

Type 2250 Submersible Hydrostatic Level Sensor



Blind Transmitter or Digital (S³L) Sensor

Product description

The GF 2250 Hydrostatic Level Sensor for level and depth control has a one-piece injection molded PVDF body and ceramic diaphragm for superior compatibility in corrosive liquids. Utilizing hydrostatic pressure, the 2250 disregards false level signals from steam vapors, foam or any other debris on the liquid surface. Two pressure ranges 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 4 to 20 mA output. The extended cable and capillary tubing with the union connection and a customer supplied conduit, allow submersion in process vessels.

Benefits/features

- Level and depth measurement
- 4 to 20 mA output or digital (S³L) output
- Flush ceramic diaphragm
- Easy submersible installation
- Choice of two pressure ranges
- Standard union connection, extended cable and capillary tubing (10 m)

Applications

- Inventory management
- Storage tank monitoring
- Neutralization tanks
- Plating Lines
- Waste Sumps
- Clarifiers
- Overflow Protection



Technical data

Specification

General	
Output	Digital (S ³ L) or 4 – 20 mA
Accuracy	±0.5% of full scale @ 25 °C
	-XU 0.001 psi
	-XL 0.01 psi
Response time	< 100 ms

Wetted Materials	
Union and Union Bushing	PVC-U
Sensor housing	PVDF
Diaphragm	Ceramic
Diaphragm seal	FKM

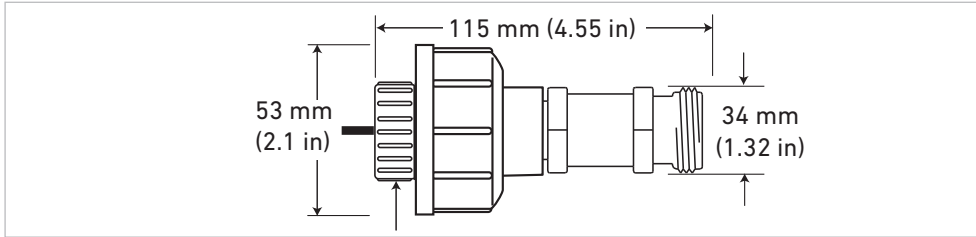
Electronics	
Power supply	
Digital (S ³ L)	5 to 6.5 V DC < 1.5 mA (power supplied by 9900, 9950 and 0486)
4 to 20 mA	12 to 24 V DC ± 10 %, regulated
Cable length	10 m (32.8 ft)
Cable type	3 cond. plus shield, 22 AWG, PVC jacketed, Blk/Red/White/Shld with capillary tube
Digital (S ³ L) output	Serial ASCII, TTL level 9'600 bps Reverse polarity and short circuit protected
4 – 20 mA output	
Accuracy	±32 µA
Resolution	< 5 µA
Range	4 to 20 mA, factory-calibrated operating ranges illustrated below
Max. loop impedance	100 Ω at 12 V 325 Ω at 18 V 600 Ω at 24 V

Max. temperature/pressure nominal value	
Operating temperature	-15 to +85 °C (5 °F to 185 °F)
Storage temperature	-20 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)
Test pressure	-XU 1.4 bar (20 psig) -XL 5.2 bar (75 psig)

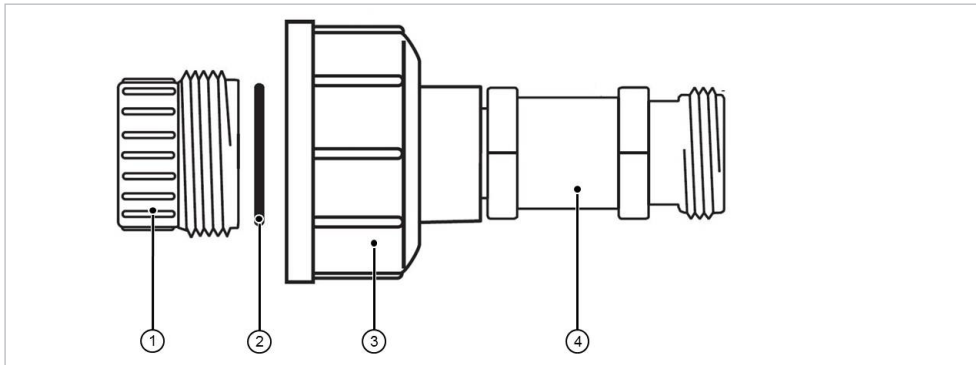
Shipping weight	
0.560 kg	1.23 lb

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

Dimensions



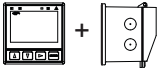

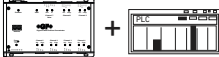
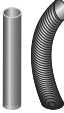

