

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

## 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)



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

## Description

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).

Built-in temperature compensation provides outstanding accuracy over wide temperature ranges. These sensors are available with a proprietary digital output (S<sup>3</sup>L), 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.

## Applications

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

## System Overview

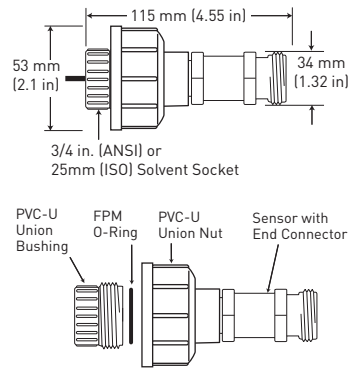
<b>Panel, Tank, Wall Mount</b> Signet Instrument (sold separately) 8250 8450 8900	<b>4 to 20 mA Input</b> Programmable Logic Controller
<b>Universal Mount Kit</b> 3-8050-1 (sold separately)	<b>Integral Mount Kit</b> 3-8052-1
Pipe extension or conduit (customer supplied)	
<b>Signet 2250 Submersible Hydrostatic Pressure Sensor with union connection, extended cable and capillary tubing (10 m)*</b>	

CE

\* Cable must be exposed to the atmosphere.

## Dimensions

### 3-2250-1X 3-2250-2X



#### 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.

### Signet 2250

#### Ordering Notes

- 1) Instrument is sold separately. The following instrument part numbers are compatible with the 2250: 3-8250, 3-8450, 3-8900
- 2) Union mount installs into pipe w/end connector and union nut.
- 3) An isolation manual ball valve between the tank and sensor allows for installation and removal of the sensor without having to empty the tank.

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

## Specifications

### General

Output: Digital (S<sup>3</sup>L) or 4 to 20 mA

Accuracy:

- From Factory:  $\pm 1\%$  of full scale
- -XU = 0.001 psi
- -XL = 0.01 psi

Response Time: <100ms

### Wetted Material

- 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
- 4 to 20 mA: 12 to 24 VDC  $\pm 10\%$ , regulated

Cable Type:

3 cond. plus shield, 22AWG, PVC jacketed, Blk/Red/White/Shld with capillary tube

Cable Length:

- 10 m (32.8 ft)

Digital (S<sup>3</sup>L) Output:

- Serial ASCII, TTL level 9600 bps.
- Reverse polarity and short circuit protected.

### Electrical (continued)

4 to 20 mA Output:

- Accuracy:  $\pm 32 \mu A$
- Resolution:  $< 5 \mu A$
- Span: 4 to 20 mA factory calibrated to operating ranges shown below:
- Max. Loop Impedance:  
100  $\Omega$  @ 12 V  
325  $\Omega$  @ 18 V  
600  $\Omega$  @ 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 10psig)
- -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
- Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management

## Ordering Information

Sensor Part Number				
3-2250	Hydrostatic Level Sensor			
	Sensor Output			
	-1	Digital (S <sup>3</sup> L), 10 m (32.8 ft)		
	-2	Current (4 to 20 mA), 10 m (32.8 ft)		
		Threaded Connection		
		1	½ in. union connector	
		Operating Pressure Range		
		U	0 - 0.7 bar (0-10 psi)	
		L	0 - 3.4 bar (0-50 psi)	
		PVC-U Union Connection		
		-	¾ in. pipe connection	
		-1	Metric pipe connector	
3-2250	-1	1	U	Example Part Number

Mfr. Part No.	Code	Mfr. Part No.	Code
3-2250-11L	159 001 241	3-2250-11U-1	159 001 478
3-2250-11U	159 001 242	3-2250-11L-1	159 001 479
3-2250-21L	159 001 247	3-2250-21U-1	159 001 482
3-2250-21U	159 001 248	3-2250-21L-1	159 001 483

## 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
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)

\*\*\*Contact factory if extended cable is required.

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