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

Omega Link to Modbus Integration

The IF-002 provides seamless integration of your Omega Link 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 Omega Link Smart Probes.

The M12 8-pin connector provides power for external Omega Link 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 Omega Link Ecosystem of devices, Omega Enterprise Gateway, and Omega Link 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: $5V_{DC}$ - 36 V_{DC}

OUTPUT TO SMART PROBE
100 mA max @ 3.0 ±5%

ENVIRONMENTAL
Operating Temperature: -40 to 85ºC (-40 to 185ºF)
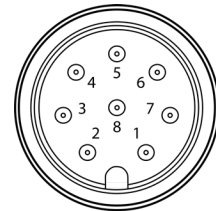*Rating:* IP67 when mated

MECHANICAL
Dimensions: 22.1 mm W x 96.7 mm L (0.87" x 3.80") not including mounting tabs
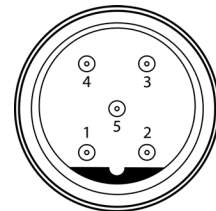
GENERAL
Agency Approvals: CE
Compatibility: Windows 10 OS or higher. Compatible with OEG, SYNC configuration software, Omega Link Cloud, and Modbus Networks

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 3.3 V_{DC} 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

 + + +

SP-001	*IF-002*	*M12.5B-S-F-FM*	*USB to RS485 Cable*

Modbus Smart Interface

Model Number	Description
IF-002	Modbus RS485 Smart Interface

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Accessories

An M12 5-pin B code screw terminal connector is required to connect wire leads to the IF-002. A third-party RS485-to-USB converter can be used to connect the IF-002 to an Omega Link Gateway and or a modbus network through a USB port.

Model Number	Description
M12.5B-S-F-FM	M12 5-pin B code screw terminal

Omega Link Smart Probes

Compatible Omega Link 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 Series	Smart Probe IR, 6:1 field of view, with discrete I/O
SP-002 Series	Smart Probe IR, 10:1 field of view with discrete I/O
SP-003 Series	Temperature, Humidity, Barometric Pressure, Dewpoint, Humidex, and Heat Index Smart Probe with discrete I/O - Tube Housing
SP-004 Series	Temperature, Humidity, Dewpoint, Humidex, and Heat Index with discrete I/O - Tube housing or Bulkhead housing, 5" variant also available
SP-005 Series	Temperature and RTD Smart Probe with discrete I/O
SP-006 Series	Pressure Monitoring and Control Smart Probe with discrete I/O
SP-010 Series	Load Cell Smart Probe with discrete I/O
SP-013 Series	Digital Interface Smart Probe with discrete I/O
SP-014 Series	Process Monitoring Smart Probe with discrete I/O
SP-016 Series	Heat Flux Smart Probe with discrete I/O

Compatible Omega Link Gateways

Model Number	Description
GW-001-0	Wired IIoT Gateway Standard, Ethernet connectivity, Modbus RTU RS232/RS485 and Modbus TCP
GW-001-3-NA	Wireless IIoT Gateway Pro, Ethernet connectivity, power over Ethernet, connects up to 100 Omega Link Smart Sensors, Modbus RTU RS232/RS485 and Modbus TCP, 2x USB ports- 915 MHz
GW-001-3-EU	Wireless IIoT Gateway Pro, Ethernet connectivity, power over Ethernet, connects up to 100 Omega Link Smart Sensors, Modbus RTU RS232/RS485 and Modbus TCP, 2x USB ports- 868 MHz
GW-002-1-LTE	Wireless LTE IIoT Gateway Pro connects up to 40 Omega Link Smart Sensors, Modbus RTU RS232/RS485 and Modbus TCP, 1x RJ45 port, 1x USB port - 915 MHz

Your Data at a Glance with the Omega Link Cloud

The Omega Link Cloud consolidates and brings your data to you when you need it, wherever you are. The intuitive cloud interface allows you to monitor and store your data, set alarms and alerts, and provides insights on device activity. Visit the OMEGA website for more details.

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