarını Claros'ta 1 olarak ayarlayın.</li><li>Modbus TCP'yi Claros menüsünde açık olarak ayarlayın.</li></ul>
LED A3 yavaşça kırmızı renkte yanıp söner.	Ethernet/IP ve Profinet Ağ Geçidi'nin yapılandırması karıştırılır.	Bkz. <a href="#">USB yapılandırmasını başlatın</a> sayfa 407, 4. adıma bakın ve doğru Ağ Geçidi türünü seçin: <ul style="list-style-type: none"><li>en – Ethernet/IP</li><li>pn – Profinet</li></ul>

## 9.2 Ethernet/IP Sorunlarını Giderme

Şekil 5 Ethernet/IP Ağ Geçidi

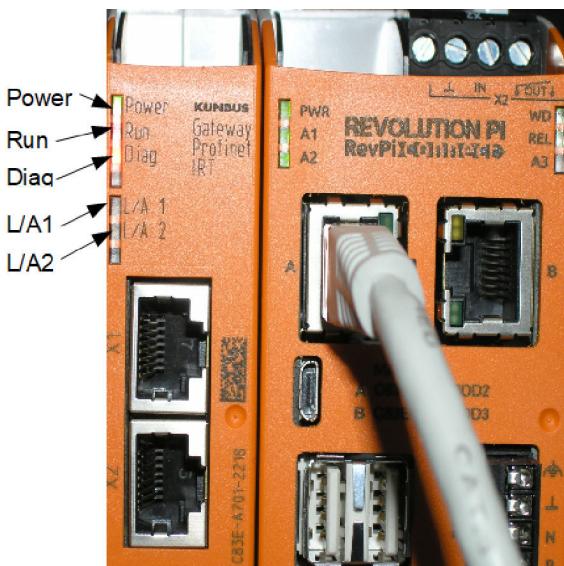


Mesaj	Açıklama	Çözüm
Güç LED'i kapalı.	Ethernet/IP ağ geçidi kapalı olarak ayarlanmıştır.	Güçü açık konuma getirin.
Güç LED'i yeşil renkte yanıp söner.	Başlatma prosedürü tamamlanmadı.	Birkaç dakika bekleyin.
Güç LED'i kırmızı renkte yanıp söner.	Bir uyarı gösterir.	Tüm cihazların bağlı olup olmadığını kontrol edin.
Güç LED'i kırmızıdır.	Bir hata gösterir.	Ethernet/IP ağ geçidi arızalandır. Ethernet/IP ağ geçidini değiştirin.
MS LED'i kapalı.	Ethernet/IP ağ geçidi kapalı olarak ayarlanmıştır.	Güçü açık olarak ayarlayın.
MS LED'i yeşil renkte yanıp söner.	Yapilandırma prosedürü tamamlanmadı.	Birkaç dakika bekleyin.
MS LED'i kırmızı renkte yanıp söner.	Bir yapılandırma hatası gösterir.	Yapilandırmayı incelemek için bkz. <a href="#">Ethernet/IP Ağ Geçidini yapılandırmın</a> sayfa 417.
MS LED'i kırmızıdır.	Bir hata gösterir.	Ethernet/IP ağ geçidi arızalandır. Ethernet/IP ağ geçidini değiştirin.
MS LED'i kırmızı ve yeşil renkte yanıp söner.	Kendi kendine test tamamlanmadı.	Birkaç dakika bekleyin.

Mesaj	Açıklama	Çözüm
NS LED'i kapalı.	Ethernet/IP ağ geçidi kapalı olarak ayarlanmış veya IP adresi yok.	Güçü açık olarak ayarlayın. IP adresini ayarlayın.
NS LED'i yeşil renkte yanıp söner.	IP adresi ayarlanmış ancak CIP bağlantısı kurulmamış.	Birkaç dakika bekleyin.
NS LED'i kırmızı renkte yanıp söner.	CIP bağlantısı durduruldu.	Zaman aşımı olup olmadığını inceleyin.
NS LED'i kırmızıdır.	Seçilen IP adresi başka bir cihaz tarafından kullanılıyor.	IP adresini benzersiz bir IP adresiyle değiştirin.
L/A 1 veya 2 LED'i kapalı.	Diğer cihazlarla bağlantı yok.	Bir cihaza bağlanın.
L/A 1 veya 2 LED'i yeşil renkte yanıp söner.	Veri alışverişesi yok.	Bir sonraki veri değişimine kadar bekleyin.

### 9.3 Profinet Sorunlarını Giderme

**Şekil 6 PROFINET Ağ Geçidi**



Mesaj	Açıklama	Çözüm
Güç LED'i kapalı.	Profinet ağ geçidi kapalı.	Güçü açık olarak ayarlayın.
Güç LED'i yeşil renkte yanıp söner.	Başlatma prosedürü tamamlanmadı.	Birkaç dakika bekleyin.
Güç LED'i kırmızı renkte yanıp söner.	Bir uyarı gösterir.	Tüm cihazların kurulu olup olmadığını kontrol edin.
Güç LED'i kırmızıdır.	Bir hata gösterir.	Profinet ağ geçidi arızalandı. Profinet ağ geçidini değiştirin.

