SHL - Hydrostatic Level Transmitter



Product Information:

The SHL Hydrostatic level transmitter is a high-performance solution designed for precise liquid level measurement across a wide range of industries. Built with a highly reliable silicon piezoresistive pressure sensor, it ensures long-term stability and accuracy even in demanding environments.

With advanced digital compensation and signal conditioning, the SHL Hydrostatic level transmitter delivers consistent and precise output signals compatible with standard industrial systems.

Features:

- Types: Gauge, Absolute, and Sealed Gauge
- Range: 0m～0.5m…300m
- High Accuracy up to ±0.1%FS (customizable) ,±0.5%FS (standard)
- Output: 4–20mA, 0–10V, I²C, RS485
- Fast Response Time ≤3ms
- Stainless Steel Wetted Parts (SS304 / SS316L compatible)
- Excellent Long-Term Stability and Reliability
- Suitable for Industrial Automation and Process Control Applications

Application:

- Mining and Coal Industry
- Environmental Monitoring Systems
- Oil & Gas Industry
- Medical and Healthcare Equipment
- Chemical Processing Industry
- Water Management and Treatment Systems
- Industrial Safety and Explosion-Control Systems
- Marine and Shipping Applications

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Output Signal and Supply Voltage:

TYPE	SUPPLY	OUTPUT
Current(2 wire)	12-30VDC	4-20mA
Voltage(3 wire)	6-24VDC	0-5VDC
	12-30VDC	0-10VDC
I^2C(4 wire)	3.3-5VDC	I^2C
RS485(4 wire)	5-30VDC	RS485

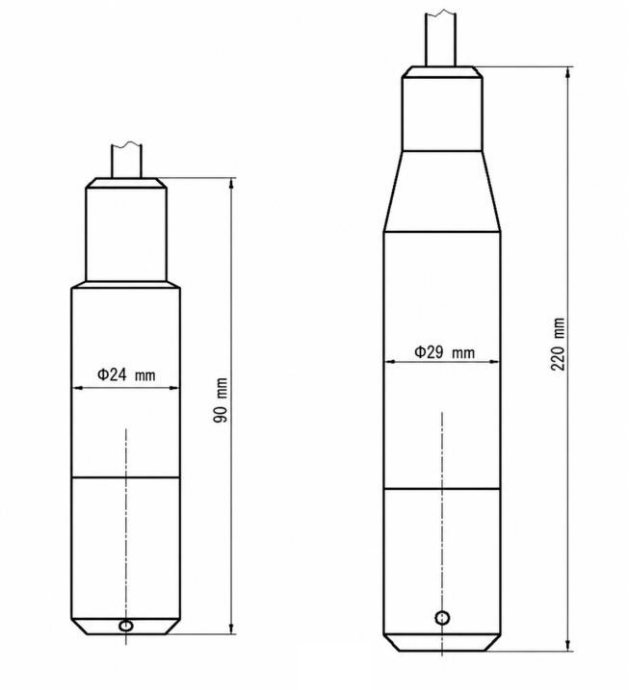
Technical Specification:

Category	Parameter		
	Gauge	Absolute	Sealed Gauge
Accuracy	±0.1%FS (Customized), ±0.25%FS, ±0.5%FS		
Non-linearity	≤±0.1%FS	≤±0.2%FS	≤±0.4%FS
Hysteresis	≤±0.05%FS	≤±0.1%FS	≤±0.1%FS
Repeatability	≤±0.05%FS	≤±0.05%FS	≤±0.1%FS
Long-term Stability	≤±0.1%FS/year	≤±0.2%FS/year	≤±0.5%FS/year
Zero-point Temperature Drift	≤±0.01%FS/°C	≤±0.03%FS/°C	≤±0.05%FS/°C
Sensitivity Temperature Drift	≤±0.01%FS/°C	≤±0.03%FS/°C	≤±0.05%FS/°C
Compensation Temperature	0°C to +50°C (≤200kPa), -10°C to +70°C (>200kPa)		
Medium Temperature	-40°C to +85°C		
Ambient Temperature	-40°C to +85°C		
Storage Temperature	-40°C to +85°C		
Protection Level	IP65 (IP68 customizable)		
Vibration Environment	10g (10Hz ~ 2000Hz)		
Shock Resistance	100g / 11ms		
Service Life	>10 Million Pressure Cycles (within measurement range)		
Power Supply	24V±0.24V, 5V±0.05V		
Reference Temperature	20°C ~ 25°C		
Relative Humidity	45%RH ~ 75%RH		
Installation Direction	Pressure interface facing downward		
Measured Medium	Fluids compatible with SS304 or SS316L		

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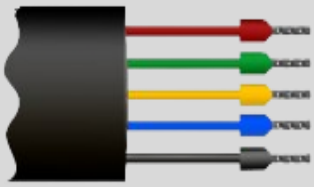
Structural Drawing:

The following figures show the typical product structure. Please contact us for consultation and customization.



