

Troubleshooting

How can I reset the IF-002 to its factory default settings?

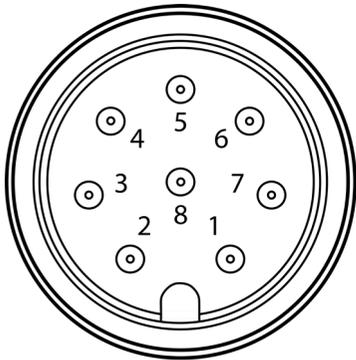
Note: For Modbus RTU Operation the Modbus Address must be unique, Databits must equal 8, Stopbits must be set to 1.

How can I reset the IF-002 to its factory default settings?

Step 1: Power off the IF-002 by disconnecting it from your Modbus Network.

Step 2: Unplug any smart probe connected to your IF-002.

Step 3: Short pins 3 and 4 on the 8-pin connector on the IF-002.



Step 4: Apply power to the IF-002 for 3 seconds from the 5-pin connector.

Step 5: Remove short from pins 3 and 4.

Step 6: Reconnect your Layer N Smart Probe and apply power.

What settings should my IF-002 be set to for a firmware update?

- The IF-002 must be reset to its factory default settings prior to a firmware update.

LED Status Signals

The following LED Status Signals provide a visual indication of the device state and communications activity.

Color	Status
OFF	No power.
YELLOW	Communications in progress.
RED - 1 second flash	A short condition has been detected on the sensor power circuitry.
RED - 1/4 second flash	A message to the device was not acknowledged.
GREEN	After power up the GREEN LED remains on solid while power is available to the device. It will turn OFF during error reporting.

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

- Purchase Order number under which the product was PURCHASED,
- Model and serial number of the product under warranty, and
- Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

- Purchase Order number to cover the COST of the repair or calibration,
- Model and serial number of the product, and
- Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

OMEGA is a trademark of OMEGA ENGINEERING, INC.

© Copyright 2019 OMEGA ENGINEERING, INC. All rights reserved. This document may not be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form, in whole or in part, without the prior written consent of OMEGA ENGINEERING, INC.

QUICK START



layer



Probe not included

IF-002
Layer N RS485 Smart Interface

OMEGA

omega.com info@omega.com

Service North America:

U.S.A. Headquarters: Omega Engineering, Inc.
800 Connecticut Ave. Suite 5N01, Norwalk, CT 06854
Toll-Free: 1-800-826-6342 (USA & Canada only)
Customer Service: 1-800-622-2378 (USA & Canada only)
Engineering Service: 1-800-872-9436 (USA & Canada only)
Tel: (203) 359-1660 Fax: (203) 359-7700
e-mail: info@omega.com

For Other Locations Visit omega.com/worldwide

The information contained in this document is believed to be correct, but OMEGA accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

Introduction

Use this Quick Start Guide to connect your Layer N IF-002 Smart Interface to your Layer N Smart Probe and Modbus network. For additional information regarding your IF-002, refer to the User Manual available on the Omega website.

Materials

Included with your IF-002

- IF-002 RS485 Smart Interface
- Quick Start Guide

Additional Materials Needed

- M12 5-Pin B Code Screw Terminal accessory
-Part Number: M12.5-B-S-F-FM
- A Modbus Master
- Layer N Smart Probe
-Needed for SYNC Configuration of IF-002

Optional Materials

- A computer with an RS485 port or USB Serial Adapter
- A Serial Terminal Emulator or SYNC for serial port configuration

Specifications

RS485 Serial Port

Baudrate: 9600, 19200, 38400, 115200

Parity: Even, Odd, None

Data Bits: 7, 8

Stop Bits: 1, 2

Protocol: Modbus RTU or ASCII Command Line Interpreter

INPUT POWER

Voltage: 5 V_{DC} - 36 V_{DC}

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

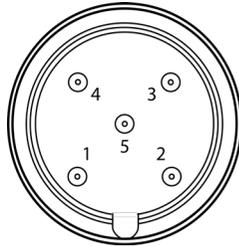
Dimensions: 22.1 mm W x 96.7 mm L
(0.87" x 3.80") not including mounting tabs

GENERAL

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

Compatibility: Compatible with OEG, SYNC configuration software, and Modbus networks

Connecting your IF-002



M12 5-Pin Connector

	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

Serial Terminal Configuration

Note: These instructions are for configuring your IF-002 through a Serial Terminal. For configuration through SYNC, please refer to the section titled **SYNC Configuration**.

Default Serial Configuration	
Modbus Address	1
Address Range	0
Baudrate	115200
Parity	Even
Stopbits	1
Databits	8

Once your IF-002 is connected to your computer running a Serial Terminal, you may begin configuring your device.

To set the Modbus Address on your IF-002, use the following command:

O(ptions) **M**(odbusAddr) = X

Example of how to set the Modbus Address to 5:

OM = 5

Note: For Modbus RTU Operation the Modbus Address must be unique, Databits must equal **8**, Stopbits must be set to **1**.

Serial commands should be entered in the same line and can be separated by a comma. Use the following table and example to set your serial configuration:

Serial	Configuration Options
B(audrate)	9600 19200 38400 115200
P(arity)	Even Odd Mark None
D(atabits)	7 8
S(top)	1 2

Note: Mark Parity is currently not supported.

To set the Serial configuration options on your IF-002, use the following command:

S(erial) **B**(audrate) = X, **P**(arity) = X, **D**(atabits) = X, **S**(top) = X

Example of how to set the Serial configuration options:

SB = 115200, P = Even, D = 8, S = 1

To reset the IF-002 serial configuration to default, type the following command:

SR

Once your IF-002 is configured, you can integrate your Layer N Smart Probe to your Modbus Network.

For a full list of Modbus addresses, additional command line options, and more information on the IF-002, refer to the User's Manual available on the OMEGA website.

SYNC Configuration

Note: These instructions are for configuring your IF-002 through SYNC configuration software.

Step 1: Connect a Smart Probe to the M12 8-Pin connector IF-002.

Step 2: Connect the IF-002 to the host computer.

Step 3: Once your IF-002 has been auto-detected by SYNC, click Device Settings.

Note: SYNC will only auto-detect your IF-002 when it is in its default settings. Please refer to the Troubleshooting section for information on how to factory reset your device

Step 4: Click **Set Serial Port**.

Step 5: Set serial port parameters for your IF-002 and click **Save**.

Baud Rate	115200
Parity	Even
Stop Bits	One
Data Bits	8
Modbus Address	1
Address Range	0

Important: The Modbus Address must be unique to that IF-002 device.

Once your IF-002 is configured, you can integrate your Layer N Smart Probe to your Modbus Network.

For a full list of Modbus addresses, additional command line options, and more information on the IF-002, refer to the User's Manual available on the OMEGA website.