Mesaj	Açıklama	Çözüm
Çalıştırma LED'i kapalı.	Ağ bağlantısı yok.	Ağa bağlanın.
Çalıştırma LED'i yeşil renkte yanıp söner.	PROFINET denetleyicisi bağlı ancak veri alışverişi yok.	Bir sonraki veri değişimine kadar bekleyin.
Çalıştırma LED'i yavaşça yeşil renkte yanıp söner.	Ağ geçidi bileşeninin tanımlanması için araç tarafından tetiklenir.	Birkaç dakika bekleyin.
DIAG LED'i kırmızı renkte yanıp sönyör.	Ağ geçidi bileşeninin tanımlanması için araç tarafından tetiklenir.	Birkaç dakika bekleyin.
DIAG LED'i hızlı hızlı kırmızı yanıp sönyör.	Denetleyiciye bağlantı yok. Modülde ayarlı Profinet adı yok.	Adı ayarlamak için bkz. <a href="#">Profinet Ağ Geçidi yapılandırın</a> sayfa 420.
DIAG LED'i kırmızıdır.	Bir Ağ Geçidi cihazı, tanılama verilerini bildirir.	Tanılama raporuna bakın.
L/A 1 veya 2 LED'i kapalı.	Ağ bağlantısı yok.	Ağa bağlanın.
L/A 1 veya 2 LED'i yeşil renkte yanıp söner.	Veri alışverişi.	Veri alışverişi tamamlanana kadar bekleyin.

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| 3 启动 USB 配置 第 429 页                       | 8 配置 Profinet 网关 第 442 页                 |
| 4 安装示例 第 430 页                            | 9 故障排除 第 445 页                           |
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## 第 1 节 应用场合

这些设置说明的目标用户是负责将外部以太网/IP 网关或 Profinet 网关作为硬件组件集成到 Claros 网络中的人员。

## 第 2 节 介绍

对于误用或滥用本产品造成任何损坏，包括但不限于直接、附带和从属损害，制造商概不负责，并且在适用法律允许的最大范围内拒绝承认这些损害。用户独自负责识别重大应用风险并安装适当的保护装置，以在设备可能出现故障时保护工艺流程。

### ▲ 危险



电击致命危险。进行电气连接前，务必断开仪器的电源。

需准备的物品：

- 已格式化为 FAT32 的 U 盘
- 装有 Windows 的电脑<sup>1</sup> 10
- 模块：
  - 对于以太网/IP 实施：
    - LXZ446.99.00001: GATEWAY IIoT RevPi 基本模块
    - LXZ446.99.00002: GATEWAY 以太网/IP Slave
    - LXZ446.99.00003: PiBridge 跳线
  - 对于 Profinet 实施：
    - LXZ446.99.00001: GATEWAY IIoT RevPi 基本模块
    - LXZ446.99.00007: GATEWAY Profinet IRT Slave
    - LXZ446.99.00003: PiBridge 跳线

将 RevPi、Slave 和 PiBridge 三个模块连接到电源和 LAN。

有关模块制造商提供的更多信息，请参阅下表中的链接。

模块	链接
GATEWAY Profinet IRT Slave	<a href="https://www.kunbus.com/profinet-irt-gateway-module.html">https://www.kunbus.com/profinet-irt-gateway-module.html</a>
GATEWAY 以太网/IP Slave	<a href="https://www.kunbus.com/ethernet-ip-gateway-module.html">https://www.kunbus.com/ethernet-ip-gateway-module.html</a>
GATEWAY IIoT RevPi 基本模块	<a href="https://revolution.kunbus.com/revpi-connect/?noredirect=en_US">https://revolution.kunbus.com/revpi-connect/?noredirect=en_US</a>
如何连接 RevPi 模块	<a href="https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US">https://revolution.kunbus.com/tutorials/connecting-revolution-pi-modules/?noredirect=en_US</a>

<sup>1</sup> Microsoft® Windows® 是 Microsoft Corporation 在美国和其他国家/地区的注册商标。

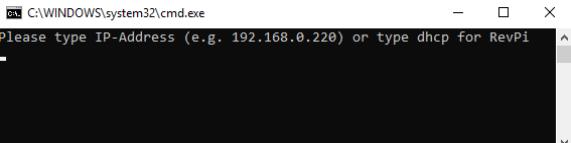
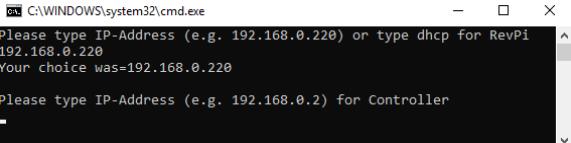
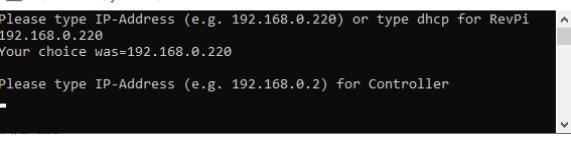
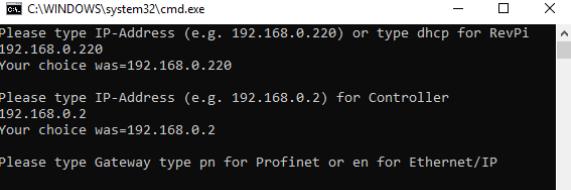
模块	链接
如何在 DIN 导轨上安装 RevPi 模块	<a href="https://revolution.kunbus.com/tutorials/din-rail-mounting/">https://revolution.kunbus.com/tutorials/din-rail-mounting/</a>
如何连接电源	<a href="https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/">https://revolution.kunbus.com/tutorials/overview-revpi-core/connecting-power-supply/</a>

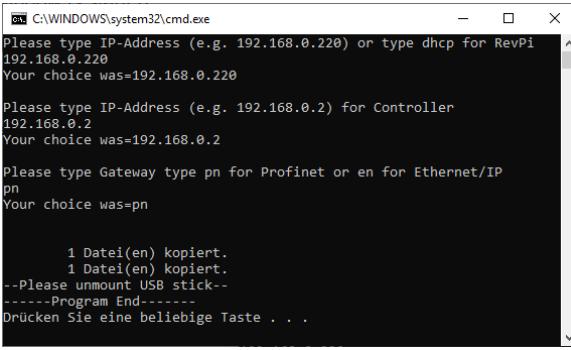
## 准备 U 盘

1. 将空 U 盘插入电脑。
2. 转到 <https://www.hach.com> 并搜索关键字“USB Ethernet/IP installation”（USB 以太网/IP 安装）或“USB Profinet installation”（USB Profinet 安装）。
3. 下载 USB\_ETHIP\_PRNET.zip。
4. 将文件解压至 U 盘的根目录。

