Dinel®

Hydrostatic level meter HLM-16

QMS ISO 9001

Features

- **for continuous level measurement of non-aggressive liquids (without hard dirtiness) in non-pressure reservoirs, drill holes, water wells, sumps, tanks and swimming-pools**
- **2-wire connection with 4 ÷ 20 mA output**
- **optional arbitrance range up to 100 m (H_2O)**
- **over voltages protection inside probe and at the beginning of cable**

Description

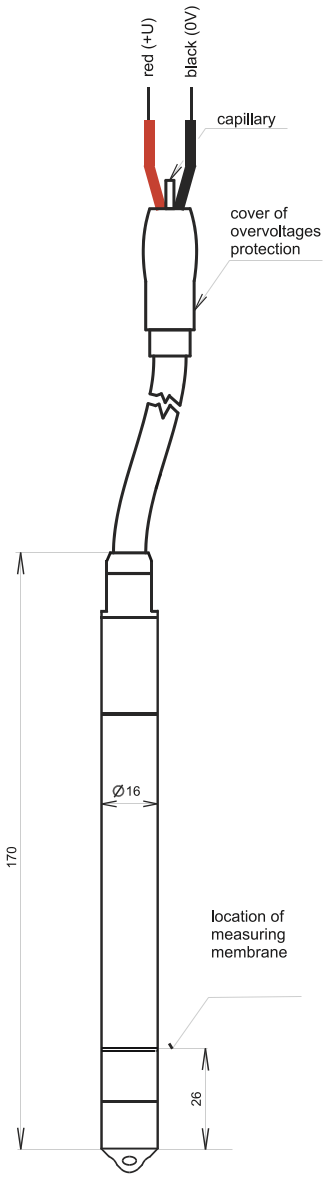
Hydrostatic level meter HLM-16 is a compact measuring device containing silicon tenzometric sensor and evaluation electronics in stainless housing . From the probe housing coming out 2-wire cable with capillary (for comparing atmospheric pressure into probe).
Opposite end of the probe have a stainless dismountable cover (to protect damage of membrane).
Hydrostatic level meter HLM-16 is identified for continuous level measurement of non-aggressive liquids without hard dirtiness in non-pressure reservoirs, drill holes, water wells, sumps, tanks and swimming-pools. Principle of level measurement is dependability of hydrostatic pressure on height of column of level liquid. For measurement is possible to use a standard measuring ranges or directly submit required range. On level meter are not any setting elements.

Technical specification

Working areas (acc. to EN 60079-14) and performance
HLM-16N non-explosive

Type	**HLM-16N**
Basic measuring range	10; 20; 50; 100 m H_2O
Permissible overcharge	10 x range
Output	4 ÷ 20 mA
Supply voltage	10 ÷ 30 V DC
Basic error	0,5 %
Hysteresis, repeatability	0,05 %
Long-term stability	0,1 % / year or 1 cm H_2O / year
Temperature error	max. 0,04 % / K
Range of temperature compensation (standard)	0 to +25 °C
Ambient temperatures ranges (temperature of medium)	0 to +50 °C
Protection degree	IP 68
Isolation of cable	Polyuretan
Material of probe	AISI 316L
Max. stress resistance (on U = 24 V)	R_{max} = 675 Ω
Weight of probe (without cable)	c. 0,4 kg

Dimension drawing

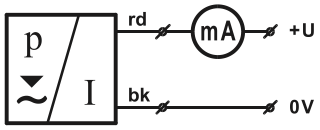


Installation

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 besituated 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 (39 V) is exceeded. For this reason the cable supplied by the manufacturer should not be shortened.
In tanks where is a possibility of turbulence (where mixers operate or where there is a turbulent inßow), the probe should be installed in a screening tube (e.g. made from PVC). The probe diaphragm must not be cleaned by mechanical means.

Electric connection



Specification system

HLM-16 □–□□□□ + length of cable in m

range in decimal m
0100, 0200, 0500, 1000

diameter

performance:
N - normal - usable in non-explosive areas only

Example of correct speciÞcation

HLM-16N-0100 cable 25 m
HLM-16N-0500 cable 70 m

Safety, protections and compatibility

Level meter is equipped with protection against reverse polarity, output current overload, short circuit and short time over voltages.
The protection against electric shock is done by safety voltage use.
Electromagnetic compatibility is provided by conformity with standards: EN 55022/B, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6.

