

# HYDROSTATIC LEVEL PROBES LG-25

Any measurement range from 1 up to 500 m H<sub>2</sub>O  
 Integrated internal overvoltage protection circuit

## Application

The LG-25 hydrostatic level probe is designed to measure liquid levels in tanks, abyssal wells or piezometers.

## Principles of Operation, Construction

The probe measures liquid levels based on a simple relationship between the height of the 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 in the cable.

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 powered 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. The probe diaphragm must not be cleaned by mechanical means.

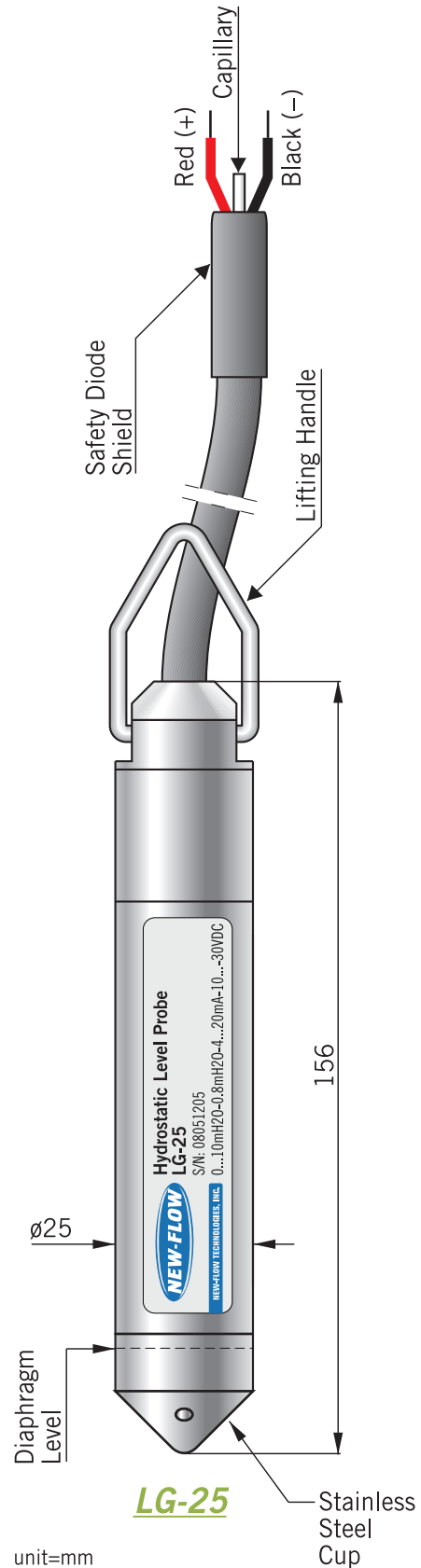
## Option Function

### • LCD Display •

Assemble with D-1000 Series  
 Explosion Proof Type Housing



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



## Technical Data

**Any Measurement Range:** 1 ÷ 500 m H<sub>2</sub>O (we recommend the standard ranges: 4, 10, 20, 50, 100 m H<sub>2</sub>O)

	Measurement Range		
	1 m H <sub>2</sub> O	4 m H <sub>2</sub> O	0...10 m H <sub>2</sub> O ÷ 500m H <sub>2</sub> O
Overpressure Limit (repeatable- without hysteresis)	40 x range	25 x range	10 x range (max. 2000 m H <sub>2</sub> O)
Accuracy	0.6%	0.3%	0.2%
Thermal Error	Typical 0.3% / 10°C max. 0.4% / 10°C		Typical 0.2% / 10°C max. 0.3% / 10°C

Special version with increased accuracy: LG-25 level probe, measurement range 0...10 m H<sub>2</sub>O  
**Accuracy** 0.1% **Total error at 0...25°C** 0.3%

**Long Term Stability:** 0.1% or 1 cm H<sub>2</sub>O for 1 year

**Hysteresis, Repeatability:** 0.05%

**Thermal Compensation Range:** 0 ÷ 25°C, standard; -10 ÷ 70°C, special version

**Medium Temperature Limit:** -25 ÷ 50°C for range > 20 m H<sub>2</sub>O, -25 ÷ 75°C for range ≤ 20 m H<sub>2</sub>O

**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 (LG-25 only)

**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

**Protection Rating of Casing:** IP-68

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

**Cable Shielding:** POLYURETHANE

**Special Versions, Certificates:** -10 ÷ 70°C – extended thermal compensation range

0 ÷ 10V – output voltage

Teflon – teflon cable shielding

Others

## Ordering Information

LG-25 / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / L=....m

**Level Probe:** ↑

**Versions, Certificates:**  
 /-10~70°  
 Extended thermal compensation range

**/Pt100**  
 Probe with Pt100 sensor (only with PU PZH cable)

**/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 supply: 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-25/TR/0~2.5mH<sub>2</sub>O/4~20mA/PU/6m**  
 LG-25 level probe  
 TR versions, only for 4~20mA output  
 measurement range 0~4 m H<sub>2</sub>O  
 4~20mA output signal  
 PU cable material  
 cable length 6m