

Signet 2450 Pressure Sensors



3/4 IN. NPT 1/2 IN. union mount

Blind transmitter or digital (S³L) sensor

Features

- 4 to 20 mA or digital (S³L) output
- Standard 3/4 in. NPT or 1/2 in. male union process connection
- One-piece injection molded PVDF body
- Flush ceramic diaphragm
- Easy installation
- Choice of three pressure ranges
- Pressure or level measurement

Applications

- Level or Depth Sensing
- HVAC Systems
- Scrubber Systems
- Pump Protection
- Water Management
- Irrigation Systems
- Wastewater
- Chemical Processing
- Pressure Regulation/Monitoring



Description

The 2450 Pressure Sensor has a one-piece injection molded PVDF body and ceramic diaphragm for superior compatibility in corrosive liquids. Three pressure versions allow for optimal resolution matched to your sensing needs. Solid state circuitry eliminates drift (no internal potentiometers). Built-in temperature compensation provides outstanding accuracy over wide temperature ranges.

These sensors are available with a proprietary digital output (S³L), or field-scaleable 4 to 20mA output. Dual-threaded ends allow submersion in process vessels, or in-line installation in process vessels, or in-line installation with conduit connection. Integral adapters (sold separately) may be used to create a compact assembly with a field mount version of the Signet 8250 Level or 8450 Pressure Transmitter.

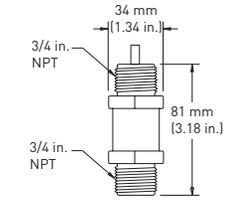
System Overview

In-Line Installation				Submersible Installation*
Panel Mount Signet Instrument (sold separately) 8250 8450 8900	Pipe, Tank, Wall Mount Signet Instrument (sold separately) 8250 8450 8900	Integral Mount Signet Instrument (sold separately) 8250 8450	4 to 20 mA Input Chart Recorder OR Programmable Logic Controller	Panel, Pipe, Tank, Wall Mount Signet Instrument 8250 8450 8900
Signet 2450 Pressure Sensor 	Signet 2450 Pressure Sensor 	Signet 2450 Pressure Sensor 	Signet 2450 Pressure Sensor 	Pipe extension or conduit with 3/4 in. FNPT threads**
Fittings - Customer supplied				Signet 2450 Pressure Sensor

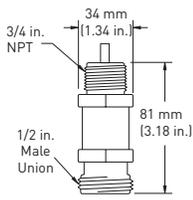
* For submersible pipe, tank or wall mount installations, user must use the Universal Adapter Kit (3-8050)

** Cable must be exposed to the atmosphere.

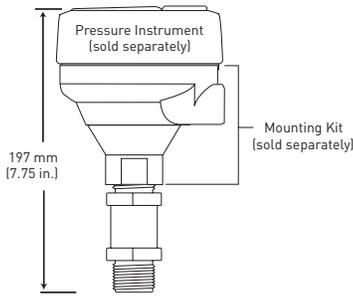
Dimensions



3-2450-1X, -2X, -5X



3-2450-3X, -4X, -7X



3-8250, 3-8450

Model 2450 Ordering Notes

Any sensor can be mounted with an instrument in an integral configuration by doing the following:

1. Order Integral adapter kit PN 3-8052 or 3-8052-1 (sold separately) to connect the instrument (sold separately) directly on to the sensor.
2. Order an instrument (sold separately). The following instrument part numbers are compatible with the 2450 for integral mounting: 3-8450-1, 3-8450-2, 3-8250-2
3. Union mount version installs into pipe w/end connector and union nut (customer supplied). See Installation section for more information.

Application Notes:

- These sensors can also be used for tank level measurements.
- For submersible sensor mounting, always use a water tight conduit and a cable gland to prevent moisture intrusion.
- Cable end of sensor must be exposed to atmospheric pressure.
- To extend the cable, use a 3-conductor shielded cable & junction box.