## 第 3 节 启动 USB 配置

将准备好的 U 盘插入电脑。

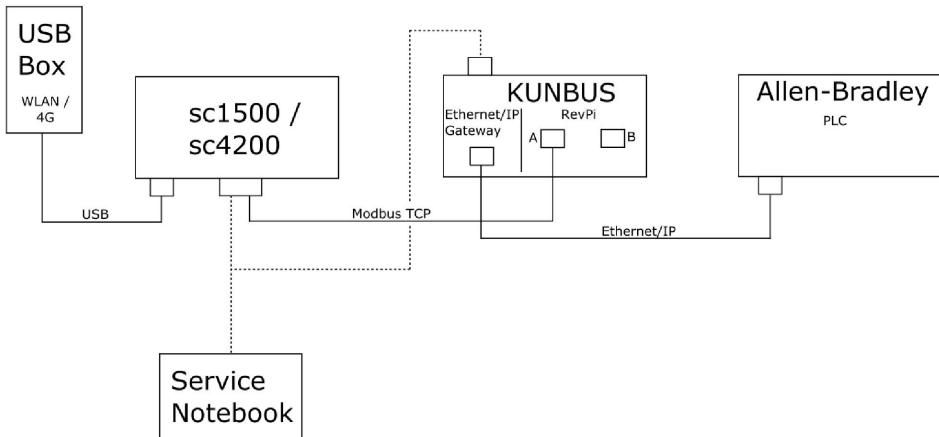
步骤	说明	图片
1	启动 start_usb_config.bat。 此时将显示一个终端窗口。按照分步指南进行操作。	
2	输入 RevPi 模块的 IP 地址。	
3	输入 SC 控制器的 IP 地址。 确保网络前缀与 RevPi 模块的前缀相同（例如 192.168.0）。 确保主机标识符不同于 RevPi 模块（例如，220 RevPi，2 Controller）。	
4	输入网关类型： <ul style="list-style-type: none"><li>• pn - Profinet</li><li>• en - 以太网/IP</li></ul>	

步骤	说明	图片
5	按 Enter (确认) 键确认设置。 取出 U 盘。	
6	将 U 盘插入 RevPi 模块的左侧 USB 插口。	
7	指示灯说明： <ul style="list-style-type: none"><li>• A1/A2 橙灯：RevPi 安装开始。</li><li>• A1 红灯，A2 熄灭：RevPi 插入 U 盘。</li><li>• A1 绿灯，A2 熄灭：U 盘已成功插入。</li><li>• A1 熄灭，A2 绿灯：RevPi 从 U 盘下载/上传数据。</li><li>• A3 红灯：RevPi 重新启动。</li></ul> 当 A3 亮起红灯时，取出 U 盘。	
8	RevPi 设置已完成。	

## 第 4 节 安装示例

图 1 显示了具有两个不同 LAN 连接的安装系统。

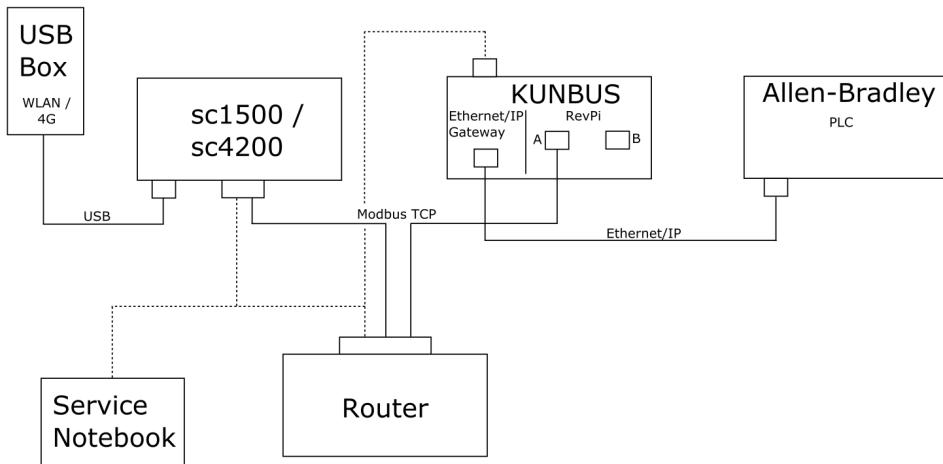
图 1 例 1



- Modbus TCP 和以太网/IP 使用两种不同的 LAN 连接。
- 所有设备都有一个静态 IP 地址。
- 控制器可通过 WiFi 或蜂窝连接访问互联网。
- 要设置控制器的 IP 地址和以太网/IP 网关，需要用到笔记本电脑。

