

# 2450 Pressure Sensors

3-2450.099 (E-7/03)



## Features

- S<sup>3</sup>L or 4 to 20mA Outputs
- Standard 3/4 in. NPT Process Connection or 1/2 in. Male Union
- One-piece injection molded PVDF body
- Flush ceramic diaphragm
- Easy Installation
- Three (3) Pressure Ranges

## Application

- Level or Depth Sensing
- HVAC Systems
- Scrubbers
- Pump Protection
- Marine
- Water Management
- Irrigation Systems
- Wastewater
- Chem 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 (3) 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 S<sup>3</sup>L (Signet Sensor Serial Link) digital output, or field-scaleable 4 to 20mA output. Dual threaded ends (3/4 in. NPT) 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 field mount version of the +GF+ SIGNET 8450 Pressure Transmitter.

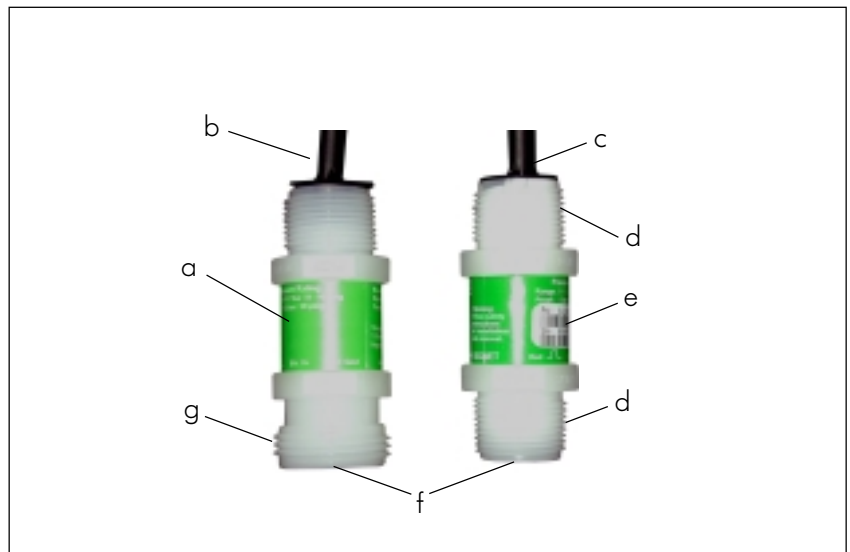
## Options

	Instrument Options			
	8250	8450	5091	8900
2450-1, -2, -3, -4	●	●	●	●
2450-5, -7	●	●	●	●

## Technical Features

- S<sup>3</sup>L or 4 to 20mA output
- 4.5m (15 ft.) cable for remote installation, Model 3-2450-1X, -3X, -5X, -7X
- 152mm (6 in.) cable for integral installation, Model 3-2450-2X, -4X
- 3/4 in. NPT process connection
- One-piece injection molded PVDF body
- Flush ceramic diaphragm
- 1/2 in. Male Union (-3, -4 and -7)

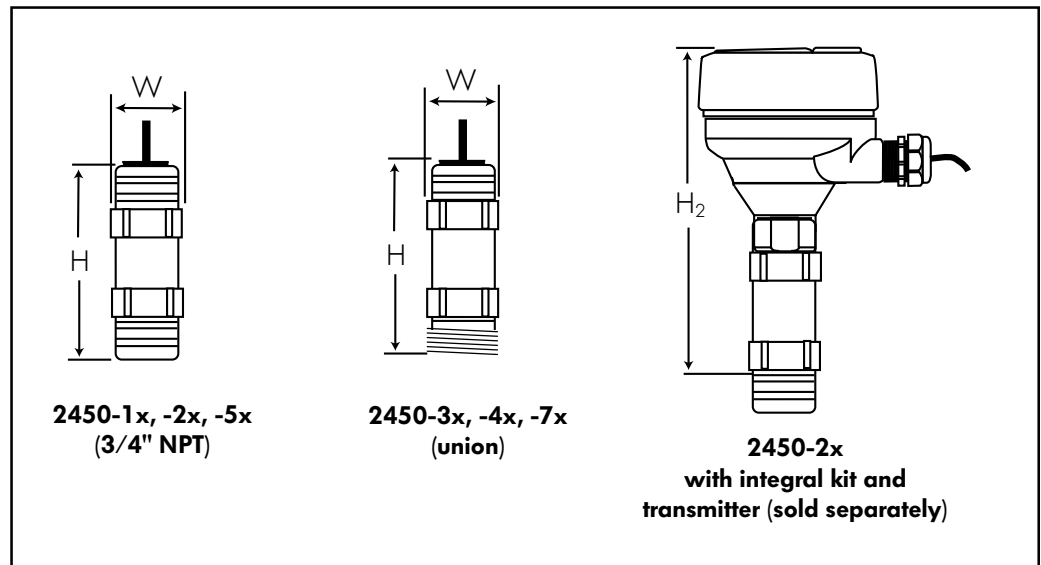
Note: S<sup>3</sup>L output connects directly to +GF+ SIGNET instruments - see Options. 2450-5X, -7X provide S<sup>3</sup>L or 4 to 20mA output, depending on applied power.



