

SDI-Link



4/1/2014

Overview



Sutron's SDI-Link provides a way for an SDI-12 data recorder to read one or more SDI-12 sensors located up to 1 mile away using un-licensed band radios. SDI-Link is composed of two parts: Master Modules that connect to SDI-12 dataloggers & Slave Modules that connect to SDI-12 sensors.



SDI-Link Master Station Example
WSDI-M



SDI-Link Slave Station Example
WSDI-S



SDI-Link Applications



- Any project with long cable runs
- Quick deployment gages
- Bridge locations to locate DCP off of the bridge
- Any project where you might have a large number of sensor concentrated in a small geographic area as with Rough River Project
- As with Tom Bigbee, when the cost of running new cable and conduit is cost prohibitive
- Any project where cable is not possible, such as over a body of water
- Locks and dams
- Ground water networks



SDI-Link Features



- Fully SDI-12 V1.3 Compliant
- Truly Transparent SDI-12 Communications (No additional configuration required)
- Low Power Consumption (7mA avg. for master unit)
- Up to a mile in range Line of Sight (LOS)
- Multiple Slaves can connect to Master Node
- Slave has built in Solar Regulator for stand alone use
- Multiple SDI-12 sensors per slave
- SDI-12 & RS-232 communications
- 100 mW low power radio
- Diagnostics for signal strength
- Built in I/O in WSDI-SIO
- Comes in NEMA Enclosure 7.5" x 7.5" x 5" plus 6" for antenna



SDI-Link Specifications



- Range: Up to 1 Mile Line of Sight
- Frequency: 2.4 GHz Radios
- Interface: SDI-12 V1.3, Wireless RS232 (use for comm.)
- Housing: Nema 4X Lockable Enclosure (7.5" x 7.5" x 5" plus 6" for antenna)
- Operating Temp: -40°C – +60°C
- Power Consumption: WSDI-M: 7mA Typical Average
WSDI-S: 6mA Typical Average
- Solar Panel Regulator: Supports up to 20 Watt Panel
- Diagnostics: RSSI, Charging Current, Voltage

WSDI-SIO Model

- A/D Accuracy: 24 Bit
- Switched Battery: Short Protected
- Diagnostics: RSSI, Charging Current, Voltage
- Power: 8-16 VDC, Reverse Protected



WSDI-SIO (Slave with I/O) Specs.

