

Signet 2450 Pressure Sensor



1/2 in. union mount

Blind transmitter or digital (S³L) sensor

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).

These sensors are available with a proprietary digital (S³L) output, or field-scaleable 4 to 20 mA output. Dual-threaded ends allow submersion 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 style of the Signet 9900 Transmitter.

Features

- Test certificate included
- 4 to 20 mA or digital (S³L) output
- ½ 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
- NEMA 4X/IP65 rated when using the 3-8052-1



Applications

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

Specifications

General

Output	Digital (S ³ L) or 4 to 20 mA	
Repeatability		
For all pressure ranges	±0.5% of full scale @ 25 °C	
Response Time	< 100 ms	
Sensing End Connection	½ in. union male thread (requires end connector and union nut)	
	(See installation section for end connector and nut recommendation)	
Cable End Connection	¾ in. NPT male thread	

Wetted Materials

Sensor Housing	PVDF
Diaphragm	Ceramic
Diaphragm Seal and Union O-ring	FKM

Electrical

Power Requirements

Digital (S ³ L)	5 to 6.5 VDC < 1.5 mA	
	4 to 20 mA	12 to 24 VDC ±10%, regulated
Cable Length	4.6 m	15 ft
Cable Type	3 cond. + shield, 22 AWG, PVC jacketed, Blk/Red/White/Shld	
Digital (S ³ L) Output	Serial ASCII, TTL level 9600 bps. Reverse polarity and short circuit protected.	

4 to 20 mA Output

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

Maximum Temperature/Pressure Rating

Operating Temperature	-15 °C to 85 °C	5 °F to 185 °F
Storage Temperature	-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

Vacuum Range

-XU	-0.1 to 0.7 bar	-1.5 to 10 psi
-XL	-0.41 to 3.4 bar	-6 to 50 psi
-XH	-0.96 to 17.2 bar	-14.6 to 250 psi

Proof Pressure

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

Shipping Weight

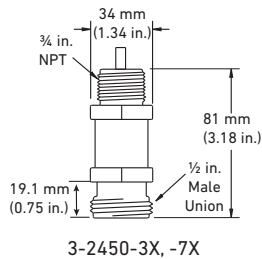
	0.150 kg	0.33 lb
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Standards and Approvals

	CE, FCC
	RoHS compliant, China RoHS
	Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management and OHSAS 18001 for Occupational Health and Safety

See Temperature and Pressure graphs for more information.

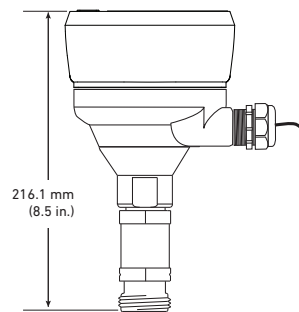
Dimensions



Pressure Instrument
Sold separately


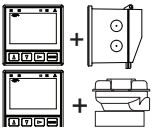
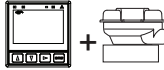




3-8052
Integral
Mount Kit
Sold separately

3-2450-XX
Pressure
Sensor



With 3-9900-1

System Overview

Panel Mount	Pipe, Tank, Wall Mount	Field Mount	4 to 20 mA Output	Automation System
Signet Instruments - 8900 - 9900 - 9950 	Signet Instruments* - 9900-1P with Rear Enclosure - 9900-1 with 3-8050 Universal Mount Kit* 	Signet Instruments with 3-8052 Integral Mount Kit - 9900 	- Customer Supplied Chart Recorder, Programmable Logic Controller or - Programmable Automation Controller  OR 	- 0486 Profibus Concentrator and Customer Supplied Programmable Logic Controller or - Programmable Automation Controller  + 

Signet 2450 Pressure Sensor



In-Line Installation - Fittings Customer Supplied

All sold separately

* The capillary tube located at the rear of the sensor must be exposed to the atmosphere.

