

# 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

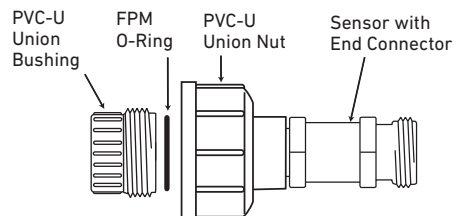
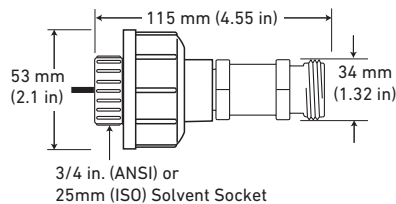
- Storage Tank Monitoring
- Neutralization Tanks
- Plating Lines
- Waste Sumps
- Clarifiers
- Overflow Protection
- Inventory Management/Tank Farms

# Specifications

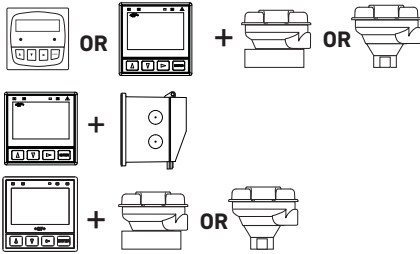
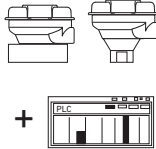
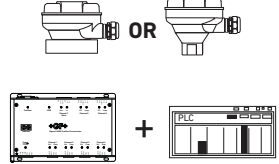


General		
Output	Digital (S <sup>3</sup> L) or 4 to 20 mA	
Accuracy for all pressure ranges	±1% of full scale	
Resolution	-XU	0.001 psi
	-XL	0.01 psi
Response Time	< 100 ms	
Wetted Materials		
Union and Union Bushing	PVC-U	
Sensor Housing	PVDF	
Diaphragm	Ceramic	
Diaphragm Seal	FPM	
Electrical		
Power Requirements		
	Digital (S <sup>3</sup> L)	5 to 6.5 VDC <1.5 mA (power supplied by the 8450, 8900, 9900 and 0486)
	4 to 20 mA	12 to 24 VDC ±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 <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)	
Shipping Weight		
	0.560 kg	1.23 lb
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	Pipe, Tank, Wall Mount	4 to 20 mA Output	Automation System
	Signet Instruments 8900 9900 with 3-8050-1 Universal Mount Kit or 3-8052-1 Integral Mount Kit 9900-1P with Rear Enclosure 9950 with 3-8050-1 Universal Mount Kit or 3-8052-2 Integral Mount Kit	3-8050-1 Universal Mount Kit or 3-8052-1 Integral Mount Kit with a Customer Supplied Programmable Logic Controller	3-8050 Universal Mount Kit or 3-8052 Integral Mount Kit with 0486 Profibus Concentrator and Customer Supplied Programmable Logic Controller or Programmable Automation Controller
			
Customer supplied pipe extension or conduit with pipe assembly*			
Signet 2250 Submersible Hydrostatic Pressure Sensor with union connection, extended cable and capillary tubing (10 m)**			
		All sold separately	

\*Refer to the Signet Submersion Kit brochure (3-0000.707) located on our website 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: 8900, 9900 and 9950 transmitters and 0486 Profibus Concentrator.
- 2) Union mount installs into pipe w/end connector and union nut.
- 3) Refer to the Signet Submersion Kit brochure (3-0000.707) located on our website for installation suggestions and options.

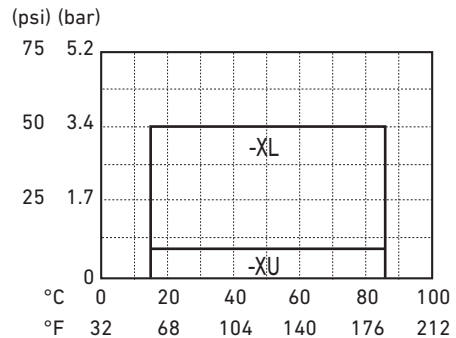
### Pressure/Level ranges\*

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

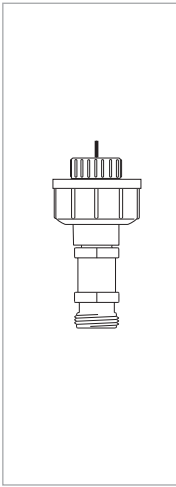
\*Ranges calculated using specific gravity of water. Maximum ranges depending on its specific gravity.

## Temperature/Pressure Graphs



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

## Ordering Information



Mfr. 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	<b>159 001 241</b>	NPT, digital (S <sup>3</sup> L)	0 - 3.4 bar (0-50 psi)	35 m (115 ft)
3-2250-11U	<b>159 001 242</b>	NPT, digital (S <sup>3</sup> L)	0 - 0.7 bar (0-10 psi)	7 m (23 ft)
3-2250-21L	<b>159 001 247</b>	NPT, current loop (4 to 20 mA)	0 - 3.4 bar (0-50 psi)	35 m (115 ft)
3-2250-21U	<b>159 001 248</b>	NPT, current loop (4 to 20 mA)	0 - 0.7 bar (0-10 psi)	7 m (25 ft)
PVC-U Union connection - Metric pipe connector				
3-2250-11U-1	<b>159 001 478</b>	ISO, digital (S <sup>3</sup> L)	0 - 0.7 bar (0-10 psi)	7 m (23 ft)
3-2250-11L-1	<b>159 001 479</b>	ISO, digital (S <sup>3</sup> L)	0 - 3.4 bar (0-50 psi)	35 m (115 ft)
3-2250-21U-1	<b>159 001 482</b>	ISO, current (4 to 20 mA)	0 - 0.7 bar (0-10 psi)	7 m (23 ft)
3-2250-21L-1	<b>159 001 483</b>	ISO, current (4 to 20 mA)	0 - 3.4 bar (0-50 psi)	35 m (115 ft)

## Accessories and Replacement Parts

Mfr. Part No.	Code	Description
3-8052	<b>159 000 188</b>	¾ in. Integral mounting kit
3-8052-1	<b>159 000 755</b>	¾ 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)
3-0252	<b>159 001 808</b>	Configuration Tool

3-2250.099 Rev H (01/18)

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