图 2 显示了通过路由器进行 Modbus TCP 连接的安装系统。

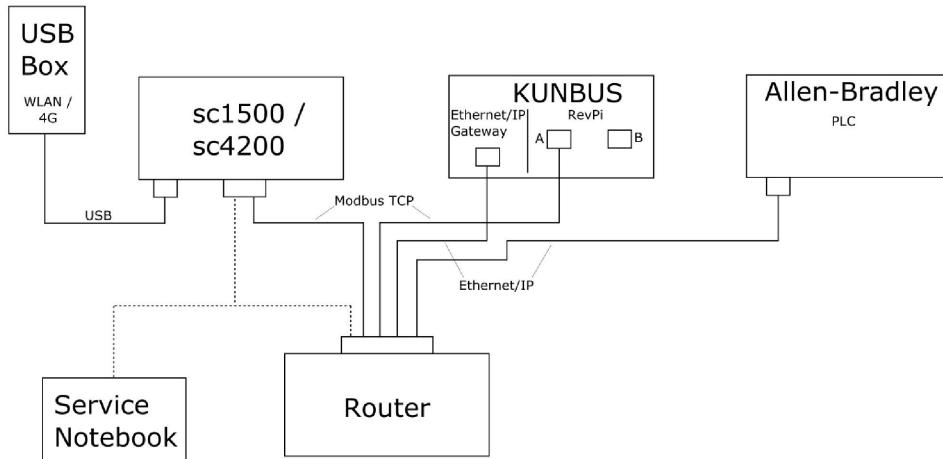
图 2 例 2



- Modbus TCP 连接到路由器。
- 所有设备都有一个静态 IP 地址，或者由路由器通过 DHCP 设置 IP 地址。  
注：如果使用 DHCP 设置地址，确保路由器始终将相同的 IP 地址用于为相同的设备 (MAC)。
- 控制器可通过 WiFi 或蜂窝连接访问互联网。
- 要设置控制器的 IP 地址、以太网/IP 网关和路由器设置，需要用到笔记本电脑。

图 3 显示了通过一个路由器或交换机连接所有设备的安装系统。

图 3 例 3

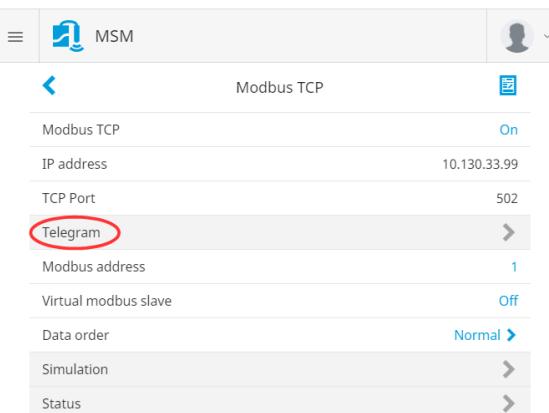


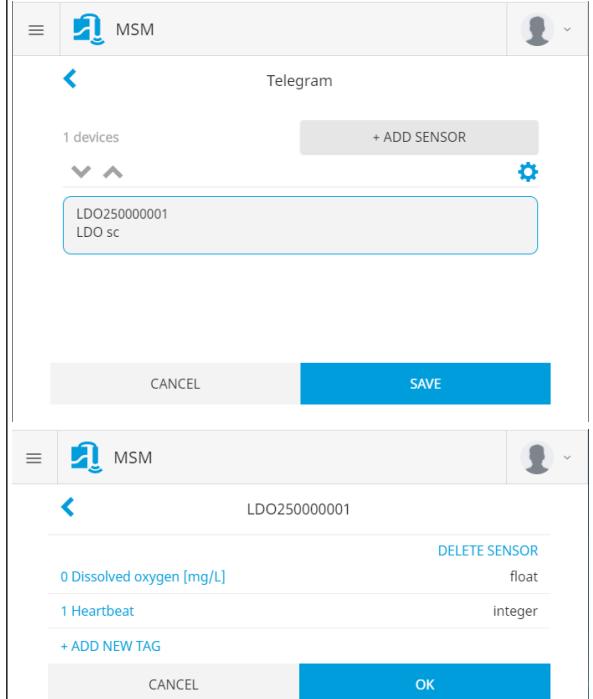
- 所有设备都通过路由器或交换机连接。
- 所有设备都有一个静态 IP 地址，或者由路由器或交换机通过 DHCP 设置 IP 地址。  
注：如果使用 DHCP 设置地址，确保路由器始终将相同的 IP 地址用于为相同的设备 (MAC)。

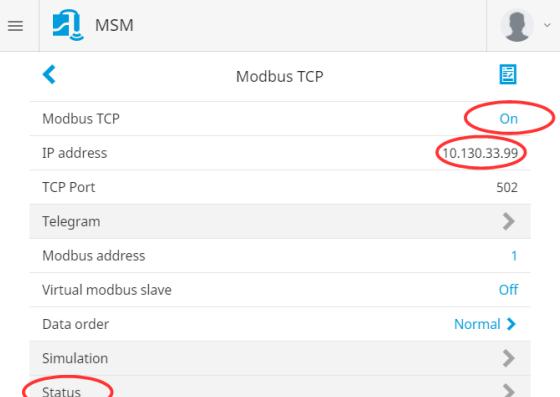
- 控制器可通过 WiFi 或蜂窝连接访问互联网。
- 要设置控制器的 IP 地址和路由器设置，需要用到笔记本电脑。

## 第 5 节 设置 SC4200c 控制器 Modbus TCP 报文

启动 Clarios 应用程序并按照分步指南进行操作。

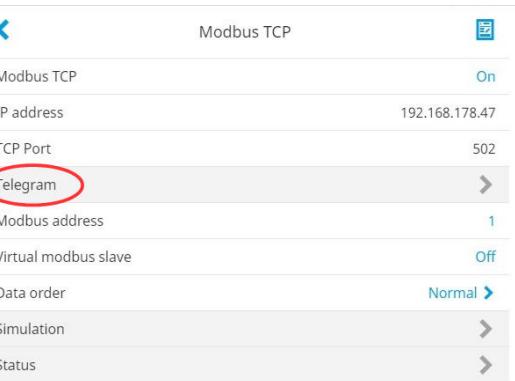
步骤	说明	图片
1	选择控制器菜单，然后按 <b>Modbus TCP</b> 。	 <p>1732216 - sc4200c</p> <p>Software update is available</p> <p>1 1761925 - SOLITAX sc 2 LDO250000001 - LDO sc</p> <p>v56.02</p> <p>2 Sensors 2 Relays 1 Profibus</p> <p>000000001185 - Low voltage relay 000000001337 - High voltage relay</p> <p>000000079312 - Profibus</p> <p>Historical data &gt;</p> <p>Modbus TCP &gt; (circled in red)</p>
2	选择 <b>Telegram</b> （报文）以设置 Modbus TCP 报文。	 <p>MSM</p> <p>Modbus TCP</p> <p>Modbus TCP On</p> <p>IP address 10.130.33.99</p> <p>TCP Port 502</p> <p>Telegram &gt; (circled in red)</p> <p>Modbus address 1</p> <p>Virtual modbus slave Off</p> <p>Data order Normal &gt;</p> <p>Simulation &gt;</p> <p>Status &gt;</p>

