GE
Sensing & Inspection Technologies

Submersible Level Probe

Features

- A hermetically-sealed, submersible level sensor
- Manufactured from corrosion-resistant materials
- Instrinsically safe versions
- Pressure ranges from 2.5 to 100 psi (0.17 to 7 bar)
- Measures levels up to 70m H_2O (230 ft H_2O)
- Gauge and absolute versions
- Accurate to 0.5%
- Robust construction
- Low power requirement
- Economic design to allow multiple point measurements
- Extended warranty available

The SLP provides a range of economical level measurement devices in a mechanically and chemically robust polymer package.

Applications

The versatile and economic SLP sensor is suitable for a wide variety of applications, from single tanks to multiple point installations.

The robust design and corrosion resistance of the SLP allow it to be used in measuring levels in:

- The chemicals and petrochemicals industries, handling hydrocarbons and a wide range of corrosive fluids.
- The agricultural sector, monitoring levels of silages, pesticides and chemicals.
- The fuels industry, working in tank farms and petrol stations.
- Environmental monitoring, especially in the monitoring of water levels around industrial facilities and sites where there is potential for pollution.

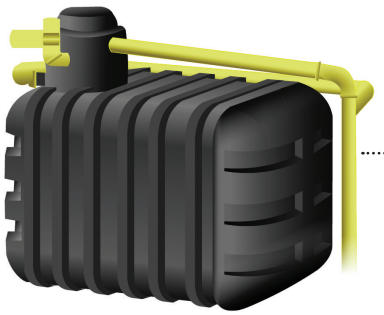
The SLP level sensor finds extensive application in inventory control and is used by data providers as an economic sensor, which can be connected to data loggers and to wireless systems, allowing the remote collection of level data.

SLP

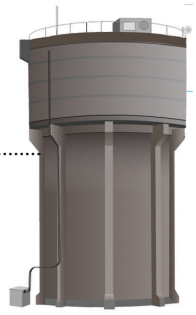
The SLP has been developed as a fully submersible level measurement solution and is especially suitable for applications requiring measurement at multiple points.

Its innovative design and use of moulded polymer materials ensure a complete hermetic seal, over an operating temperature range of -40°F to 175°F (-40°C to 80°C).

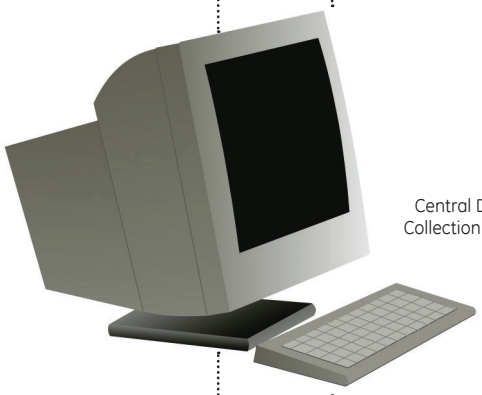
It measures level by measuring hydrostatic pressure, which is a simple, well-established technique. Pressure transmitters are located at the bottom of liquid-containment vessels and, being submerged, they are protected from vandalism and readings are unaffected by surface disruptions.



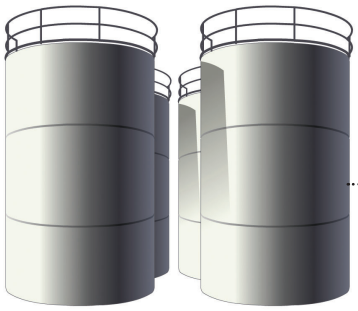
Domestic Tanks



Water Towers



Central Data Collection Point



Industrial Tanks

Fuel Tanks

Individual SLP sensors feeding a Central data collection point

SLP Specifications

Operating Pressure Ranges

- 2.5, 5, 15, 30, 50, and 100 psi (170, 350 mbar, 1, 2, 3, and 7 bar) gauge
- 20, 30, 50, and 100 psi (1.3, 2, 3 and 7 bar) absolute

Over Pressure
2x rated pressure to a maximum of 150 psi (10 bar)

Excitation Voltage
- 10 VDC at nominally 1 mA
- Supply limits of 2.5 to 15 VDC

Pulse Power Excitation
Recommended power on time before output samples 10ms

Output Voltage with 10 VDC supply
2.5 and 5 psi ranges 75 mV
All other ranges 100mV. (Output is ratiometric to supply)