Specifications

General

Output: Digital (S³L) or 4 to 20mA

Accuracy:

- For all pressure ranges: ±1% of full scale @ 25°C
- 0 to 10 psig: ±1% of reading when unit is field calibrated

Vacuum Range: 0 to -10 psig

Response Time: <100ms

Sensing-end connection:

- 3/4 in. NPT male thread
- 1/2 in. union male thread (requires end connector and union nut)

Cable-end connection:

3/4 in. NPT male thread

Wetted Material

- Sensor housing: PVDF
- Diaphragm: Ceramic
- Diaphragm seal: FPM

Electrical

Power Requirements:

- Digital (S³L): 4.5 to 6.5VDC <1.5mA
- 4 to 20mA: 9 to 26VDC

Cable type:

3 cond. + shield, 22 AWG, PVC jacketed, Blk/Red/White/Shld

Cable length:

- 4.6m (15 ft.)
- 15.2cm (6 in.): can also be extended up to 121m (400 ft.)

Digital (S³L) output:

- Serial ASCII, TTL level 9600 bps.
- Reverse polarity and short circuit protected.

Electrical (continued)

4 to 20mA Output:

- Accuracy: ±32µA
- Resolution: <5µA
- Span: 4 to 20mA factory calibrated to operating ranges shown below
- Max. Loop Impedance: 100 Ω @ 12V, 325 Ω @ 18V, 600 Ω @ 24V

Max. Temperature/Pressure Rating

Operating Temp.: -15°C to 85°C (5°F to 185°F)

Storage Temp.: -20°C to 100°C (-4°F to 212°F)

Operating Pressure:

- -XU: 0 to 0.7 bar (0 to 10 psig)
- -XL: 0 to 3.4 bar (0 to 50 psig)
- -XH: 0 to 17 bar (0 to 250 psig)

Proof Pressure:

- -XU: 1.4 bar (20 psig)
- -XL: 5.2 bar (75 psig)
- -XH: 20.7 bar (300 psig)

Burst pressure: 82 bar (1,200 psig)

See page 226 for Temperature and Pressure graphs

Standards and Approvals

- CE listed
- Manufactured under ISO 9001:2000 for Quality and ISO 14001:2004 for Environmental Management

Ordering Information

Sensor Part Number	
3-2450	Pressure Sensor
	Output, Process Connection and Cable Length - Choose one
-1	Digital (S ³ L), 3/4" male NPT, 4.6m (15 ft.) cable
-2	Digital (S ³ L), 3/4" male NPT, 15.2 cm (6 in.) cable used with 3-8052 or 3-8052-1 (sold separately)
-3	Digital (S ³ L), 1/2" male union, 4.6m (15 ft.) cable
-4	Digital (S ³ L), 1/2" male union, 15.2 cm (6 in.) cable used with 3-8052 or 3-8052-1 (sold separately)
-5	Current (4 to 20 mA), 3/4" male NPT, 4.6m (15 ft.) cable
-7	Current (4 to 20 mA), 1/2" male union, 4.6m (15 ft.) cable
	Operating Pressure Range - Choose one
U	0 to 10 psi
L	0 to 50 psi
H	0 to 250 psi
3-2450	-1 L Example Part Number

Mfr. Part No.	Code	Mfr. Part No.	Code
3-2450-1U	159 000 679	3-2450-4L	159 000 685
3-2450-2U	159 000 680	3-2450-5L	159 000 907
3-2450-3U	159 000 683	3-2450-7L	159 000 908
3-2450-4U	159 000 686	3-2450-1H	159 000 026
3-2450-5U	159 000 905	3-2450-2H	159 000 027
3-2450-7U	159 000 906	3-2450-4H	159 000 684
3-2450-1L	159 000 024	3-2450-5H	159 000 909
3-2450-2L	159 000 025	3-2450-7H	159 000 910
3-2450-3L	159 000 682		

Accessories and Replacement Parts

Mfr. Part No.	Code	Description
5523-0222	159 000 392	Sensor cable (per ft.)
3-8052	159 000 188	3/4 in. Integral mounting kit
3-8052-1	159 000 755	3/4 in. NPT mount junction box with one liquid tight connector and cap with junction terminals
3-9000.392-1	159 000 839	Liquid tight connector kit, NPT (1 piece)
3-9000.392-2	159 000 841	Liquid tight connector kit, PG 13.5 (1 piece)