3/4 inch (ANSI) or 25 mm (ISO)
solvent cement socket connection



- 1 PVC-U union bushing
- 2 FKM o-ring
- 3 PVC-U Union Nut
- 4 Sensor with end connector

System overview

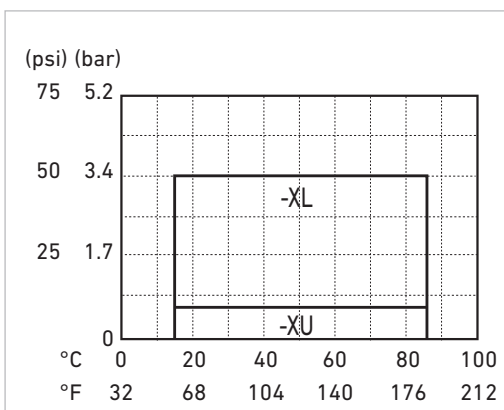
Submersible Installation

Panel, Wall Mount	4 to 20 mA Output	Automation System
9900 / 9950 Panel Mount 9900 Wall mount 	- Customer Supplied Programmable Logic Controller, or - Programmable Automation Controller 	- 0486 Profibus Concentrator and Customer Supplied Programmable Logic Controller or - Programmable Automation Controller 
Customer supplied pipe extension or conduit with pipe assembly 		
Type 2250 Submersible Hydrostatic Pressure Sensor with union connection, extended cable and capillary tubing (10 m)* 		

All sold separately

* Cable must be exposed to the atmosphere

Pressure-temperature diagrams



i Please refer to Wiring, Installation, and Accessories sections for more information.

Ordering Information

Ordering notes

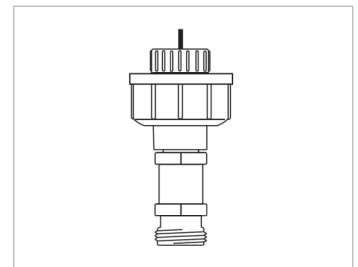
1. Instrument is sold separately. The following instrument part numbers are compatible with the 2250: 9900 and 9950 transmitters and 0486 Profibus Concentrator.
2. Union mount installs into pipe w/end connector and union nut.

Pressure/fill ranges¹⁾

3-2250-XU 0 to 10 psi = 0 to 7.03 m = 0 to 23.06 ft
 3-2250-XL 0 to 50 psi = 0 to 35.15 m = 0 to 115.32 ft

¹⁾ Ranges calculated using specific gravity of water. Maximum range depends on the specific gravity.

Manufacturer's part no.	Code	Sensor output	Operating pressure	Level Range
Hydrostatic Level Sensor with ½ in. union connector and 10 m (32.8 ft) cable				
PVC-U Union Connection - ¾ in. Pipe Connection				
3-2250-11L	159 000 241	Digital (S ³ L)	0 – 3.4 bar (0-50 psi)	35 m (115 ft)
3-2250-11U	159 001 242	Digital (S ³ L)	0 – 0.7 bar (0-10 psi)	7 m (23 ft)
3-2250-21L	159 001 247	NPT, current loop (4 to 20 mA)	0 – 3.4 bar (0-50 psi)	35 m (115 ft)
3-2250-21U	159 001 248	NPT, current loop (4 to 20 mA)	0 – 0.7 bar (0-10 psi)	7 m (23 ft)
PVC-U Union Connection - Metric Pipe Connector				
3-2250-11U-1	159 001 478	ISO, digital (S ³ L)	0 – 0.7 bar (0-10 psi)	7 m (23 ft)
3-2250-11L-1	159 001 479	ISO, digital (S ³ L)	0 – 3.4 bar (0-50 psi)	35 m (115 ft)
3-2250-21U-1	159 001 482	ISO, current (4 to 20 mA)	0 – 0.7 bar (0-10 psi)	7 m (23 ft)
3-2250-21L-1	159 001 483	ISO, current (4 to 20 mA)	0 – 3.4 bar (0-50 psi)	35 m (115 ft)



Accessories and Replacement Parts

Manufacturer's part no.	Part no.	Description
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
3-8050	159 000 184	Universal Mount Kit
3-8050-1	159 000 753	Universal Mount Junction Box
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)
3-0252	159 001 808	Configuration Tool

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