

# Signet 2250 Submersible Hydrostatic Pressure Sensor For Level and Depth Control



Blind Transmitter or Digital (S<sup>3</sup>L) Sensor

The Signet 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 (S<sup>3</sup>L) 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.

## Features

- Level and depth measurement
- 4 to 20 mA or digital (S<sup>3</sup>L) output
- Flush ceramic diaphragm
- Easy submersible installation
- Choice of two pressure ranges
- Standard union connection and extended cable and capillary tubing (10 m)



## Applications

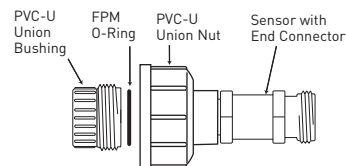
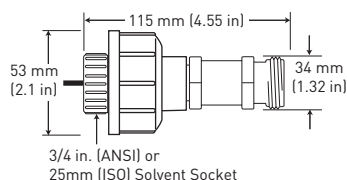
- Inventory Management
- Storage Tank Monitoring
- Neutralization Tanks
- Plating Lines
- Waste Sumps
- Clarifiers
- Overflow Protection

# Specifications

General		
Output	Digital (S <sup>3</sup> L) or 4 to 20 mA	
Accuracy for all pressure ranges	±1% of full scale	
	-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	FPM	
Electrical		
Power Requirements		
	Digital (S <sup>3</sup> L)	5 to 6.5 VDC <1.5 mA (power supplied by the 8250, 8450 and 8900)
	4 to 20 mA	12 to 24 VDC ±10%, regulated
Cable Length	10 m (32.8 ft)	
Cable Type	3 cond. plus shield, 22AWG, PVC jacketed, Blk/Red/White/Shld with capillary tube	
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 psig)	
	-XL: 0 to 3.4 bar (0 to 50 psig)	
Proof Pressure	-XU: 1.4 bar (20 psig)	
	-XL: 5.2 bar (75 psig)	
Burst Pressure	82 bar (1,200 psig)	
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	

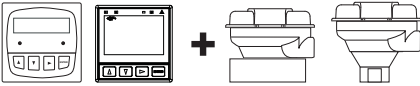
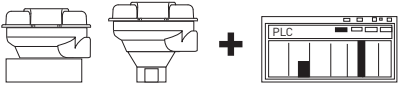


See Temperature and Pressure graphs for more information.

## Dimensions



## Submersible Installation

System Overview

Field Mount - Pipe, Tank, Wall	4 to 20 mA Input
Signet Instruments 8450    8900    9900 with 3-8050-1 Universal Mount kit or 3-8052-1 Integral Mount Kit	3-8050-1 Universal Mount kit or 3-8052-1 Integral Mount Kit with a Customer Supplied Programmable Logic Controller
	
Customer supplied pipe extension or conduit with pipe assembly**	
	
<b>Signet 2250 Submersible Hydrostatic Pressure Sensor with union connection, extended cable and capillary tubing (10 m)**</b>	
	
All sold separately	

\*Refer to the Signet Submersion brochure located in the K-Factors Fittings and More Kit (3-0000-709) for installation suggestions and options.

\*\* Cable must be exposed to the atmosphere

### Ordering Notes

- 1) Instrument is sold separately. The following instrument part numbers are compatible with the 2250: 8450, 8900, 9900.
- 2) Union mount installs into pipe w/end connector and union nut.
- 3) Refer to the Signet Submersion brochure located in the K-Factors Fittings and More Kit (3-0000-709) for installation suggestions and options.

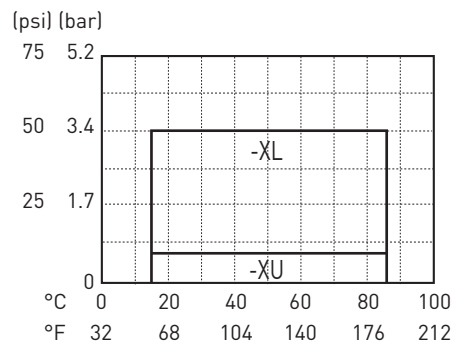
### Pressure/Level ranges\*

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

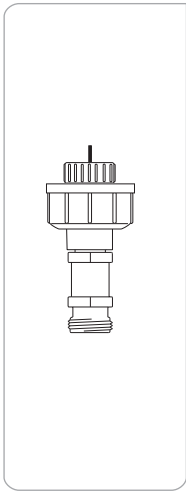
\*Ranges calculated using specific gravity of water. Maximum ranges may vary for other liquids.

### Operating Temperature/Pressure Graphs



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

## Ordering Information



Mfr. Part No.	Code	Sensor Output	Operating Pressure
Hydrostatic Level Sensor with 1/2 in. union connector			
PVC Union connection - 3/4 in. pipe connection			
3-2250-11L	<b>159 001 241</b>	NPT, digital (S <sup>3</sup> L), 35 m (115 ft)	0 - 3.4 bar (0-50 psi)
3-2250-11U	<b>159 001 242</b>	NPT, digital (S <sup>3</sup> L), 7 m (23 ft)	0 - 0.7 bar (0-10 psi)
3-2250-21L	<b>159 001 247</b>	NPT, current (4 to 20 mA), 35 m (115 ft)	0 - 3.4 bar (0-50 psi)
3-2250-21U	<b>159 001 248</b>	NPT, current (4 to 20 mA), 7 m (23 ft)	0 - 0.7 bar (0-10 psi)
PVC Union connection - Metric pipe connector			
3-2250-11U-1	<b>159 001 478</b>	ISO, digital (S <sup>3</sup> L), 7 m (23 ft)	0 - 0.7 bar (0-10 psi)
3-2250-11L-1	<b>159 001 479</b>	ISO, digital (S <sup>3</sup> L), 35 m (115 ft)	0 - 3.4 bar (0-50 psi)
3-2250-21U-1	<b>159 001 482</b>	ISO, current (4 to 20 mA), 7 m (23 ft)	0 - 0.7 bar (0-10 psi)
3-2250-21L-1	<b>159 001 483</b>	ISO, current (4 to 20 mA), 35 m (115 ft)	0 - 3.4 bar (0-50 psi)

## Accessories and Replacement Parts

Mfr. Part No.	Code	Description
5523-0322	<b>159 000 761</b>	Sensor cable (per ft), 3 cond. plus shield, 22 AWG
3-8052	<b>159 000 188</b>	3/4 in. Integral mounting kit
3-8052-1	<b>159 000 755</b>	3/4 in. NPT mount junction box with one liquid tight connector and cap with junction terminals
3-8050	<b>159 000 184</b>	Universal mount kit
3-8050-1	<b>159 000 753</b>	Universal mount junction box
3-9000.392-1	<b>159 000 839</b>	Liquid tight connector kit, NPT (1 connector)
3-9000.392-2	<b>159 000 841</b>	Liquid tight connector kit, PG 13.5 (1 connector)
3-0250	<b>159 001 538</b>	USB to digital (S <sup>3</sup> L) configuration/diagnostic tool

### 3-2250.099 Rev E (4/13)

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