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## Dimensions



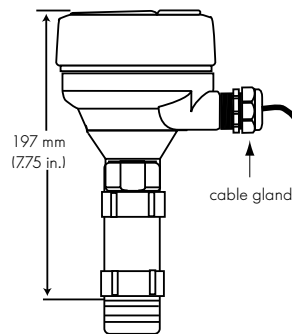
Units	W	H	H <sub>2</sub>
mm	34	81	197
inch	1.33	3.18	7.75

## Installation

+GF+ SIGNET 2450 Pressure Sensors are gauge pressure sensors. Gauge pressure sensors measure the difference in pressure between the process on one side of a diaphragm and the atmospheric pressure on the opposite side of the diaphragm. Typically, a tiny capillary tube inside the sensor body is used to ensure that the back of the diaphragm remains at atmospheric pressure. If moisture is allowed to propagate down this tube to the rear of the diaphragm, damage to the sensor may occur. We offer the following installation tips.

### In-line Integral

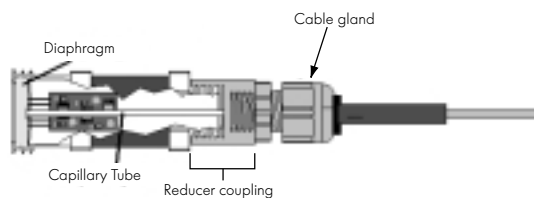
Use the 3-8052 Kit for Integral Mount to the 8450 Pressure Transmitter and 8250 Level Transmitter. Be sure to use a cable gland to guard against moisture intrusion.



2450 with integral kit and transmitter (sold separately)

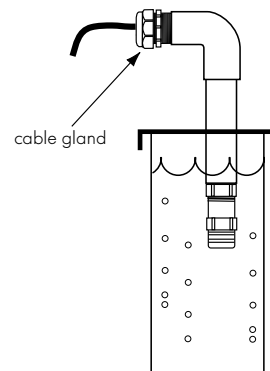
### In-line Remote

Use 3/4 to 1/2 in. reducer coupling from sensor to cable gland. Finger tighten until fully secure and watertight.



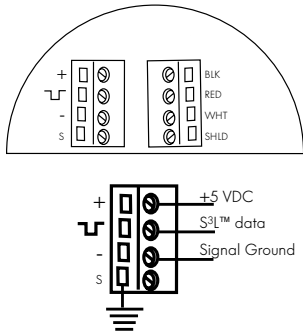
### Submersible

Mount the sensor to an extension pipe or watertight conduit using thread sealant. Use a cable gland at the top end to prevent moisture intrusion/accumulation inside the pipe. DO NOT hermetically seal (i.e. applying silicone sealant or epoxy) the back of the sensor. To do so may introduce measurement errors resulting from changes in atmospheric pressure and/or temperature.

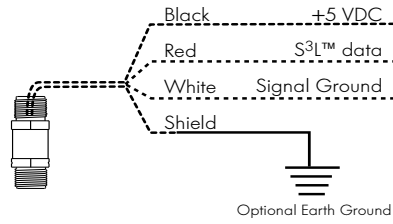


# Wiring

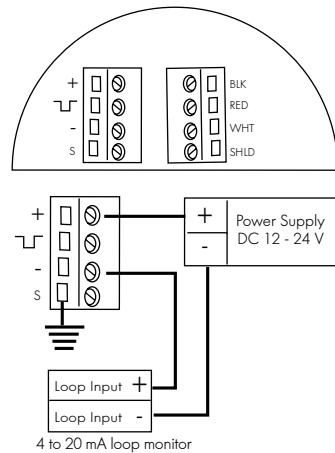
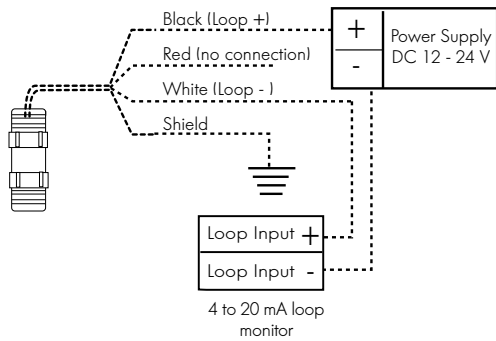
## S<sup>3</sup>L with Junction Box



