

The **Save** button saves and applies the configurations settings to the ON/OFF control module. The **Delete** button only appears for a previously saved ON/OFF control module and it removes the module and allows other output types to be configured such as an alarm or mapping.

Pairing an Omega Link Sensing Device

Refer to either the Wireless Pairing or Wired Pairing instructions as applicable:

Wireless Pairing

Pairing the wireless Smart Interface (IF-006) and the attached Smart Probe is made easy with a one-button pairing system between the IF-006 and the Omega Link Gateway.

Step 1: Push the pairing button once on the IF-006. The LED Status Indicator on the IF-006 will blink green indicating it is in Pairing Mode.

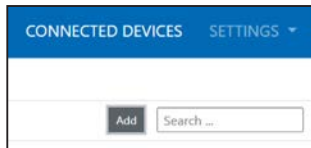
Step 2: Quickly push the pairing button on the Omega Link Gateway. The LED on the Gateway will blink green indicating the Gateway is in Pairing Mode.

When the IF-006 has been successfully paired to the Omega Link Gateway, the LEDs will stop blinking on both devices temporarily and will occasionally blink green when readings are being transmitted.

Wired Pairing

Wired Smart Probes connected directly to an Omega Link Gateway with an IF-001 cable or IF-002 will need to be added to the Gateway through the Gateway User Interface (UI). Refer to the Omega Link Gateway User's Manual for more information regarding Gateway UI access.

The **Connected Devices** tab is the default homepage presented once the user logs in to the internal gateway UI. From here, users can add devices to the gateway and have them appear in the Omega Link Cloud account or in OEG.



To add a device to the gateway from the internal gateway web UI, begin by clicking the **Add** button at the top right of the web page and fill out the **Add Device** menu according to the device specifications.

For more information regarding wired or wireless pairing, refer to the Omega Link Gateway User's Manual available on the Omega website.

Once the SP-003/SP-004 has been successfully paired to an Omega Link Gateway the device may be placed in its final sensing location. Readings will transmit to the Omega Link Cloud or OEG according to the rate set in the Omega Link Cloud or OEG settings and subscription tier.

SP-003 / SP-004 Models

P/N	Mechanical Housing	Description
SP-003-1	3" Tube	Temperature, Humidity, and Barometric Pressure Smart Probe with discrete I/O
SP-003-2	3" Tube	Temperature, Humidity, Barometric Pressure, Dewpoint, Humidex, and Heat Index Smart Probe with discrete I/O
SP-004-1	3" Tube	Temperature and Humidity Smart Probe with discrete I/O
SP-004-2	5" Tube	5" Temperature, Humidity, Dewpoint, Humidex, and Heat Index Smart Probe with discrete I/O
SP-004-4	3" Bulkhead	Temperature and Humidity Smart Probe with discrete I/O

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

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

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

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SP-003/SP-004 Omega Link Environmental Monitoring Smart Probe



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Introduction

Use this Quick Start Guide to set up the Omega Link SP-003/SP-004 Environmental Monitoring and Control Smart Probe. For additional information regarding the SP-003/SP-004, refer to the User's Manual available on the Omega website.

Materials

Included with the SP-003/SP-004

- SP-003/SP-004 Unit
- Quick Start Guide

Additional Materials Needed

- An Omega Link Smart Interface
- A Windows 7, 8, 9, 10, or 11 OS PC or laptop with Omega's free SYNC configuration software
- A compatible Omega Link Gateway
- An Omega Link Cloud account or a qualifying Omega Enterprise Gateway license tier (Pro, Business, or Business Pro)

Optional Materials

- M12.8-T-SPLIT Sensor Splitter (For Discrete I/O access)
- M12.8-S-M-FM Screw Terminal Accessory (For Discrete I/O access)



Important: An Omega Link Smart Interface is required to connect the SP-003/SP-004 to SYNC configuration software. For a list of available Smart Interfaces, visit the Omega website.

Before you Begin

Users must have a registered Omega Link Cloud account or a qualifying Omega Enterprise Gateway (OEG) license to complete the setup process and view sensor data.

For Omega Link Cloud setups, the user will need to first register an Omega Link Gateway to the account before the Smart Probe and Smart Interface can be paired.

If the Omega Link Smart Probe will be paired wirelessly with an IF-006, the Omega Link Gateway firmware must be updated. Omega Link Gateways update automatically upon first-time setup. For instructions on how to manually update Omega Link Gateway firmware, refer to the Omega Link Gateway User's Manual.



Important: If the user intends on pairing the Smart Probe using an Omega Link IF-006 to an existing Omega Link Gateway, it is required to update the Gateway firmware to version 1.0.9 or higher to ensure the Gateway and IF-006 communicate and operate correctly.

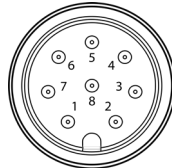
Connecting the Smart Probe & Interface

Step 1: Connect the SP-003/SP-004 to the Omega Link Smart Interface.



