

## Type 2450 Pressure Sensor

1/2 in. union mount



Blind transmitter or digital (S<sup>3</sup>L) sensor

### Product description

The type 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 (S<sup>3</sup>L) 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 GF 9900 Transmitter.

### Features

- Test certificate included
- 4 to 20 mA or digital (S<sup>3</sup>L) 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

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



## Technical Details

## General

Output	Digital (S <sup>3</sup> L) or 4 to 20 mA
Accuracy	
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 <sup>3</sup> 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 <sup>3</sup> 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 psi
-XL	0 to 3.4 bar	0 to 50 psi
-XH	0 to 17 bar	0 to 250 psi
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

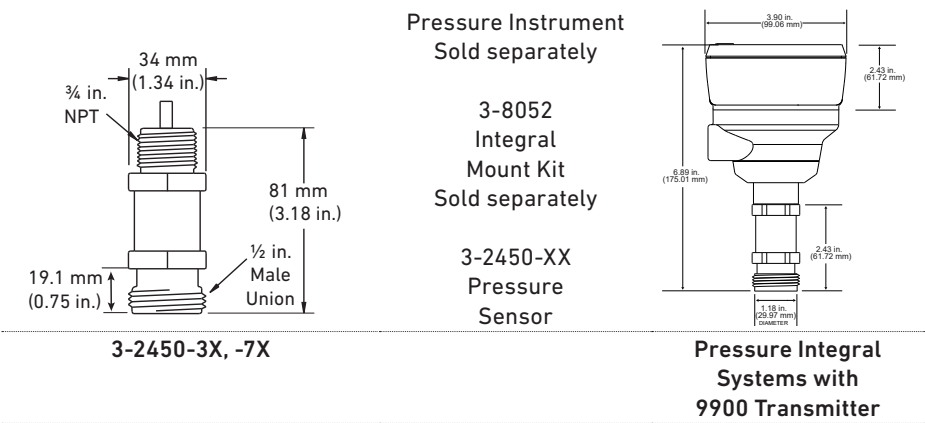
### Shipping Weight

0.150 kg	0.33 lb
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## Standards and Approvals

CE, UKCA, FCC
RoHS compliant, China RoHS
Manufactured under ISO 9001, ISO 14001 and ISO 45001

Dimensions



System Overview

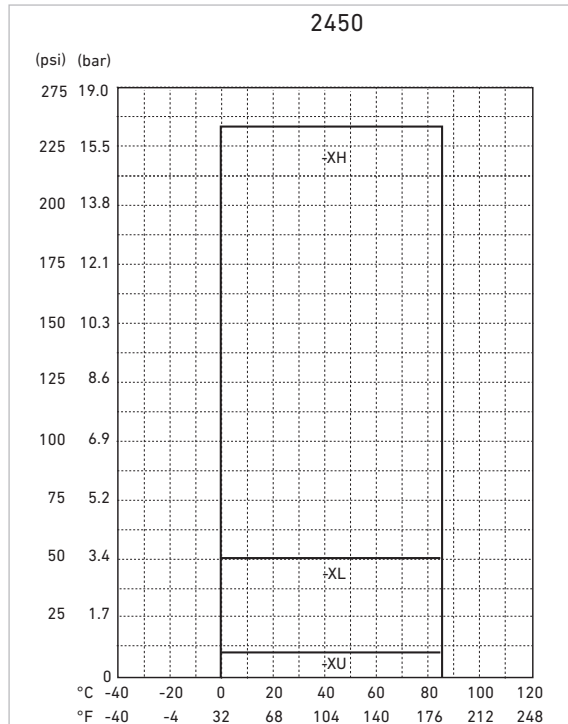
Panel Mount	Pipe, Tank, Wall Mount	Field Mount	4 to 20 mA Output	Automation System
GF Instruments - 9900 - 9950 	GF Instruments* - 9900-1P with Rear Enclosure - 9900-1 with 3-8050 Universal Mount Kit* 	GF Instruments with 3-8052 Integral Mount Kit - 9900 	- Customer Supplied Chart Recorder, Programmable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

## Pressure-temperature diagram

### Note

The pressure-temperature diagrams are specifically for the GF 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.

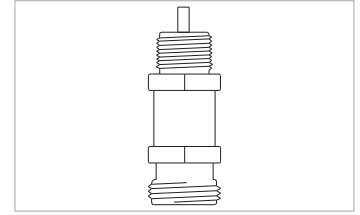


### Application Tips

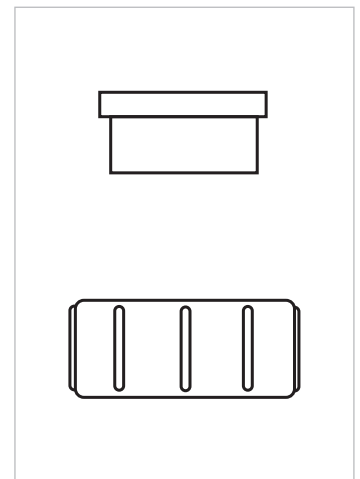
- Keep sensor out of direct sunlight.
- To extend the cable, use a 3-conductor shielded cable & junction box.
- For submersible sensor mounting, always use the 3-2250 Submersible Hydrostatic Pressure Sensor.
- EPDM available contact special order.

## Ordering Information

Mfr. Part No.	Code	Output	Process Connection
<b>Pressure Sensor with 4.6 m (15 ft) cable</b>			
<b>Operating Pressure Range 0 to 10 psi</b>			
3-2450-3U	159 000 683	Digital (S <sup>3</sup> L)	½ in. male union
3-2450-7U	159 000 906	Current (4 to 20 mA)	½ in. male union
<b>Operating Pressure Range 0 to 50 psi</b>			
3-2450-3L	159 000 682	Digital (S <sup>3</sup> L)	½ in. male union
3-2450-7L	159 000 908	Current (4 to 20 mA)	½ in. male union
<b>Operating Pressure Range 0 to 250 psi</b>			
3-2450-3H	159 000 681	Digital (S <sup>3</sup> L)	½ in. male union
3-2450-7H	159 000 910	Current (4 to 20 mA)	½ in. male union



Material	Code	Description
<b>Union Matrix for Pressure Sensor 3-2450 ½ in. Union Connection</b>		
<b>End connector</b>		
PVC	721 500 106	Union end metric socket
PVC	721 602 006	Union end IPS socket
PVC	721 602 656	Union end NPT thread
PVC-C	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
<b>Nuts</b>		
PVC	721 890 006	PVC nut
PVC-C	723 690 006	PVC-C nut
PVDF	735 690 406	PVDF nut
PP	727 890 406	Poly Pro nut



## Accessories

Mfr. Part	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

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