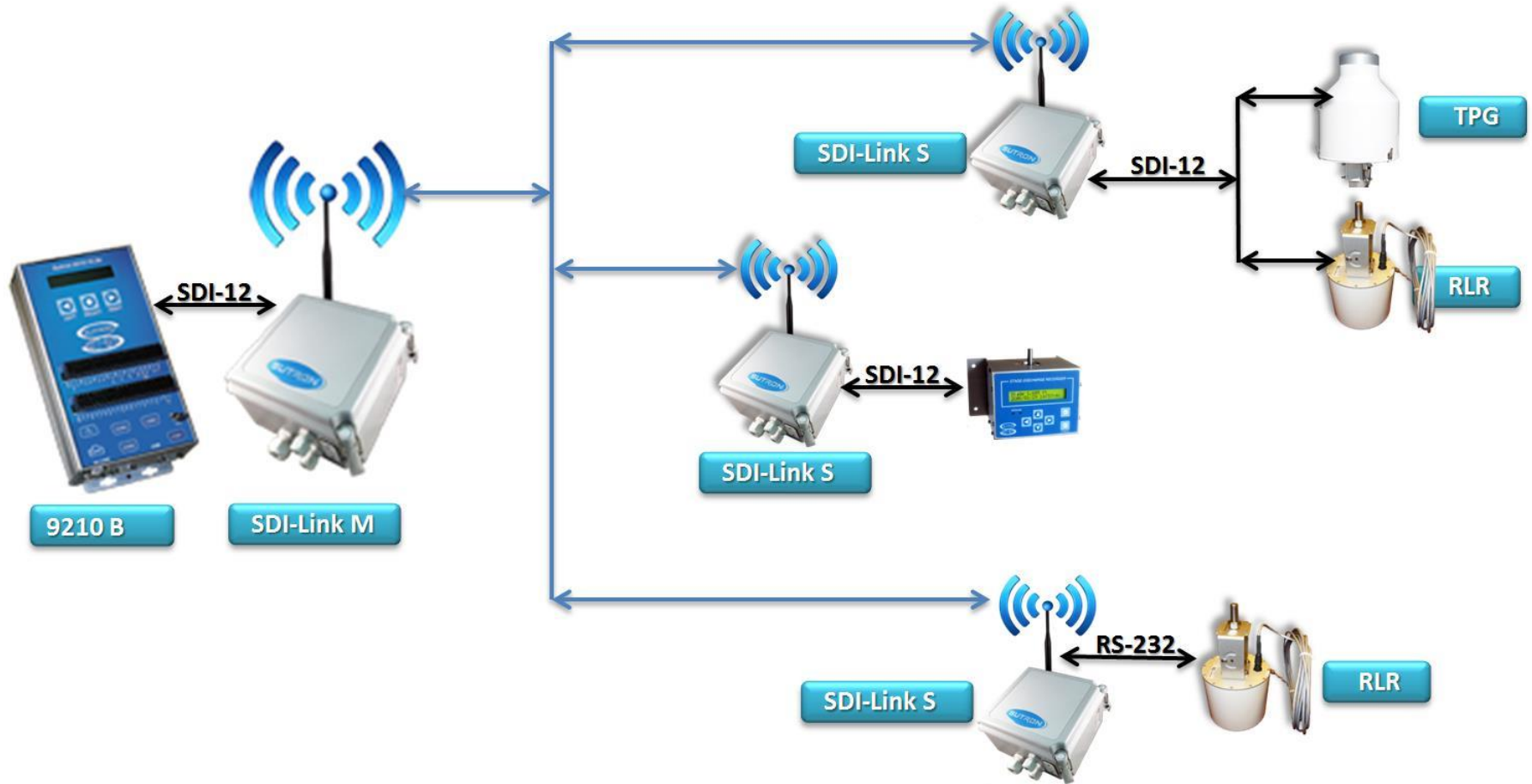


The WSDI-SIO version of the slave has built in analog and digital inputs. This allows the slave to measure multiple analog *AND* digital sensors.

- Single Ended Inputs: 2 Channels
- Accuracy: 0.02% Full Scale
- Diff Inputs: 3 Channels
- Resolution: 4.657nV
- 4-20mA: 1 Channel
- Frequency Counter: 1 Channel