步骤	说明	图片
3	<p>所示报文以 LDO sc 传感器为例进行说明。</p> <p>将 <b>Heartbeat</b>（心跳）设置为整数。“心跳”是一种计数器，以一秒为增量显示值的更新。</p> <p><b>注：</b>Modbus TCP 报文的内容与 Profibus 报文相同。</p>	 <p>The top screenshot shows the MSM software interface with a list of devices. One device, 'LDO250000001 LDO sc', is selected and highlighted with a blue border. The bottom screenshot shows the detailed configuration for this sensor. It includes fields for '0 Dissolved oxygen [mg/L]' (set to 'float') and '1 Heartbeat' (set to 'integer'). There is also a '+ ADD NEW TAG' button. At the bottom of both screens are 'CANCEL' and 'SAVE' buttons (top) or 'OK' buttons (bottom).</p>

步骤	说明	图片
4	Modbus TCP 菜单显示控制器的 IP 地址。 <b>10.130.33.99</b> 是在控制器服务菜单中设置的 IP 地址。 将 Modbus TCP 设置为 <b>On</b> (开)，然后按 <b>Status</b> (状态)。	
5	Status (状态) 菜单显示 Modbus TCP 统计信息。 <b>10.130.33.50</b> 是 RevPi 模块的 IP 地址。RevPi 有 5 个 Modbus TCP 主机。	

## 第 6 节 设置 SC1500 控制器 Modbus TCP 报文

启动 Clarios 应用程序并按照分步指南进行操作。

步骤	说明	图片
1	选择控制器菜单，然后按 <b>Modbus TCP</b> 。	 <p>The screenshot shows the Clarios application interface. At the top, there's a navigation bar with a back arrow and the text '1694389 - sc1500'. Below the navigation bar, there's a list of components: '1 1327087 - AN-ISE sc', '2 1555058 - AN-ISE sc', and '3 LDO 2009 - LDO sc'. To the right of the list is a small image of a control panel labeled 'v20.12' and '3 Sensors', '1 Outputs', and '1 Profibus'. Below the component list, there are two sections: '000000074854 - mA output' and '000005009872 - Profibus'. Under each section is a button labeled 'Historical data' with a right-pointing arrow. Under the 'mA output' section, there is another button labeled 'Modbus TCP' with a red oval highlighting it.</p>
2	选择 <b>Telegram</b> （报文）以设置 Modbus TCP 报文。	 <p>The screenshot shows the 'Modbus TCP' configuration screen. At the top, there's a navigation bar with a back arrow and the text 'Modbus TCP'. Below the navigation bar, there are several configuration options: 'Modbus TCP' (status 'On'), 'IP address' (value '192.168.178.47'), 'TCP Port' (value '502'), 'Telegram' (highlighted with a red oval), 'Modbus address' (value '1'), 'Virtual modbus slave' (status 'Off'), 'Data order' (value 'Normal'), 'Simulation' (with a right-pointing arrow), and 'Status' (with a right-pointing arrow).</p>

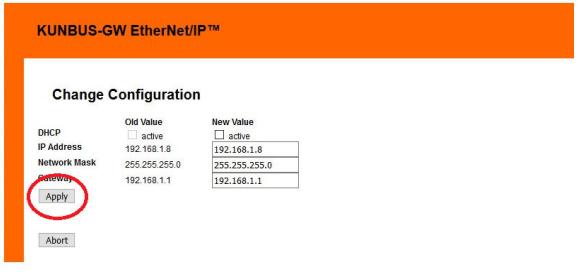
步骤	说明	图片
3	<p>所示报文以 LDO sc 传感器为例进行说明。</p> <p>将 Heartbeat（心跳）设置为整数。“心跳”是一种计数器，以一秒为增量显示值的更新。</p> <p><b>注:</b> Modbus TCP 报文的内容与 Profibus 报文相同。</p>	<p>The screenshot shows a software interface for configuring a telegram. At the top, it says "Telegram". Below that, there's a section for "1 devices" with a "LDO 2009" entry. A "LDO sc" entry is also visible below it. There are "ADD SENSOR" and "SETTINGS" buttons. At the bottom, there are "CANCEL" and "SAVE" buttons.</p> <p>This screenshot shows the configuration for the "LDO 2009" device. It lists two tags: "0 Dissolved oxygen [mg/L]" (float type) and "1 Heartbeat" (integer type). There is a "DELETE SENSOR" button. At the bottom, there are "CANCEL" and "OK" buttons.</p>

步骤	说明	图片
4	Modbus TCP 菜单显示控制器的 IP 地址。 <b>192.168.178.47</b> 是在控制器服务菜单中设置的 IP 地址。 将 Modbus TCP 设置为 <b>On</b> (开)，然后按 <b>Status</b> (状态)。	
5	Status (状态) 菜单显示 Modbus TCP 统计信息。 <b>192.168.178.50</b> 是 RevPi 模块的 IP 地址。RevPi 有 7 个 Modbus TCP 主机。	

