(HACH)[®] Application Note 103

Using Wonderware[®] InTouch[™] with the Hach MOD I/O PLC/DCS Interface

Introduction

This document details the connection of Hach's MOD I/O PLC/DCS Interface to Wonderware InTouch using the Modicon Modbus[®] driver. The MOD I/O must be attached directly to the computer running InTouch via an RS232 cable.

System Requirements

- IBM PC Pentium 166 MHz or faster processor with CD ROM Drive
- Windows 95 or 98, NT 4.0 or higher
- At least one serial (RS232) port for attaching the MOD I/O
- MOD I/O PLC/DCS Interface (Hach Cat. No. 57100-00 or 57100-02)
- Wonderware InTouch
- Wonderware Modicon Modbus driver

Installing the Hach Mod-IO Module PLC/DCS Interface

- 1. Attach one end of the 9-pin cable (included with the MOD I/O) to the RS232 port located on the back of the MOD I/O Module.
- 2. Attach the opposite end of the cable to the computer serial port (typically marked COM1 or COM2) on the PC.
- **3.** Plug the adapter into the power jack on the MOD I/O and then into an appropriate electrical socket.
- **4.** Refer to the Hach MOD I/O manual (Cat. No. 57100-18) for further details on installing and configuring the MOD I/O, and for MOD I/O register configuration information.

Installing and Configuring the Modbus Driver

1. Install the Modicon MODBUS driver from the I/O Servers CD. Version 7,0,0,12 was used in this example.

Select Component to Install		
	Please choose the I/O Server listed below that you would like to install. Allen-Bradley Serial V7,0,0,6 Bristol Babcock Open BSI V5.6 Fisher ROC V5.5 GE Fanuc CCM2 V7,0,0,2 GE Fanuc Host Communications (HCS) V7,0,0,2 GE Fanuc Series 90 Protocol V7,0,0,3 JBUS V5.5 Mitsubishi A-Series V7,1,0,8 Modicon Ethernet V7,0,0,15 Modicon MODBUS V7,0,0,15 Modicon MODBUS V7,0,0,12 Modicon MODBUS V7,0,0,3 OMRON Host Link V7,1,0,2 OMRON SYSMAC NET V7,0,0,3 OPC Browser V7,0,1,1	
	< Back Next > Cancel	

- 2. Start the Modbus driver by selecting Start, Programs, Wonderware FactorySuite, IO Servers, Modicon MODBUS.
- 3. Select Configure, COM Port Settings...
- 4. Select the desired COM port (defaults to COM1). After making sure the settings match the dialog box shown below, click Done.

Communication Port Settings		
Com Port: COM1 C ASCII	Done	
Reply <u>T</u> imeout: 3 secs • RTU	Sa <u>v</u> e	
Baud Rate ○ 110 ○ 300 ○ 600 ○ 1200 ○ 2400 ○ 4800 ○ 9600 ○ 14400 ○ 19200 ○ 38400	Defaults	
Data Bits ○ 7 ● 8 ● 1 ○ 2 Parity		
C Even O Odd © None O Mark O Space		

5. Select Configure, Topic Definition, followed by New...



- 6. Enter MODIO1 as the Topic Name.
- 7. For the Com Port, select the same port as defined in step 4 (defaults to COM1).
- 8. Enter the Slave ID. It must match the address of the MOD I/O (defaults to 1).
- 9. Enter the following Block I/O sizes.
 - Coil Read: 96
 - Register Read: 32
 - Coil Write: 96
 - Register Write: 32
- **10.** If desired, define multiple MOD I/Os at this time by creating topics MODIO2, MODIO3, etc. with different Com Ports. Click OK.

MODBUS Topic Definition	×
Iopic Name: MODIO1 Com Port: COM1 Slave ID: 1 Slave Deutice Tupe: E94/994 PLC ▼	OK Cancel
Use Concept Data Structures String Variable Style Full length (padded with spaces on the end) C style (end marked by zero byte) Pascal style (first byte contains length)	 <u>R</u>egister Type - ■ BINARY ■ BCD
Block I/O Sizes Coil Read: 96 Register Read: 32 Coil Write: 96 Register Write: 32 Update Interval: 1000 msec	

11. Minimize the Modicon MODBUS driver.



Configuring InTouch

- 1. Start InTouch by selecting Start, Programs, Wonderware FactorySuite, InTouch.
- 2. Create a new project by selecting File, New. After naming the project, double click the new project name to start Window Maker.
- 3. Create a new window by selecting File, New Window.



- 4. Add a measurement by clicking the purple wizard button.
- 5. Choose Value Displays, I/O Analog Display, followed by OK.



6. Click in the window to place the display.



- 7. Double click the I/O Analog Display (displayed as "0.00").
 - For the Application, enter MODBUS.
 - For the Topic, enter MODIO1.
 - For the Item, enter 31001 F
- **Note:** The specific modbus register selected for display is 31001F. Refer to the Hach MOD I/O Manual (Cat. No. 57100-18) for MOD I/O register configuration information. The trailing F indicates that this is a floating point (real) number.
 - For the Tagname, enter Sensor1Meas1
 - For the Number Format, enter 0.000

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Click OK.

1/0 Analog Va	lue Wizard
Application:	MODBUS
Topic:	MODIO1 Cancel
Item:	31001 F Paste Link
Protocol:	DDE
If possible, this If a Tag does	s wizard will use an existing I/O Real Tag. not exist, however, one will be created:
🗖 When cre	ating a tag, Use Item as Tagname 🛛 🗖 Allow Input
Tagname:	Sensor1Meas1
Value Displa	ay Format
Number Fo	rmat: 0.000
Data Inte Checki	egrity None
Engl	Units:
<u> </u>	

8. Add appropriate labels, graphics, etc. Run the configuration by clicking Runtime! A sample data screen is shown below.

MOD IO Example	
pH	6.229
Millivolts	27.50

For more information, visit our AquaTrend[®] Technical Information site at:

http://www.aquatrend.com

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