SP-006 Series

OE OMEGA™

Omega Link Pressure Monitoring and Control Smart Probe

- **Low-cost smart pressure sensor**
- **All stainless-steel body**
- **No excitation required**
- **Battery powered long-range wireless capable with IF-006**
- **2x digital I/O (monitor input or control output)**
- **10,000+ sample data/event logging**
- **Integrated alarm and control**
- **Secure authentication and password protection**

Omega Link SP-006: Introduction

Omega's Omega Link Pressure Monitoring Smart Probes measure gas, liquid, and vapor pressure for a wide range of applications. Featuring all stainless-steel pressure sensor construction and available in 1, 50, 100, and 250 psi configurations. No excitation is required as power is provided by Omega Link modular wireless or wired interfaces via a rugged M12 connector.

Users may apply a calibration correction to the measured pressure using either 1 single offset or a calculated 2-point correction for improved accuracy across the entire measurement range.

Temperature data is also available for monitoring the internal temperature of the pressure sensor.

Smart Core Enabled

Smart Core is integral to all Omega Link Smart Sensing Devices. In addition to allowing for modular integration to the Omega Link Ecosystem using any Omega Link Smart Interface, this powerful suite of advanced features enable plug-and-play connectivity, alarm and notifications, data logging, SYNC configuration, and storage of 10,000 data points and events.

Intuitive Configuration

Configure your Omega Link Smart Probe using our free SYNC configuration software. Configurable features include selective data extraction, measurement and device traceability, local alarms, and adaptive transmission rates.

Edge Control and Built in I/O

The Omega Link SP-006 features 2 discrete I/O pins. These can be used for a myriad of applications including driving relays, physical alarms, or sensing dry contacts like door switches. The SP-006 can also be utilized as an edge controller, with autonomous independent decision-making capabilities to generate local alarms or provide control outputs based on sensor inputs.

Long-Range Wireless Solution*

Pairing the SP-006 with the IF-006 Series interface produces a self-contained, long-range, wireless solution. This setup can also be externally powered by adding the UNIV-AC100/240-M8 power adaptor.

Note: IF-006 must be paired with an Omega Link wireless gateway

Wireless Configuration for Smart Pressure Probe

M8 connector for wired power supply
Order Number: UNIV-AC-100/240-5-M8

Access data through the Omega Link Cloud portal connected with GW-001 and GW-002 series wireless gateways

IP-65 rated enclosure houses 2 alkaline C cells, long-range sub-GHz antenna, and powers SP-006

1/4-18 NPT Male Pressure Port

IF-006 Omega Link Wireless Smart Interface

SP-006 Omega Link Pressure Smart Probe

Optional splitter and connector for access to configurable Discrete I/O signals

Modularity

Customize your Omega Link Ecosystem by taking advantage of discrete I/O features accessible through the modular addition of an M12.8-T-SPLIT and M12.8-S-M-FM terminal.

Discrete I/O can be accessed by fitting an M12.8-T-SPLIT and M12.8-S-M-FM between the interface and probe

DIO 0, Pin 1

DIO 1, Pin 2

GND, Pin 7

SP-006 Series
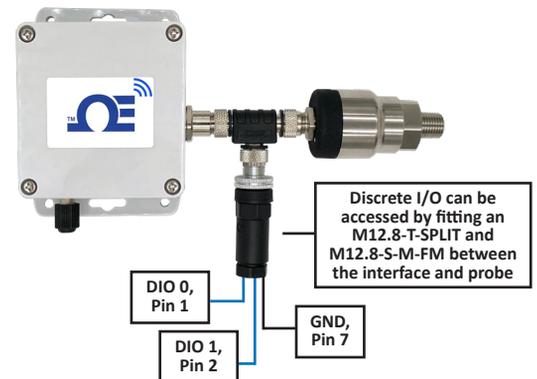
Specifications

PRESSURE
Range: 1, 50, 100, 250 psi
Accuracy: ±0.5% full-scale
Resolution: 0.1
Absolute Maximum Pressure: 1.5 times full-scale for each range
Caution: Do not exceed 500 psi

INTERNAL SENSOR TEMPERATURE
Range: -10 to 80ºC
Accuracy: ±1.5ºC
Resolution: 0.1ºC

INPUT POWER
Voltage: 2.8 V DC - 3.3 V DC

DIO DIGITAL INPUTS
$V_{inHighThreshold} = 2.2\ V_{MAX}$
$V_{inLow\ Threshold} = 0.3\ V_{MIN}$
$V_{inMAX} = 30\ V\ DC$

DIO DIGITAL OUTPUTS
2x Open Drain 200 mA max
$V_{MAX} = 30\ V\ DC$
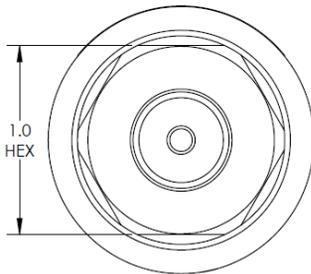
ENVIRONMENTAL
Storage Temperature: -40 to 85ºC less than 95% RH, non-condensing

Environmental Rating: IP50

GENERAL
Configuration: Configurable with a Omega Link Smart Interface (such as the *IF-001* USB Adaptor and SYNC configuration software