## S<sup>3</sup>L without Junction Box



## 4 to 20mA Loop Wiring



# Specifications

## General

Output: S<sup>3</sup>L (2450-1, -2, -3, -4)  
4 to 20mA (2450-5, -7)  
Accuracy: ±1% of full scale @ 25°C  
Response Time: <100ms

## Power Requirements:

- S<sup>3</sup>L™: 4.5 to 6.5VDC <1.5mA
- 4 to 20mA: 9 to 26VDC

## Wetted Materials:

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

## Process connection

- 1, -2, -5: 3/4 in. NPT male thread
- 3, -4, -7: 1/2 in. Union male thread

## Conduit connection:

3/4 in. NPT male thread

## Cable type:

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

## Standard length:

- 2450-1, -3, -5, -7: 4.6m (15 ft.)
- 2450-2, -4: 15.2cm (6 in.)

S<sup>3</sup>L output: Serial ASCII, TTL level 9600 bps. Reverse polarity protected

Enclosure rating: NEMA 4X

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## 4 to 20mA Output

Accuracy: ±32µA  
Resolution: <5µA  
Span: 4 to 20mA factory calibrated to ranges shown below  
Max. Loop Impedance: 500Ω @ 12V  
325Ω @ 18V  
600Ω @ 24V

## Environmental

- Operating Temperature: -15° to 85°C (5° to 185°F)
- Storage Temperature: -20° to 100°C (-4° to 212°F)

## Operational Range

### 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:

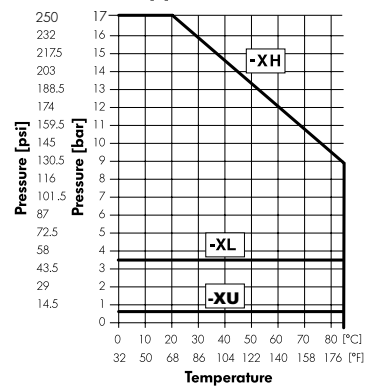
- XU 1.4 bar (20 psig)
- XL 5.2 bar (75 psig)
- XH 20.7 bar (300 psig)

Burst pressure: 82 bar (1,200 psig)

## Standards and Approvals

- CE, CSA, UL listed
- EN 61326-2 Heavy Industry Immunity
- EN 55011 Class A Heavy Industry Emissions
- Manufactured under ISO 9001 and ISO 14001

## Application Limits



## Ordering Information

Mfr. Part No.	Code	Description
3-2450-1U	159 000 679	0 to 10 psi, S <sup>3</sup> L, 3/4" male NPT, 15 ft. cable
3-2450-2U	159 000 680	0 to 10 psi, S <sup>3</sup> L, 3/4" male NPT, 6 in. cable
3-2450-3U	159 000 683	0 to 10 psi, S <sup>3</sup> L, 1/2" Male Union, 15 ft. cable
3-2450-4U	159 000 686	0 to 10 psi, S <sup>3</sup> L, 1/2" Male Union, 6 in. cable
3-2450-5U	159 000 905	10 psig, 4 to 20mA, 3/4 in., 15 ft. cable
3-2450-7U	159 000 906	10 psig, 4 to 20mA, 1/2 in., 15 ft. cable
3-2450-1L	159 000 024	0 to 50 psi, S <sup>3</sup> L, 3/4" male NPT, 15 ft. cable
3-2450-2L	159 000 025	0 to 50 psi, S <sup>3</sup> L, 3/4" male NPT, 6 in. cable
3-2450-3L	159 000 682	0 to 50 psi, S <sup>3</sup> L, 1/2" Male Union, 15 ft. cable
3-2450-4L	159 000 685	0 to 50 psi, S <sup>3</sup> L, 1/2" Male Union, 6 in. cable
3-2450-5L	159 000 907	50 psig, 4 to 20mA, 3/4 in., 15 ft. cable
3-2450-7L	159 000 908	50 psig, 4 to 20mA, 1/2 in., 15 ft. cable
3-2450-1H	159 000 026	0 to 250 psi, S <sup>3</sup> L, 3/4" male NPT, 15 ft. cable
3-2450-2H	159 000 027	0 to 250 psi, S <sup>3</sup> L, 3/4" male NPT, 6 in. cable
3-2450-3H	159 000 681	0 to 250 psi, S <sup>3</sup> L, 1/2" Male Union, 15 ft. cable
3-2450-4H	159 000 684	0 to 250 psi, S <sup>3</sup> L, 1/2" Male Union, 6 in. cable
3-2450-5H	159 000 909	250 psig, 4 to 20mA, 3/4 in., 15 ft. cable
3-2450-7H	159 000 910	250 psig, 4 to 20mA, 1/2 in., 15 ft. cable