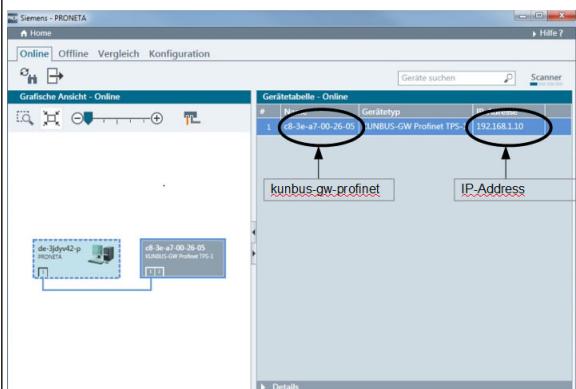
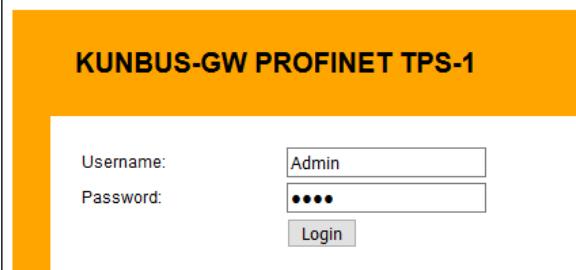
## 第 7 节 配置以太网/IP 网关

步骤	说明	图片
1	<ul style="list-style-type: none"> <li>使用 LAN 到 USB 转接线将以太网/IP 网关连接至电脑。</li> <li>请参见<a href="#">介绍</a> 第 427 页。使用 GATEWAY 以太网/IP Slave 的链接。按照制造商提供的用户手册<a href="#">以太网/IP 的网关组件</a>进行操作。</li> <li>使用 8 引脚地址开关 (A) 将主机标识符设置为网关的二进制格式。           <ul style="list-style-type: none"> <li>示例：将主机设置为 8: 00010000</li> </ul> </li> <li>打开网站 <a href="http://192.168.1.X">http://192.168.1.X</a> (<math>X =</math> 所有设置为“ON”的交换机的总和)。</li> </ul>	
2	<p>打开浏览器并输入 IP 地址 192.168.1.X。 用于首次登录的登录数据： 用户名：admin 密码：1701 按 <b>Login</b>（登录）。</p>	

步骤	说明	图片																																																																		
3	<p>控制器和以太网/IP 网关可传输数据区域 0000 - 01BF 内的数据，这些数据可为 448 字节、112 浮点数、224 整数或这些数据的组合，具体取决于控制器中 Modbus TCP 的报文类型。</p> <p><b>注：</b>图中仅显示了截至 32 整数的第一个数据范围。查看 PLC 中的所有数据（224 整数）。</p> <p>按 Show（显示）。</p>																																																																			
4	此时将显示选定的数据区域。	<table border="1"> <thead> <tr> <th>Address</th> <th>Value</th> </tr> </thead> <tbody> <tr><td>Input 1 0x0001</td><td>0</td></tr> <tr><td>Input 2 0x0002</td><td>0</td></tr> <tr><td>Input 3 0x0003</td><td>0</td></tr> <tr><td>Input 4 0x0004</td><td>0</td></tr> <tr><td>Input 5 0x0005</td><td>0</td></tr> <tr><td>Input 6 0x0006</td><td>0</td></tr> <tr><td>Input 7 0x0007</td><td>0</td></tr> <tr><td>Input 8 0x0008</td><td>0</td></tr> <tr><td>Input 9 0x0009</td><td>0</td></tr> <tr><td>Input 10 0x000a</td><td>0</td></tr> <tr><td>Input 11 0x000b</td><td>0</td></tr> <tr><td>Input 12 0x000c</td><td>0</td></tr> <tr><td>Input 13 0x000d</td><td>0</td></tr> <tr><td>Input 14 0x000e</td><td>0</td></tr> <tr><td>Input 15 0x000f</td><td>0</td></tr> <tr><td>Input 16 0x0010</td><td>0</td></tr> <tr><td>Output 1 0x0401</td><td>0</td></tr> <tr><td>Output 2 0x0402</td><td>0</td></tr> <tr><td>Output 3 0x0403</td><td>0</td></tr> <tr><td>Output 4 0x0404</td><td>0</td></tr> <tr><td>Output 5 0x0405</td><td>0</td></tr> <tr><td>Output 6 0x0406</td><td>0</td></tr> <tr><td>Output 7 0x0407</td><td>0</td></tr> <tr><td>Output 8 0x0408</td><td>0</td></tr> <tr><td>Output 9 0x0409</td><td>0</td></tr> <tr><td>Output 10 0x040a</td><td>0</td></tr> <tr><td>Output 11 0x040b</td><td>0</td></tr> <tr><td>Output 12 0x040c</td><td>0</td></tr> <tr><td>Output 13 0x040d</td><td>0</td></tr> <tr><td>Output 14 0x040e</td><td>0</td></tr> <tr><td>Output 15 0x040f</td><td>0</td></tr> <tr><td>Output 16 0x0410</td><td>0</td></tr> </tbody> </table>	Address	Value	Input 1 0x0001	0	Input 2 0x0002	0	Input 3 0x0003	0	Input 4 0x0004	0	Input 5 0x0005	0	Input 6 0x0006	0	Input 7 0x0007	0	Input 8 0x0008	0	Input 9 0x0009	0	Input 10 0x000a	0	Input 11 0x000b	0	Input 12 0x000c	0	Input 13 0x000d	0	Input 14 0x000e	0	Input 15 0x000f	0	Input 16 0x0010	0	Output 1 0x0401	0	Output 2 0x0402	0	Output 3 0x0403	0	Output 4 0x0404	0	Output 5 0x0405	0	Output 6 0x0406	0	Output 7 0x0407	0	Output 8 0x0408	0	Output 9 0x0409	0	Output 10 0x040a	0	Output 11 0x040b	0	Output 12 0x040c	0	Output 13 0x040d	0	Output 14 0x040e	0	Output 15 0x040f	0	Output 16 0x0410	0
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5	按 <b>Change Configuration</b> (更改配置) 以设置 IP 地址。	 <p>KUNBUS-GW EtherNet/IP™</p> <p>Modbus Register 0x0011 - 0x0010 and 0x0401 - 0x0410  Modbus Register 0x0011 - 0x0020 and 0x0411 - 0x0420  Modbus Register 0x0021 - 0x0030 and 0x0421 - 0x0430  Modbus Register 0x0031 - 0x0040 and 0x0431 - 0x0440</p> <p>Show / Show / Show / Show</p> <p><b>Configuration</b></p> <p>Serial number: 591  Software Version: 1.1.9464  MAC Address: C8:3e:27:00:08:10  IP Address: 192.168.1.1  Subnet mask: 255.255.255.0  Gateway: 192.168.1.1  DHCP: <input type="checkbox"/></p> <p><b>Change Configuration</b> (highlighted)  <b>Change Password</b>  <b>Reboot</b></p> <p>Download ED9 file.</p>															
6	根据网关地址更改 IP 地址。 按 <b>Apply</b> (应用) 进行确认。 将所有 DIP 开关设置为关闭。 将网关的电源设置为关闭, 然后重新启动。现在将使用新的 IP 地址。	 <p>KUNBUS-GW EtherNet/IP™</p> <p><b>Change Configuration</b></p> <table border="1"> <thead> <tr> <th></th> <th>Old Value</th> <th>New Value</th> </tr> </thead> <tbody> <tr> <td>DHCP</td> <td><input type="checkbox"/> active</td> <td><input checked="" type="checkbox"/> active</td> </tr> <tr> <td>IP Address</td> <td>192.168.1.8</td> <td>192.168.1.8</td> </tr> <tr> <td>Network Mask</td> <td>255.255.255.0</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>192.168.1.1</td> <td>192.168.1.1</td> </tr> </tbody> </table> <p><b>Apply</b> (circled in red)  Abort</p>		Old Value	New Value	DHCP	<input type="checkbox"/> active	<input checked="" type="checkbox"/> active	IP Address	192.168.1.8	192.168.1.8	Network Mask	255.255.255.0	255.255.255.0	Gateway	192.168.1.1	192.168.1.1
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## 第8节 配置 Profinet 网关