**Smart Interface Connectivity:** USB (IF-001), Modbus (IF-002), Wireless (IF-006)

Software: Compatible with Omega Enterprise Gateway and SYNC configuration software

M12 8-Pin Male Connector
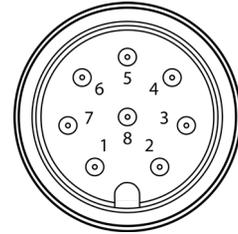
Pin	Name	Function
Pin 1	DIO 0	Discrete I/O Signal 0
Pin 2	INTR	Interrupt Signal
Pin 3	SCL	I2C Clock Signal
Pin 4	SDA	I2C Data Signal
Pin 5	Shield	Shield Ground
Pin 6	DIO 1	Discrete I/O Signal 1
Pin 7	GND	Power Ground
Pin 8	3.3VDD	Power Supply

Units shown in inches

1/4-18 NPT MALE PRESSURE PORT STANDARD (ORDER CODE C)
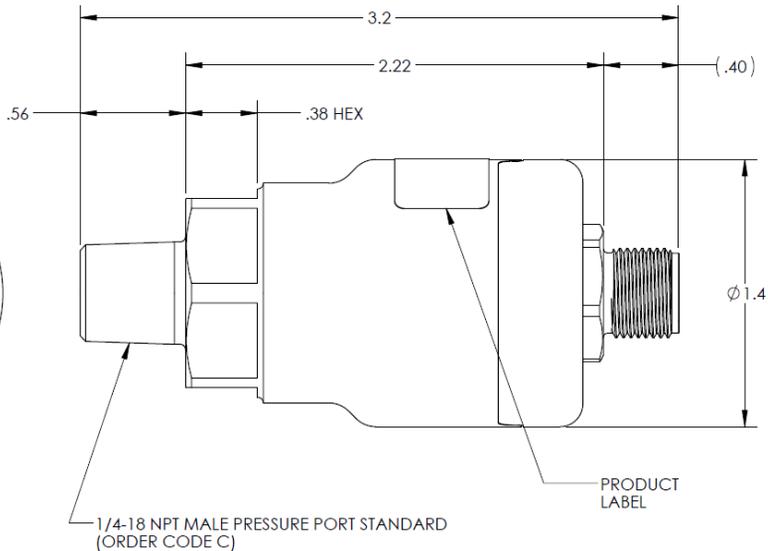
INQUIRE FOR OTHER MALE AND FEMALE PRESSURE PORTS:
1/8-27 NPT (ORDER CODES A & B)
1/4-18 NPT FEMALE (ORDER CODE D)
BSPP 1/8 B (ORDER CODES MA & MB)
BSPP 1/4 B (ORDER CODES MC & MD)
7/16-20 UNJF (ORDER CODES J & K)
9/16-18 UNF (ORDER CODES L & M)
M12X1.5 (ORDER CODES ME & MF)

PRODUCT LABEL

Omega Link SP-006 Ordering Guide

When ordering an Omega Link SP-006, specify your preferred configuration of Pressure Range and Pressure Type by using the table below:

Model Number	Description
SP-006-1-C-001G	Omega Link pressure monitoring and control smart probe with discrete I/O - **1 psi 6.89 kPa Gauge**
SP-006-1-C-050G	Omega Link pressure monitoring and control smart probe with discrete I/O - **50 psi 345 kPa Gauge**
SP-006-1-C-050A	Omega Link pressure monitoring and control smart probe with discrete I/O - **50 psi 345 kPa Absolute**
SP-006-1-C-100G	Omega Link pressure monitoring and control smart probe with discrete I/O - **100 psi 689 kPa Gauge**
SP-006-1-C-250G	Omega Link pressure monitoring and control smart probe with discrete I/O - **250 psi 1724 kPa Gauge**

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Omega Link Smart Interface

Omega Link Smart Sensing devices require an Omega Link Smart Interface to operate and connect to your Omega Link Ecosystem. There are both wired and wireless options.

Model Number	Description
IF-001	Wired USB Smart Interface
IF-002	Wired RS485/Modbus Smart Interface
IF-006-1-NA	Wireless Sub GHz Wireless Interface -915 MHz
IF-006-1-EU	Wireless Sub GHz Wireless Interface -868 MHz

Omega Link Gateways

An Omega Link Gateway is *required* to connect your Smart Probe to the Omega Link Cloud or Omega Enterprise Gateway.

Model Number	Description
GW-001-0	Wired IIoT Gateway Standard, Ethernet connectivity, Modbus RTU RS232/RS485 and Modbus TCP
GW-001-2-NA	Wireless IIoT Gateway Standard, Ethernet connectivity, connects up to 100 Omega Link Smart Sensors- 915 MHz
GW-001-2-EU	Wireless IIoT Gateway Standard, Ethernet connectivity, connects up to 100 Omega Link Smart Sensors- 868 MHz
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

Accessories

Model Number	Description
M12.8-T-SPLIT	Smart Probe M12-8 pin shielded T-Splitter - enables access to I/O pins
M12.8-S-M-FM	M12-8 pin Straight Plug Field install connector with screw terminals
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

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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.

omega.com