## Accessories

Mfr. Part No.	Code	Description
3-8052	159 000 188	3/4 in. Integral mounting kit
3-8052-1	159 000 755	3/4 in. NPT mount junction box
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, PG13.5 (1 piece)
5523-0322	159 000 761	Sensor cable (per ft.), 3 conductor + shield 22 AWG, Blk/Red/White/Shld

### For more information on these products, please contact your local sales company:

<b>A</b>	Georg Fischer Rohrleitungssysteme GmbH, Sandgasse 16, A-3130 Herzogenburg, Tel. 02782/56 43-0, Fax 02782/51 56
<b>AUS</b>	George Fischer IPS Pty Ltd., 186-190 Kingsgrove Road, Kingsgrove, NSW 2208, Tel. 02 9554 3977, Fax 02 9502 2561
<b>B/L</b>	Georg Fischer N.V./S.A., Digue du Canal 109-111 - Vaartdijk 109-111, B-1070 Bruxelles/Brussel, Tél. 02/556 40 20, Fax 02/524 34 26
<b>BAR</b>	George Fischer Ltda Av. dos Nações Unidas, 21689 CEP 04795-100 - S.Paulo - SP Tel.: 155111 247 1311 Fax: 155111 247 6009
<b>CH</b>	Georg Fischer Rohrleitungssysteme (Schweiz) AG, Amsler-Laffon-Strasse 1, Postfach, CH-8201 Schaffhausen, Tel. 052/631 3026, Fax 052/631 2897
<b>D</b>	Georg Fischer GmbH, Daimlerstraße 6, Postfach 1154, D-73093 Albershausen, Tel. 07161/302-0, Telex 727867, Fax 07161/302259
<b>DK</b>	Georg Fischer A/S, Klintehøj Vænge 17, DK-3460 Birkerød, Tel. 42/81 1975, Fax 42/81 1622
<b>E</b>	George Fischer S.A., Sistemas de tuberías para la industria, Calle Isla de la Palma, 32 - Nave 1, E-28700 San Sebastián de los Reyes (Madrid), Tel. 91/663 80 00, Fax 91/663 81 76
<b>F</b>	George Fischer S.A., 105-113, rue Charles Michels, B.P.174, F-93208 Saint-Denis Cedex 1, Tél. 1/4922 1341, Fax 1/4922 1300
<b>GB</b>	George Fischer Sales Limited, Paradise Way, Coventry, CV2 2ST, Tel. 01203/53 55 35, Telex 330032, Fax 01203/53 04 50-51
<b>I</b>	Giorgio Fischer S.p.A., Via Sondrio 1, I-20063 Cernusco S/N (MI), Agente generale di vendita Tufira S.r.l., Tel. 02/92 18 61, Fax 02/92 14 07 85
<b>J</b>	Georg Fischer Ltd., 2-47, Shikitsuhashigashi, 1-chome, Naniwa-ku, Osaka 556, Tel. 6/6482838, Telex 5267785, Fax 6/6482565
<b>N</b>	Georg Fischer A.S, Bygdøy Allé 23, Postboks 3223 Elisenberg, N-0208 Oslo 2, Tel. 22/444110, Fax 22/434019
<b>PRC</b>	Georg Fischer Piping Systems, Ltd., No. 218 Kang Qiao Dong Road, Pudong Shanghai 201319 Tel. 86 21 58 13 33 33, Fax 86 21 58 13 33 66
<b>RA</b>	George Fischer Inc., Lavalle 2614, 1640 Martinez Buenos Aires, Tel. 01/798 74 01, Fax 01/798 40 74
<b>NL</b>	Georg Fischer N.V., Lange Veenteweg 19, Postbus 35, NL-8160 AA Epe, Tel. 0578678222, Fax 0578621768
<b>S/SF</b>	Georg Fischer AB, Box 113, S-12523 Älvsjö-Stockholm, Tel. 08/7274700, Fax 08/7492370
<b>SGP</b>	George Fischer Pte. Ltd., 15 Kaki Bukit Road 2, KB Warehouse Complex, SGP-417 845 Singapore/Singapore, Tel. 7470611, Fax 7470577
<b>USA*</b>	George Fischer Inc., 2882 Dow Ave., Tustin, CA 92780-7285, Tel. 714/731-8800, Toll Free 800/854-4090, Fax 714/731-4688, e-mail: info@us.piping.georgefischer.com, Internet: http://www.us.piping.georgefischer.com

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