



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

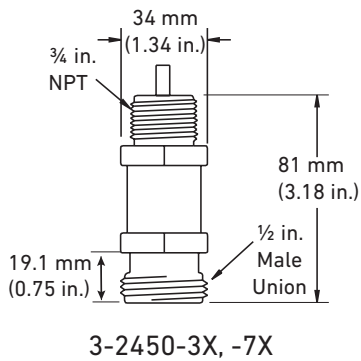
- Level or Depth Sensing
- HVAC
- Scrubber Systems
- Pump Protection
- Water Management
- Irrigation Systems
- Wastewater
- Chemical Processing
- Pressure Regulation/Monitoring

Specifications

| General | | |
|-----------------------------------|---|------------------------------|
| Output | Digital (S ³ L) or 4 to 20 mA | |
| Accuracy | | |
| For all pressure ranges | ±1% 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 | |
| Max. Loop Impedance | 100 Ω @ 12 V | |
| | 325 Ω @ 18 V | |
| | 600 Ω @ 24 V | |
| Max. 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 |
| 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.

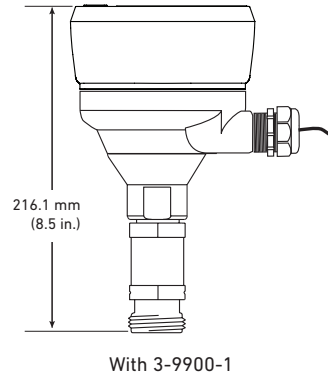
Dimensions



Pressure Instrument
Sold separately

3-8052
Integral
Mount Kit
Sold separately

3-2450-XX
Pressure
Sensor



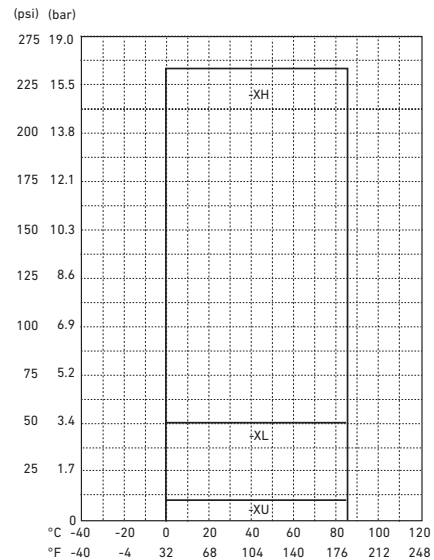
| | | | | | |
|-----------------|---|--|--|--|---|
| System Overview | <p>Panel Mount</p> <p>Signet Instruments 8900 9900 9950</p> | <p>Pipe, Tank, Wall Mount</p> <p>Signet Instruments 9900 with Rear Enclosure 9900 with 3-8050 Universal Mount Kit</p> | <p>Field (Integral) Mount</p> <p>Signet Instruments 9900 with 3-8052 Integral Mount Kit</p> | <p>4 to 20 mA Output</p> <p>Customer Supplied Chart Recorder, Programmable Logic Controller or Programmable Automation Controller</p> | <p>Automation System</p> <p>0486 Profibus Concentrator and Customer Supplied Programmable Logic Controller or Programmable Automation Controller</p> |
| | <p>Signet 2450 Pressure Sensor*</p> <p style="text-align: right;">All sold separately</p> | | | | |
| | <p>In-Line Installation - Fittings customer supplied</p> | | | | |

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

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.



Application Tips

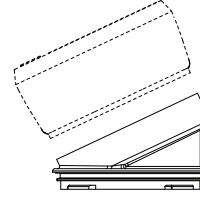
- These sensors can also be used for tank level measurements.
- Place a ball valve between tank and 2450 sensor for maintenance ease.
- Back end of sensor must be exposed to atmospheric pressure.
- To extend the cable, use a 3-conductor shielded cable & junction box.
- For submersible sensor mounting,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

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 | 1/2" union to a 3/4" NPT adapter is available |

3-2450.099 Rev P (03/19)

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