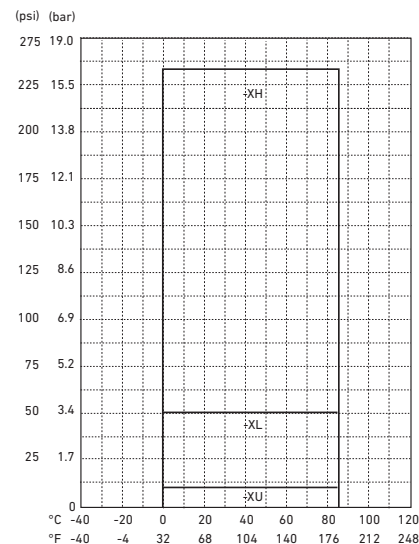
Application Tips

- These sensors can also be used for tank level measurements.
- Place a ball valve between tank and 2450 sensor for maintenance ease.
- Back end of sensor must be exposed to atmospheric pressure.
- To extend the cable, use a 3-conductor shielded cable & junction box.
- For submersible sensor mounting, always use the 3-2250 Submersible Hydrostatic Pressure Sensor.
- EPDM available contact special order.

Temperature/Pressure Graphs

Note:

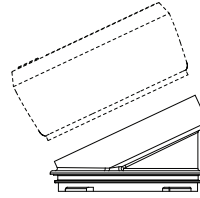
The pressure/temperature graphs are specifically for the Signet sensor. During system design the specifications of all components must be considered. In the case of a metal piping system, a plastic sensor will reduce the system specification. When using a PVDF sensor in a PVC piping system, the fitting will reduce the system specification.



Ordering Notes

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

1. It is advised to protect the capillary tube located on the back of the sensor with the NEMA 4X/IP65 rated 3-8052-1.
2. Order Integral adapter kit PN 3-8052 or NEMA 4X/IP65 rated 3-8052-1 (sold separately) to connect the instrument (sold separately) directly on to the sensor.
3. Order an instrument (sold separately). The following instrument part numbers are compatible with the 2450 for integral mounting: 3-9900-1.
4. Union mount version installs into pipe with end connector and union nut. See Installation and Wiring section for more information on parts required.



3-9900-396
Angle Adjustment
Adapter Kit
(optional accessory)

Ordering Information



Mfr. Part No.	Code	Output	Process Connection
Pressure Sensor with 4.6 m (15 ft) Cable			
Operating Pressure Range 0 to 10 psi			
3-2450-3U	159 000 683	Digital (S ³ L)	½ in. male union
3-2450-7U	159 000 906	Current (4 to 20 mA)	½ in. male union
Operating Pressure Range 0 to 50 psi			
3-2450-3L	159 000 682	Digital (S ³ L)	½ in. male union
3-2450-7L	159 000 908	Current (4 to 20 mA)	½ in. male union
Operating Pressure Range 0 to 250 psi			
3-2450-3H	159 000 681	Digital (S ³ L)	½ in. male union
3-2450-7H	159 000 910	Current (4 to 20 mA)	½ in. male union
Material	Code	Description	
Union Matrix for Pressure Sensor 3-2450 ½ in. Union Connection			
End connector			
PVC	721 500 106	Union end metric socket	
PVC	721 602 006	Union end IPS socket	
PVC	721 602 656	Union end NPT thread	
CPVC	723 602 006	Union end socket	
PP-H	727 508 506	Union end butt	
PP-H	727 500 106	Union end socket	
PP-H	157 203 603	Union end threaded NPT	
PP-N	728 608 506	Union end butt	
PVDF	735 608 606	Union end butt	
PVDF	735 600 106	Union end socket	
PVDF	198 203 611	Union end threaded	
Nuts			
PVC	721 890 006	PVC nut	
CPVC	723 690 006	CPVC nut	
PVDF	735 690 406	PVDF nut	
PP	727 890 406	Poly Pro nut	

Accessories and Replacement Parts

Mfr. Part No.	Code	Description
5523-0322	159 000 761	Sensor Cable (per ft), 3 cond. plus shield, 22 AWG
3-8052	159 000 188	¾ in. Integral Mounting Kit
3-8052-1	159 000 755	¾ in. NPT Mount Junction Box with one liquid tight connector and cap with junction terminals (NEMA 4X/IP65 rated)
3-9000.392-1	159 000 839	Liquid Tight Connector Kit, NPT (1 connector)
3-9000.392-2	159 000 841	Liquid Tight Connector Kit, PG 13.5 (1 connector)
3-9900.396	159 001 701	Angle Adjustment Adapter Kit (for Field Mounting)
3-0252	159 001 808	Configuration Tool
Contact Specials	Special Order	½ in. union to a ¾ in. NPT adapter is available

3-2450.099 Rev R (05/20)

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