

# IF-002

## Modbus RS485 Smart Interface



- Modbus to Smart Probe Interface
- Provides RS485 serial interface supporting Modbus RTU and command line interpreter
- Configurable with Serial Terminal or SYNC configuration software



Probe not included

### Layer N to Modbus Integration

The IF-002 provides seamless integration of your Layer N Smart Probe to your Modbus network. The IF-002 utilizes a standard M12 5-pin B code connector for RS485 serial transmission and an M12 8-pin connector for Layer N Smart Probes.

The M12 8-pin connector provides power for external Layer N Smart Probes with an integrated power monitor to protect against short circuits.

### Intuitive Configuration

An integrated command line interface allows for quick serial setup of your IF-002 and smart probe, register configuration, and monitoring using standard terminal emulators. Intuitive configuration is also available through SYNC configuration software.

### Compatibility

The IF-002 is fully compatible with SYNC configuration software, the Layer N Ecosystem of devices, Omega Enterprise Gateway, and Layer N Cloud.

## Specifications

### RS485 Serial Port

**Baudrate:** 9600, 19200, 34800, 115200

**Parity:** Even, Odd, Mark, None

**Data Bits:** 7, 8

**Stop Bits:** 1, 2

**Protocol:** Modbus RTU, Command Line Interpreter

### INPUT POWER

**Voltage:** 5V<sub>DC</sub> - 36 V<sub>DC</sub>

### OUTPUT TO SMART PROBE

100 mA max @ 3.0 ±5%

### ENVIRONMENTAL

**Operating Temperature:** -40 to 85°C (-40 to 185°F)

**Rating:** IP67 when mated

### MECHANICAL

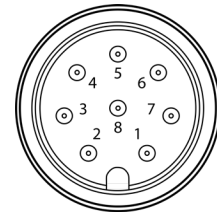
**Dimensions:** 22.1 mm W x 96.7 mm L (0.87" x 3.80") not including mounting tabs

### GENERAL

**Agency Approvals:** CE, EMC 2014/30/EU, LVD 2014/35/EU

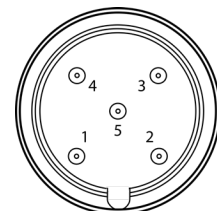
**Compatibility:** Compatible with OEG, SYNC configuration software, Layer N Cloud, and Modbus Networks

## M12 8-Pin Wiring



Pin	Name	Function
Pin 1	OUT 1	No Connection
Pin 2	INTR	Interrupt Signal
Pin 3	SCL	SCL Signal
Pin 4	SDA	SDA Signal
Pin 5	Shield	Shield Ground
Pin 6	OUT 2	No Connection
Pin 7	GND	Power Return
Pin 8	VCC	Nominal 3.0 V <sub>DC</sub> to Smart Probe

## M12 5-Pin Wiring



Pin	Name	Function
Pin 1	VDD	5-36 VDC
Pin 2	A'	RS485 Data +
Pin 3	GND	Ground
Pin 4	B'	RS485 Data -
Pin 5	SHIELD	Shield Ground

## Modbus Smart Interface

Model Number	Description
IF-002	Modbus RS485 Smart Interface

## Accessories

An M12 5-pin B code screw terminal connector is required to connect your IF-002 to your modbus network.

Model Number	Description
M12.5-B-S-F-FM	M12 5-pin B code screw terminal
DM12CAB-8-1-RA	1m (3.3') cable dual M12-8 connector, right angle terminator
DM12CAB-8-3-RA	3m (9.8') cable dual M12-8 connector, right angle terminator
DM12CAB-8-5-RA	5m (16.4') cable dual M12-8 connector, right angle terminator
DM12CAB-8-1	1m (3.3') cable dual M12-8 straight connector
DM12CAB-8-3	3m (9.8') cable dual M12-8 straight connector
DM12CAB-8-5	5m (16.4') cable dual M12-8 straight connector

## Layer N Smart Probes

Compatible Layer N Smart Probes are integrated with an advanced suite of IIoT Smart Core features. These features enable plug and play connectivity, alarms and notifications, data assurance, data logging, and storage.

Model Number	Description
SP-001-0	Smart Probe IR, 6:1 field of view
SP-001-1	Smart Probe IR, 6:1 field of view, with discrete I/O
SP-002-0	Smart Probe IR, 10:1 field of view
SP-002-1	Smart Probe IR, 10:1 field of view with discrete I/O
SP-003-1	THB Smart Probe with I/O Tube Housing
SP-004-1	TH Smart Probe with I/O Tube Housing
SP-004-4	TH Smart Probe with I/O Bulkhead Housing
SP-005-1	Temperature and RTD Smart Probe with discrete I/O
SP-010-1	Load Cell Smart Probe with discrete I/O
SP-013-1	Digital Interface Smart Probe with discrete I/O
SP-014-1	Process Monitoring Smart Probe with discrete I/O
SP-016-1	Heat Flux Smart Probe with discrete I/O