Common Mode Voltage
Mid Rail (nominally)

Output Impedance
5 kΩ

Input Impedance
10 kΩ

Performance Specifications

Accuracy
Combined effects of Non-linearity Hysteresis and repeatability ±0.5% FS BSL

Zero Offset and Span Settings with 10 VDC supply

Zero Offset	Absolute ranges	±4 mV
	Gauge Ranges	±4 mV
Span Setting	2.5 psi range	±3 mV
	All other ranges	±1 mV

Long Term Stability
±0.1% per year Typical

Compensated Temperature Range
0°C to 70°C (32°F to 158°F)

Temperature Effects (Over Compensated Range)

Typically	±0.5% FS	
Maximum	2.5 psi (170 mbar) range	±2% FS
	5 psi (350 mbar) range	±1.5% FS
	Other ranges	±1% FS

Physical Specifications

Isolation
500 V RMS

Protection
IP68

Operating Temperature Range
-40°C to 80°C (-40°F to 175°F)

Pressure Media
Fluids compatible with Stainless Steel 316L (Sensor element), PolyPhenylene Sulphide (PPS) (body), Epoxy based resin (potting), Hytrel® or Tefzel® (cable), Polyolefin (label).

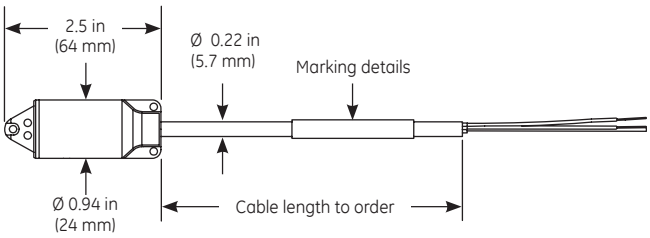
Pressure Connection
Depth Nose Cone

Electrical Connection
6 Core vented cable sheathed in either Hytrel or Tefzel Length to be specified on order to a maximum of 100 m (330 ft).

Certification
CE Marked
Intrinsically safe:
- ATEX and IECEx - Certified (baseefa08ATEXX0232 and IECEx BAS 08.0076) For use with IS barrier systems in Zone 0 hazardous locations: Ga Ex ia IIC T4 (-40°C to 80°C ambient)
- FM Approved for U.S./Canada - Certified (FM 3033510) for use with IS barrier systems in hazardous locations: Class I, Zone 0, AEx Ex ia IIC: IS class I, Division 1, Groups A, B, C & D, T4 (-40°C to 80°C ambient)

Mass (Nominal)

Unit	30 g (1 oz)	
Cable	Hytrel	35 g/m (0.4 oz/ft)



Nominal Dimensions

Ordering Information

1) Select Model Number

SLP **Model Number**

Code Output
20 mV Output

Code Pressure Range

Code		
002	2.5 psi	Gauge Only
005	5 psi	Gauge Only
015	15 psi	Gauge Only
020	20 psi	Absolute only
030	30 psi	Gauge or Absolute
050	50 psi	Gauge or Absolute
100	100 psi	Gauge or Absolute

Code Pressure Units
P psi

Code Reference
G Gauge
A Absolute

Code Temperature Option
N No temperature output

Code Module Material
L Stainless Steel

Code Pressure Connection
C Nose Cone

Code Cable Type
H Hytrel®
T Tefzel®

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1) Typical Model Number
SLP20-005-PGNLC-H

2) State Cable Length and Units
Maximum 330 ft (100 m)

3) State Options Required Intrinsic Safety
ATEX and IECEx (Option A)
FM Approved for U.S./Canada (Option B)
Combined Approvals (Option A & B)
None

Nominal Pressure/Depth Conversions

Pressure Conversion Table			Nominal Depth in Water	
psi	bar	kPa	ft H_2O	mH_2O
2.5 Gauge	0.175	17.5	5	1.75
5 Gauge	0.35	35	10	3.5
15 Gauge	1	100	30	10
30 Gauge	2	200	65	20
50 Gauge	3.5	350	100	35
100 Gauge	7	700	200	70
20 Absolute	1.4	140	10	3.5
30 Absolute	2	200	30	10
50 Absolute	3.5	350	100	25
100 Absolute	7	700	190	60

Supporting Services

Our highly trained staff can support you, no matter where you are in the world. We can provide training, extended warranty terms and rental of portable or laboratory calibrators. Further details can be found in www.gesensing.com/productservices/services.htm

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