Note: Locate the position of the keyway as a guide on the SP-003/SP-004 prior to making the connection.

Step 2: Connect the Smart Interface and Smart Probe to the Windows PC, then launch Omega's SYNC configuration software.

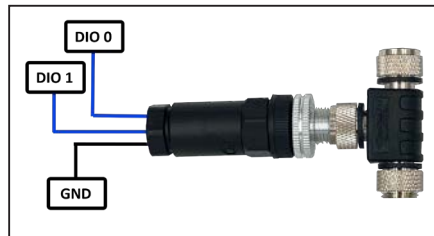


Smart Probe M12 8-pin male connector front view

	Name	Function
Pin 1	DIO 0	Discrete I/O Signal 0
Pin 2	INTR	Interrupt Signal
Pin 3	SCL	I2C Clock Signal
Pin 4	SDA	I2C Data Signal
Pin 5	Shield	Shield Ground
Pin 6	DIO 1	Discrete I/O Signal 1
Pin 7	GND	Power Ground
Pin 8	3.3VDD	Power Supply

Discrete I/O

If the Omega Link Smart Probe's discrete I/O will be utilized, an **M12.8-T-SPLIT** and an **M12.8-S-M-FM** will need to be connected between the Smart Interface and Smart Probe. Refer to the previous pin diagram and the diagram below to connect the accessories:



M12.8-T-SPLIT and M12.8-S-M-FM for DIO access

Smart Probe SYNC Configuration

The Smart Probe can be configured using Omega's free SYNC configuration software. Once the SP-003/SP-004 is connected to the computer, SYNC will automatically detect it and begin displaying readings.

Input Configuration

The SP-003/SP-004 provides sensor input mixes of **Temperature**, **Humidity**, and **Barometric Pressure**, depending on the model. The SP-003-2 and SP-004-2 models additionally provide **Dewpoint**, **Humidex**, and **Heat Index** readings that can be configured using SYNC. All input mixes feature a Discrete I/O option that can be accessed with the accessories listed in the **Discrete I/O** section of this guide. To configure the sensors, follow these steps:

SYNC input configuration

Step 1: Click the **Inputs** configuration tab on SYNC and choose the input mix from the **Type** drop down.

Step 2: Configure the sensor settings to meet the preferences.

Setting Alarms

Alarms can be set at the Smart Probe level by clicking the



icon in SYNC on the desired input signal found in the **Inputs** Tab.

SYNC interface configuring alarms

The **Condition** that triggers the alarm can be set by selecting an option from the drop down such as Above, Below, Outside the Range, or Within the Range.

The **Threshold** field(s) will change to display whatever is appropriate for the option chosen such as a High Threshold for an Above condition or a Low Threshold for a Below condition.


A **Duration** can be set for the trigger as well where the condition must be met for a certain amount of time before the alarm flags.

Under the **Action** menu, the option to transmit or not transmit a notification can be set. The option to enable an output can also be set. The output chosen must not be currently used in a sensor mapping or ON/OFF control module. The data transmission interval may also be changed upon triggering an alarm, e.g. increase the rate of transmission if an excessive value is detected.

The **Recovery** menu allows the option to clear the alarm after a certain **Duration** (in seconds) once the trigger condition is no longer met. The transmission interval can also be Reset to the normal system setting once the alarm is cleared.

ON/OFF Control

To configure an ON/OFF control module on a Smart Probe, first ensure that the desired output pin is not associated with any input alarms and that it is set as **No Mapping** in the **Output Mapping** menu of the Outputs tab. The ON/OFF control module can be used with any selected output type including ON/OFF, PWM, and SERVO. When enabled in PWM mode, ON corresponds to 100% duty cycle. When enabled in SERVO Mode, ON corresponds to 100% angular travel.

In the **Outputs** Tab in SYNC, click on the  icon located to the right of the available outputs. Clicking the icon will open the **Define ON/OFF Control** dialog box as seen below.

SYNC interface On/Off Control

The **Enable Control** checkbox enables the ON/OFF control module. If this box is unchecked, the output will be disabled but the module with all its settings will remain available to be enabled at a later time.

The **Inputs** dropdown lists the available input sources and will depend on how the device is configured in the Inputs tab.

The **Setpoint** field sets the threshold for activating the ON/OFF control module. The unit of the Setpoint field will be the same as the unit of the chosen Input.

The **Control Actions** dropdown has options for **Direct** or **Reverse** control. In Direct mode, once the Setpoint value is reached then the output will be set to ON. In reverse mode, once the Setpoint value is reached then the output will be set to OFF.

The **DeadBand** field together with the direct or reverse control action configures a deadband range around the Setpoint where the ON/OFF control does not toggle. The unit of the DeadBand field will be the same as the unit of the chosen Input.