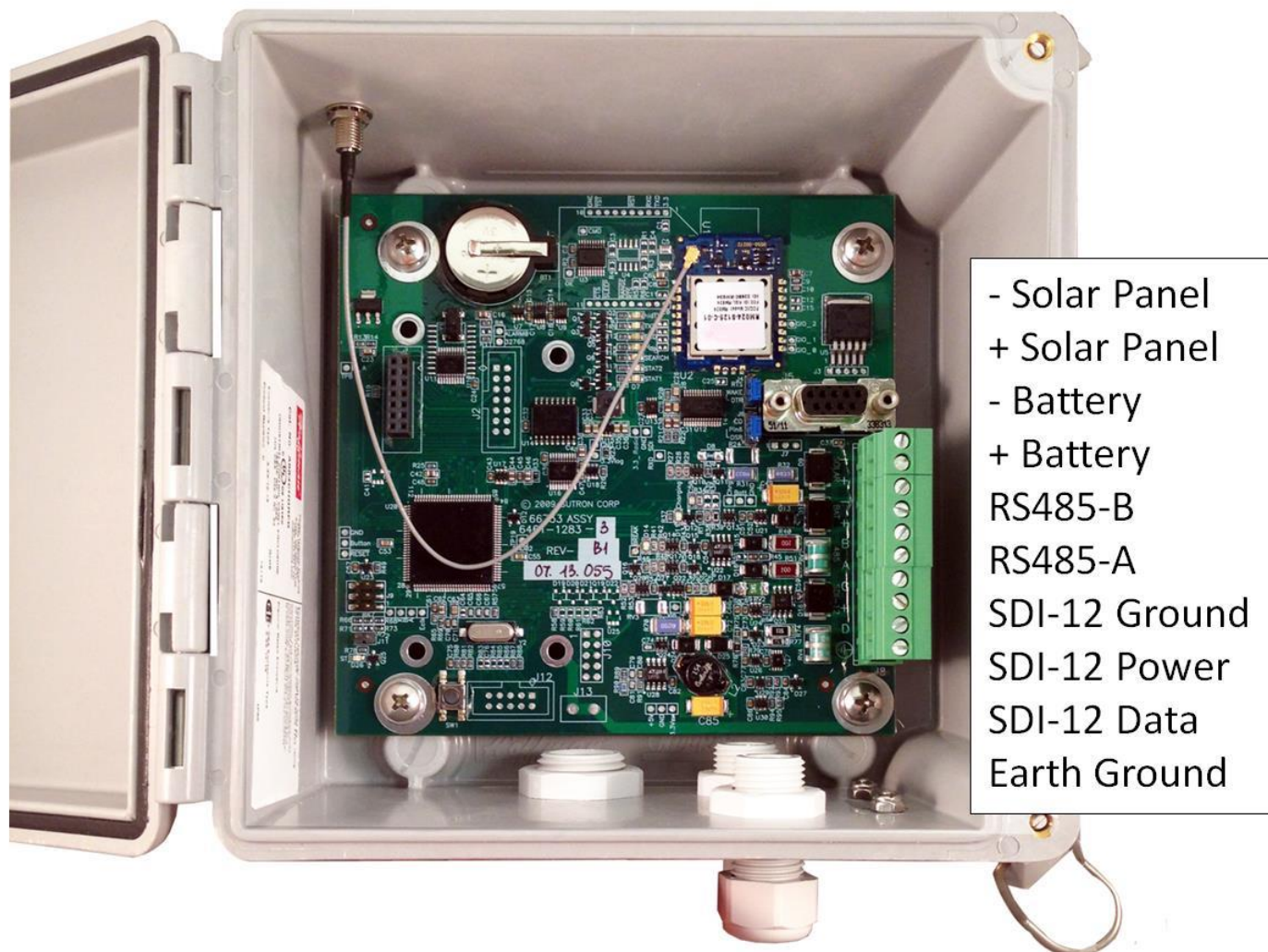
SDI-Link Configuration Examples



A Simple Star Network



SDI-Link Internal Components



- Solar Panel
- + Solar Panel
- Battery
- + Battery
- RS485-B
- RS485-A
- SDI-12 Ground
- SDI-12 Power
- SDI-12 Data
- Earth Ground

Interior showing antenna nut and terminal block



Client Portfolio – U.S.A



US Army Corps
of Engineers®



- USACE
- USGS
- USGS HIF
- Tennessee Tombigbee Waterway
- Stetson Engineering
- Electronic Data Solutions
- PacifiCorp
- USDA
- Texas Commission on ENV Quality (TCEQ)

Client Portfolio – International



World
Meteorological
Organization



DIGITEC S.A.



- World Meteorological Organization (WMO)
- Dominican Republic - Empresa de Generacion Hidroelectrica Dominicana (EGEHID)
- Poland - Institute of Meteorology and Water Management, National Research Institute (IMGW)
- CIMH
- CVC Colombia
- Digitec Ecuador
- Apcytel Colombia
- Hoskin Scientific
- Hydrolynx
- Panama Canal Authority (ACP)
- Scanmatic – Norway

Installation Examples



Master Station
(Slave stations circled in red)



