

# 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
- One-piece injection molded PVDF body
- Flush ceramic diaphragm
- Easy submersible installation
- Choice of two pressure ranges
- Standard union connection and extended cable and capillary tubing (10m)

## 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 (pressure exerted on a column of fluid by the weight of the solution above it), 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. Integral adapters (sold separately) may be used to create a compact assembly with field mount versions of the Signet 8250 Level transmitter.

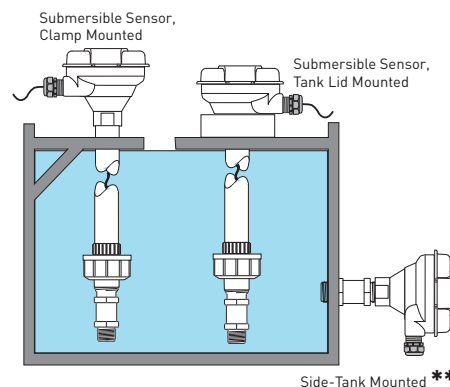
## Application

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

## Submersible Installation

Remote Assembly	
<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 (10m)*</b>	

## Tank Installation



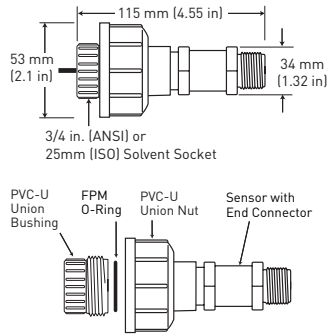
\* Cable must be exposed to the atmosphere  
 \*\* The Signet 2450 Pressure Sensor with union connection or 3/4 in. NPT can be mounted side-tank.





## 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 bushing installs into customer supplied pipe.
- 3) \*\*The Signet 2450 Pressure Sensor with union connection or 3/4 in. NPT can be mounted side-tank (see front diagram); without the need for extended cable, with the same options as the 2250. An isolation manual ball valve between the tank and sensor allows for installation and removal of the sensor without having to empty the tank (see operation manual for more details).

### Application Tips:

- To extend the cable, use a 3-conductor shielded cable and junction box.\*\*\*

## Specifications

### General

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

- From Factory: ±1% of full scale
- -XU = 0.001 psi
- -XL = 0.01 psi

 Response Time: <100ms

### Wetted Material

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

### Electrical

Power Requirements:

- Digital (S<sup>3</sup>L): 5 to 6.5VDC <1.5mA
- 4 to 20mA: 9 to 26VDC

Cable type:

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

Cable length:

- 10m (32.8 ft.), can be extended up to 121m (400 ft.)\*\*\*

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

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

### Electrical (continued)

4 to 20mA Output:

- Accuracy: ±32µA
- Resolution: <5µA
- Span: 4 to 20mA factory calibrated to operating ranges shown below:
- Max. Loop Impedance:  
100Ω @ 12V  
325Ω @ 18V  
600Ω @ 24V

### Max. Temperature/Pressure Rating

Operating Temperature:

15°C to 85°C (5°F to 185°F)

Storage Temp.:

-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 9001:2000 for Quality and ISO 14001:2004 for Environmental Management

## Ordering Information

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

Mfr. Part No.	Code	Mfr. Part No.	Code
3-2250-11U	159 001 242	3-2250-11U-1	159 001 478
3-2250-11L	159 001 241	3-2250-11L-1	159 001 479
3-2250-12U	159 001 249	3-2250-12U-1	159 001 480
3-2250-12L	159 001 250	3-2250-12L-1	159 001 481
3-2250-21U	159 001 248	3-2250-21U-1	159 001 482
3-2250-21L	159 001 247	3-2250-21L-1	159 001 483
3-2250-22U	159 001 251	3-2250-22U-1	159 001 484
3-2250-22L	159 001 252	3-2250-22L-1	159 001 485

## Accessories and Replacement Parts

Mfr. Part No.	Code	Description
5523-0222	159 000 392	Sensor cable, (per ft.)***
3-8052	159 000 188	3/4 in. Integral mounting kit
3-8052-1	159 000 755	3/4 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 pc.)
3-9000.392-2	159 000 841	Liquid tight connector kit, PG 13.5 (1 pc.)

\*\*\*Consult Factory if extended cable is required.