步骤	说明	图片
1	<ul style="list-style-type: none"><li>使用“LAN 到 LAN”适配器将 Profinet 网关连接至电脑。</li><li>请参见<a href="#">介绍</a> 第 427 页。使用 GATEWAY Profinet IRT Slave 的链接。按照制造商提供的用户手册 <b>PROFINET</b> 的网关组件进行操作。</li><li>使用软件 PRONETA 将名称设置为 <b>kunbus-gw-Profinet</b>。</li><li>输入使用的 IP 地址。</li></ul>	 The screenshot shows the Siemens PRONETA software interface. On the left, there's a graphical view of network components: a computer icon labeled 'de-3jdyv42-p' and a switch icon labeled 'cb-3e-a7-00-26-05'. In the center, there's a search bar and a 'Scanner' button. On the right, a table titled 'Geräteabelle - Online' lists one device: '1 c8-3e-a7-00-26-05 KUNBUS-GW Profinet TPS-1 192.168.1.10'. Below the table, two arrows point to the device name 'kunbus-gw-profinet' and its IP address 'IP-Address'.
2	打开浏览器并输入 IP 地址。 用于首次登录的登录数据： 用户名: admin 密码: 1701 按 <b>Login</b> (登录)。	 The screenshot shows a yellow header with the text 'KUNBUS-GW PROFINET TPS-1'. Below it is a white login form. It has two input fields: 'Username:' containing 'Admin' and 'Password:' containing '1701'. There is also a 'Login' button.

步骤	说明	图片																
3	按 <b>Show</b> (显示) (A) 以显示输入数据。	<p><b>KUNBUS-GW PROFINET TPS-1</b></p> <p><b>Input data (from neighbour device)</b> <b>Show</b></p> <p><b>Output data (from PROFINET Controller)</b> <b>Show</b></p> <p><b>Configuration</b></p> <table> <tbody> <tr> <td>Serial number</td> <td>4581</td> </tr> <tr> <td>Software Version</td> <td>1.2</td> </tr> <tr> <td>MAC Address</td> <td>c8:3e:a7:01:2c:3a</td> </tr> <tr> <td>IP address</td> <td>192.168.0.230</td> </tr> <tr> <td>Subnet mask</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>0.0.0.0</td> </tr> <tr> <td>IO Controller state</td> <td>no AR established, access from web page possible</td> </tr> <tr> <td>PROFINET Name of Station</td> <td>kunbus-gw-profinet</td> </tr> </tbody> </table> <p><b>Change Password</b></p>	Serial number	4581	Software Version	1.2	MAC Address	c8:3e:a7:01:2c:3a	IP address	192.168.0.230	Subnet mask	255.255.255.0	Gateway	0.0.0.0	IO Controller state	no AR established, access from web page possible	PROFINET Name of Station	kunbus-gw-profinet
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4	<p>显示从控制器发送到 Profinet 网关的所有数据。</p> <p>控制器和 Profinet 网关可传输数据区域 0000 - 01BF 内的数据，这些数据可为 448 字节、112 浮点数、224 整数或这些数据的组合，具体取决于控制器中 Modbus TCP 的报文类型。</p>	<p>The screenshot shows the 'Input (from neighbour device)' section of the KUNBUS-GW PROFINET TPS-1 software. At the top, it says 'KUNBUS-GW PROFINET TPS-1'. Below that is a 'Main page' button. The main area is a table with columns labeled 0 through F. The rows represent memory addresses from 0x0000 to 0x01F0. Each row contains 16 hex digits representing the data at that address.</p> <table border="1"> <thead> <tr> <th>Address</th> <th>0</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>F</th> </tr> </thead> <tbody> <tr><td>0x0000</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0010</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> <tr><td>0x0020</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td><td>00</td></tr> 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## 第 9 节 故障排除

