

HYDROSTATIC LEVEL PROBES LG-25S

– For Measurement of Waste Liquid Levels

Any measurement range from 2 up to 20 m H₂O
Integrated internal overvoltage protection circuit

Use

The LG-25S probe is designed to measure levels of liquids containing contaminants or suspensions. A typical use for this probe is the measurement of levels of liquid waste in intermediate pumping stations, fermentation chambers, settling tanks etc.

Principles of Operation, Design

The probe measures levels of liquid based on the simple relationship between the height of column of liquid and the resulting hydrostatic pressure. The pressure measurement is made at the level of the separating diaphragm of the submerged probe and is related to atmospheric pressure via a capillary situated in the cable.

The use of a special separator with a large uncovered diaphragm minimizes the metrological effect of sediment on the diaphragm surface. This enables the probe to be function properly for long periods in contaminated media (even in the presence of abrasives, such as sand) and facilitates cleaning using a delicate stream of water (washing with water under pressure may damage the probe).

The active sensing element is a piezoresistant silicon sensor separated from the medium by an isolating diaphragm. The sensor works in combination with an electronic amplifier, which supplies a standardized signal and is equipped with an additional overvoltage protection circuit, which protects the probe from damage caused by induced interference from atmospheric discharges or from associated electrical devices.

Installation, Method of Use

When lowered to the reference level the probe may hang freely on the cable or lie on the bottom of the tank. The cable with the capillary can be extended using a standard signal cable. The cable connection should be situated in a non-hermetic box (with internal pressure equal to atmospheric pressure), preventing water or other contaminants from reaching the capillary. When the probe cable is wound up the minimum winding diameter should be 30 cm and the cable should be protected from mechanical damage.

The lines at the end of the cable are linked with a protective diode which shorts out if the permitted voltage (39V) is exceeded. For this reason the cable supplied by the manufacturer should not be shortened.

In tanks where there is a possibility of turbulence (where mixers operate or where there is a turbulent inflow), the probe should be installed in a screening tube (e.g. made from PVC). To make it easier to raise the probe, a line can be attached to the lifting handle.

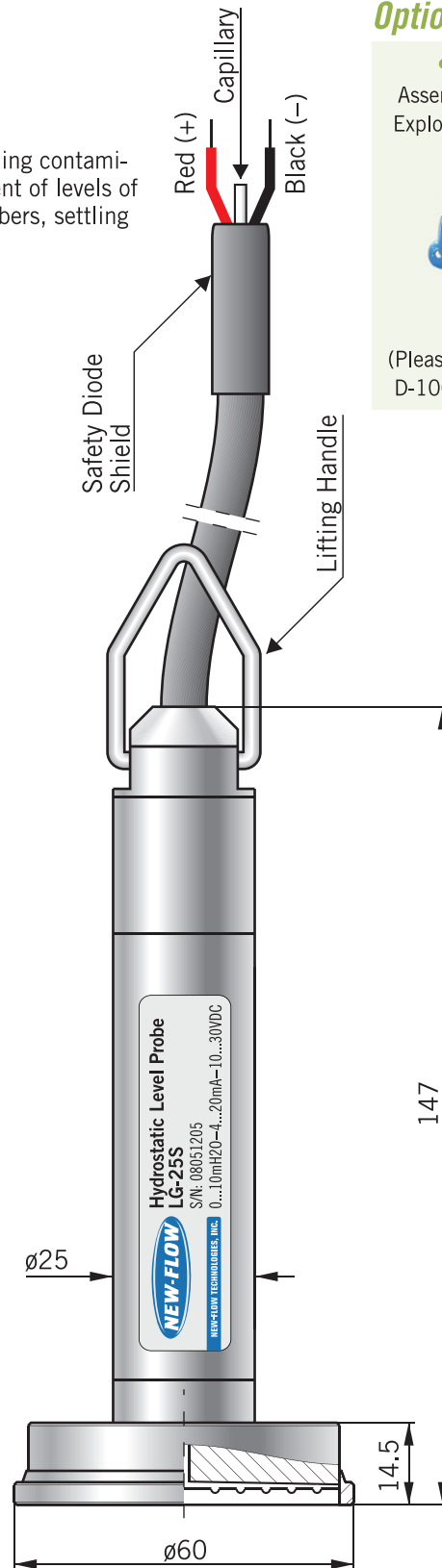
Option Function

• **LCD Display** •

Assemble with D-1000 Series
Explosion Proof Type Housing



(Please refer to the catalogue of D-1000.)



unit=mm

Approvals:



Technical Data

Any Measurement Range: 2 ÷ 20 m H₂O (we recommend the standard ranges. 2, 4, 10 m H₂O)

	Measurement Range		
	2 m H ₂ O	4 m H ₂ O	0...10 m H ₂ O ÷ 20m H ₂ O
Overpressure Limit (repeatable- without hysteresis)	25 x range	25 x range	10 x range
Accuracy	1.5%	1%	0.5%
Thermal Error of Zero	Typical 0.4% / 10°C max. 0.6% / 10°C		Typical 0.2% / 10°C max. 0.3% / 10°C
Thermal Error of Span	Typical 0.3% / 10°C max. 0.4% / 10°C		Typical 0.2% / 10°C max. 0.3% / 10°C

Hysteresis, Repeatability: 0.05%

Thermal Compensation Range: 0 ÷ 25°C

Process Temperature Limit: -25 ÷ 75°C

CAUTION: The medium must not be allowed to freeze in the immediate vicinity of the probe.

Electrical Parameters (applicable to both probes)

Output Signal: 4 ÷ 20 mA, two-wires transmission

Special Version 0 ÷ 10V, three-wires transmission

Load Resistance (for current output): $R[\Omega] \leq \frac{U_{sup}[V] - 10V}{0.02A}$

Power Supply: 10 ÷ 30 V DC
15 ÷ 30 V DC (for 0 ÷ 10 V output)

Error due to Supply Voltage Changes: 0.005% / V

Material of Casing and Diaphragm: 00H17N14M2 (316Lss)

Cable Shielding: POLYURETHANE

Special Versions, Certificates: 0 ÷ 10°C – voltage output
Others

Ordering Information

LG-25S / ____ / ____ / ____ / ____ / L=....m

Level Probe:

Versions, Certificates:

/-10~70°

Extended thermal compensation range

/TR

Response time < 30ms (only for 4~20mA output)

Measuring Set Range:

[calibrated range in relation to 4mA and 20mA (or 0V and 10V) output]

Output Signal:

/4~20mA

Power supply: 8~36 VDC

/0~10V

Power supplyL 13~30 VDC

Type of Cable:

/PU

Polyurethane cable (medium temp. up to 40°C)

/PU+PTFE

Polyurethane cable with PTFE shielding (medium temp. up to 75°C)

Cable Length:

Example:

LG-25S/TR/0~4mH₂O/4~20mA/PU/8m

LG-25S depth probe /TR versions, only for 4~20mA output/measurement range 0~4 m H₂O /4~20mA output signal /PU cable material /cable length 8m