Slave Stations

Well Monitoring Stations for Dam Safety
Rough River Dam, Kentucky



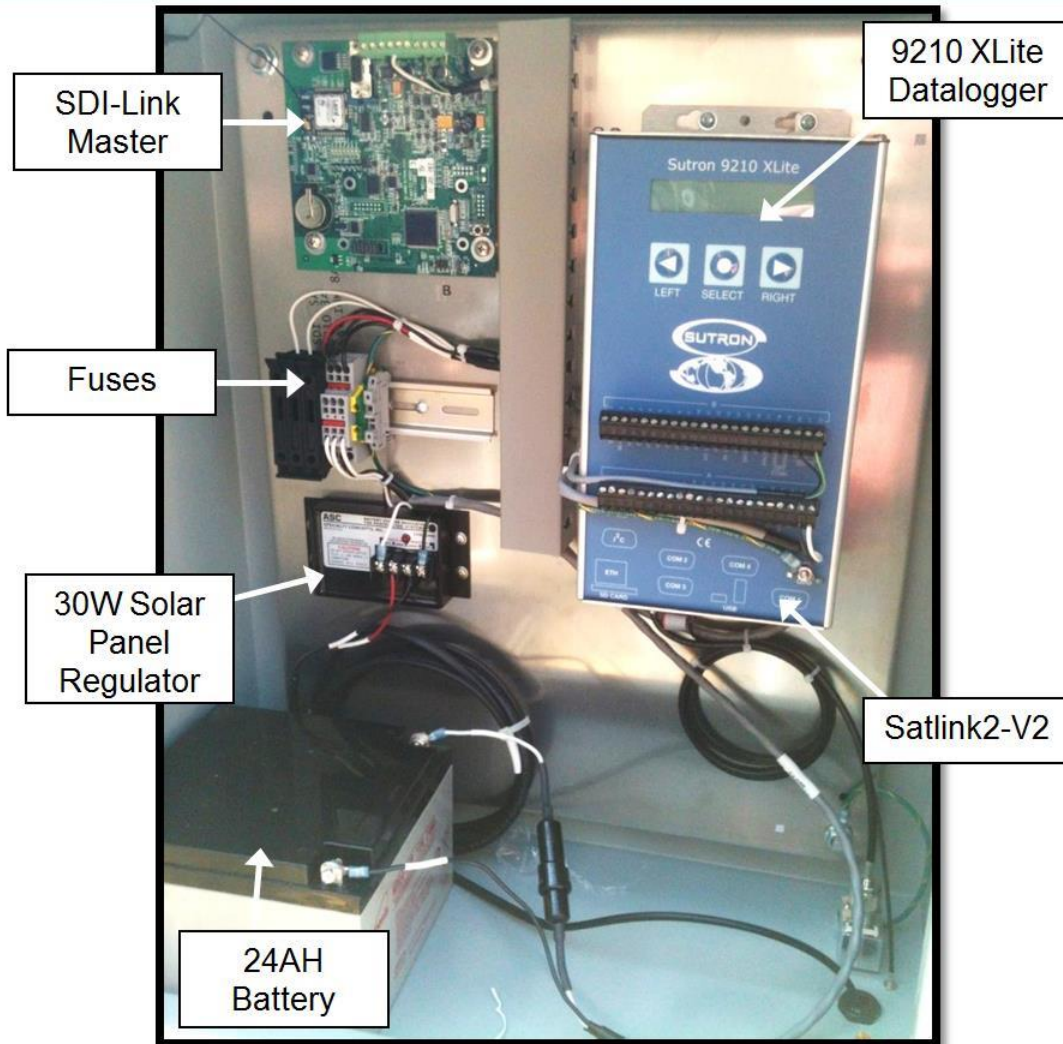
Installation Examples



Rough River Dam, Kentucky



Installation Examples



Example of Master Station Interior



Installation Examples



SDI-Link with 6 dB Omni-directional Antenna – Ecuador



Installation Examples



Slave Station with Shaft Encoder – Cali, Columbia



Installation Examples



SDI-Link Master with XLite Datalogger – Cali, Columbia



SDI-Link Models & Options



Models

WSDI-M

WSDI-S

WSDI-SIO

SDI-Link Master

SDI-Link Slave

SDI-Link Slave with I/O



Options

5100-0030

5100-0040

5100-0410-1

6661-1300-1

6661-1306-20

7 Amp-Hr Battery

24 Amp-Hr Battery

20 Watt Solar Panel

Mounting Bracket Kit

8.5 dB Omni Kit with 20 ft. cable