### 9.1 排除 RevPi 故障

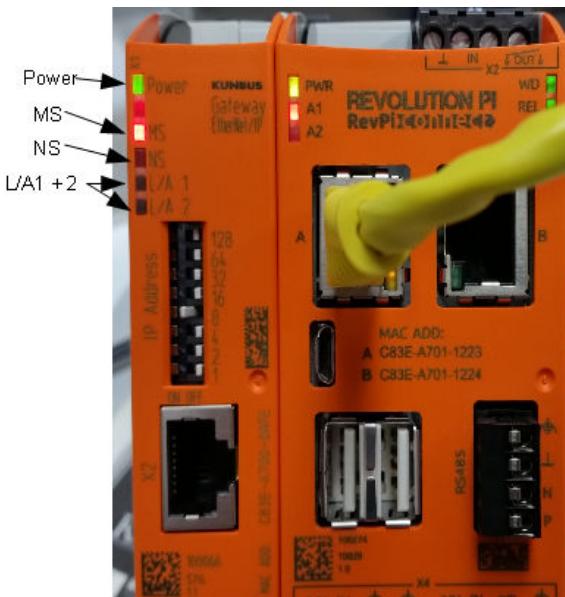
图 4 RevPi 基本模块



消息	说明	解决方法
指示灯 A2 呈红色闪烁。	通信停止。	<ul style="list-style-type: none"><li>• 连接网线（网线或路由器）。</li><li>• 将 Claros 中的 Modbus 地址设置设为 1。</li><li>• 将 Claros 菜单中的 Modbus TCP 设置为 On（开）。</li></ul>
指示灯 A3 呈红色缓慢闪烁。	以太网/IP 和 Profinet 网关的配置混合在一起。	<p>请参阅 <a href="#">启动 USB 配置</a> 第 429 页 的步骤 4 并选择正确的网关类型：</p> <ul style="list-style-type: none"><li>• en – 以太网/IP</li><li>• pn – Profinet</li></ul>

## 9.2 排除以太网/IP 故障

图 5 以太网/IP 网关



消息	说明	解决方法
电源指示灯熄灭。	以太网/IP 网关设置为关闭。	开启电源。
电源指示灯呈绿色闪烁。	启动程序未完成。	请稍等片刻。
电源指示灯呈红色闪烁。	显示警告。	检查是否所有设备都已连接。
电源指示灯呈红色常亮。	显示错误。	以太网/IP 网关故障。更换以太网/IP 网关。
MS 指示灯熄灭。	以太网/IP 网关设置为关闭。	打开电源开关。
MS 指示灯呈绿色闪烁。	配置过程未完成。	请稍等片刻。
MS 指示灯呈红色闪烁。	显示配置错误。	请参阅 <a href="#">配置以太网/IP 网关</a> 第 439 页 以检查配置。
MS 指示灯呈红色常亮。	显示错误。	以太网/IP 网关故障。更换以太网/IP 网关。
MS 指示灯呈红色和绿色交替闪烁。	自检未完成。	请稍等片刻。
NS 指示灯熄灭。	以太网/IP 网关设置为关闭或缺少 IP 地址。	打开电源开关。设置 IP 地址。
NS 指示灯呈绿色闪烁。	已设置 IP 地址，但没有建立 CIP 连接。	请稍等片刻。
NS 指示灯呈红色闪烁。	CIP 连接已停止。	检查是否存在超时。

消息	说明	解决方法
NS 指示灯呈红色常亮。	选定的 IP 地址被另一台设备使用。	将 IP 地址更改为唯一的 IP 地址。
L/A 1 或 2 指示灯熄灭。	没有连接到其他设备。	连接到一台设备。
L/A 1 或 2 指示灯呈绿色闪烁。	无数据交换。	等待下一次数据交换。

### 9.3 排除 Profinet 故障

图 6 Profinet 网关



消息	说明	解决方法
电源指示灯熄灭。	Profinet 网关关闭。	打开电源开关。
电源指示灯呈绿色闪烁。	启动程序未完成。	请稍等片刻。
电源指示灯呈红色闪烁。	显示警告。	检查是否所有设备都已安装。
电源指示灯呈红色常亮。	显示错误。	Profinet 网关故障。更换 Profinet 网关。
运行指示灯熄灭。	无网络连接。	连接到网络。
运行指示灯呈绿色闪烁。	Profinet 控制器已连接，但没有数据交换。	等待下一次数据交换。
运行指示灯呈绿色缓慢闪烁。	由用于指示网关组件的工具触发。	请稍等片刻。
诊断指示灯呈红色闪烁。	由用于指示网关组件的工具触发。	请稍等片刻。

消息	说明	解决方法
诊断指示灯呈红色快速闪烁。	未连接至控制器。未在模块中设置 Profinet 名称。	请参阅 <a href="#">配置 Profinet 网关第 442 页</a> 以设置名称。
诊断指示灯呈红色常亮。	网关设备报告诊断数据。	请参阅诊断报告。
L/A 1 或 2 指示灯熄灭。	无网络连接。	连接到网络。
L/A 1 或 2 指示灯呈绿色闪烁。	数据交换。	请等待数据交换结束。



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