Wiring connection:

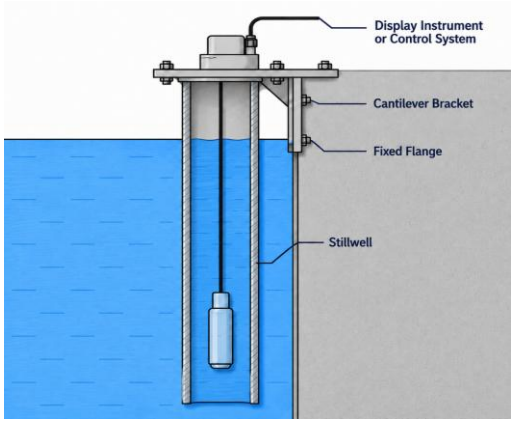
Cable



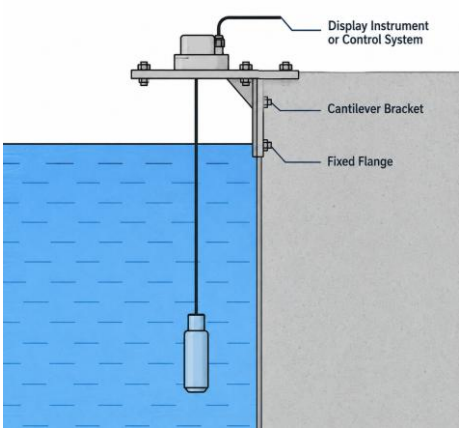
Red	VCC	VCC	VCC	VCC
Green	Iout	GND	GND	GND
Yellow	NA	Vout	SCL	RS485A
Blue	NA	NA	SDA	RS485B
Black	NA	NA	NA	NA

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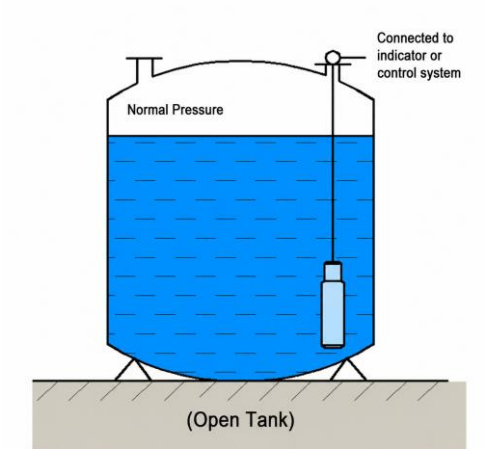
Installation Guide:



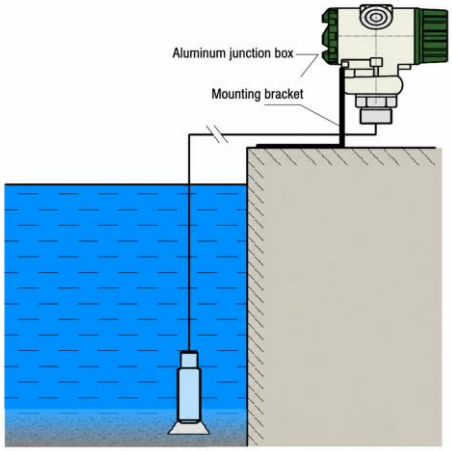
Flowing Liquid Measurement (Reservoirs, Tanks etc)
For flowing liquid applications, install the transmitter inside a Ø30 mm stilling tube. Drill 2–3 Ø5 mm holes at the upper and lower sensing levels to allow liquid entry. Secure the cable and junction box at the outlet.



Stationary Liquid Measurement
For stationary liquid applications, immerse the level transmitter directly into the liquid. Secure the cable and junction box at the tank outlet.



Open Tank Measurement
For open tank applications, immerse the transmitter directly at the bottom of the tank. Secure the cable and junction box at the tank opening.



High Sediment Applications
In high-sediment environments, use a mounting bracket to prevent blockage of the pressure port and ensure accurate level measurement.

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Odering information:

SHL	Hydrostatic Level Transmitter
Range	Measuring range is 0∼0.5m … 300m
XXXX	Measuring range(MR) to be mentioned in mm
X	Liquid type: W: Water, D: Diesel, O: Oil (Specify type of oil), T: Other liquids(Specify liquid and its density)
X	Pressure type: G: Gauge Pressure, A: Absolute Pressure, S: Sealed Gauge Pressure
X	Mounting: T: Top Mount, B: Bottom Mount
	Construction for Top mount
X	C: Flexible Cable Type(MR + 500mm Extra)* R: Rigid type-Max upto MR 5mtrs (SS pipe) **
X	F: Flange, A: Adopter
XX	Material: S1: SS304, S2: SS316, MS: Mild Steal, OT: Others(To be specified)
XX	SF: 1” table D flange SA: 1” BSPM SO: Others (Mention Table standard for flange/adaptor) CB: As per customer design(Drawing to be provided)
	Construction for Bottom mount
X	Process connection: A: G ¼ “, B: G ½ ”, C: M20*1.5, D:Others specify
	Electrical termination for Top and Bottom mount
X	D: DIN Connector 175301 W: Weather Proof, F: Flame Proof, C: Cable(Measuring range + 500mm Extra)
X	C: 4mA ~ 20mADC, V1: 0VDC ~ 5VDC, V2: 0VDC ~ 10VDC, R: RS485 communication interface, H: HART ®protocol communication, I: I²C protocol communication
	(Please specify other details, if any)

Note:
*: For extra cable length, specify while ordering).
** : Standard SS304/316 or others to be specified while ordering.

Ordering Sample:
Order model SHL 1000-D-G-T-R-A-S1-SA-D-C refers to the product hydrostatic level sensor with measuring range of **1000** mm of **Diesel** with **G**auge Pressure model with mounted on **T**op of the tank with **R**igid type with **A**daptor of **SS304** pipe Construction with 1” BSPM adaptor for mounting on the tank with **D**IN 175301 connector for electrical termination providing **C**urrent output of 4-20mA.

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