Dinel®

Hydrostatic level meter HLM-25

QMS ISO 9001

Features

- **for continuous level measurement of non-aggressive liquids (without hard dirtiness) in non-pressure reservoirs, drill holes, water wells, sumps, tanks and swimming-pools**
- **2-wire connection with 4 ÷ 20 mA output**
- **optional arbitrance range up to 500 m (H_2O)**
- **over voltages protection inside probe and at the beginning of cable**
- **carrying loop for easy fixation in a big depth**

Description

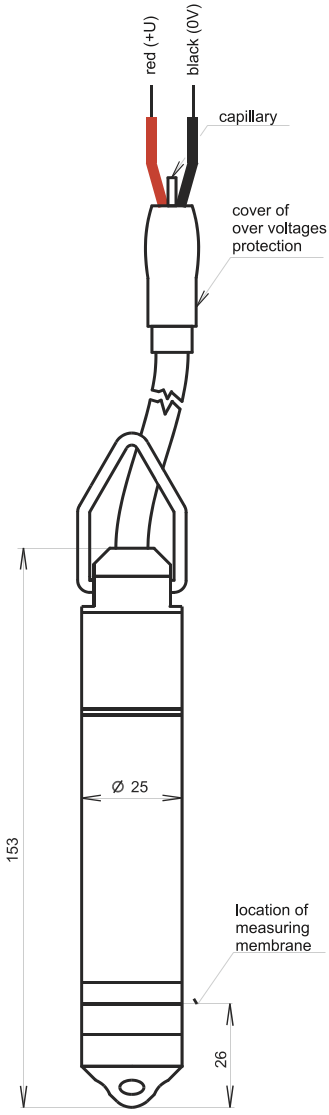
Hydrostatic level meter HLM-25 is a compact measuring device containing silicon tenzometric sensor and evaluation electronics in stainless housing . From the probe housing coming out 2-wire cable with capillary (for comparing atmospheric pressure into probe).
Opposite end of the probe have a stainless dismountable cover (to protect damage of membrane).
Hydrostatic level meter HLM-25 is identified for continuous level measurement of non-aggressive liquids without hard dirtiness in non-pressure reservoirs, drill holes, water wells, sumps, tanks and swimming-pools. Principle of level measurement is dependability of hydrostatic pressure on height of column of level liquid. For measurement is possible to use a standard measuring ranges or directly submit required range. On level meter are not any setting elements.

Technical specification

Working areas (acc. to EN 60079-14) and performance
HLM-25N non-explosive

Type	**HLM-25N**
Basic measuring range	10; 16; 25; 40; 60; 100 m H_2O
Other range (optional)	1; 1,6; 2,5; 4; 6 m H_2O
Permissible overcharge: - range1 m H_2O - further ranges	40 x range 25 x range
Output	4 ÷ 20 mA
Supply voltage	10 ÷ 30 V DC
Basic error: - range 1 m H_2O (of total range) - ranges until 4 m H_2O (of total range) - other ranges over 4 m H_2O (of total range)	 0,6 % 0,3 % 0,2 %
Hysteresis, repeatability	0,05 %
Long-term stability	0,1 % / year or 1 cm H_2O / year
Temperature error	max. 0,04 % / K
Range of temperature compensation (standard)	0 to +25 °C
Ambient temperatures ranges (temperature of medium): - range until 20 m H_2O - range over 20 m H_2O	 -25 to +75 °C -25 to +50 °C
Protection degree	IP 68
Isolation of cable	Polyuretan
Material of probe	AISI 316L
Max. stress resistance (on U = 24 V)	R_{max} = 675 Ω
Weight of probe (without cable)	c. 0,6 kg

Dimension drawing

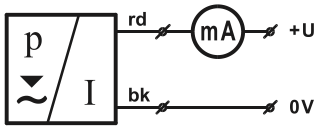


Installation

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 besituated 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 (39 V) 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 inßow), 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.

Electric connection



Specification system

HLM-25 □**-** □ □ □ □ + length of cable in m

diameter

range in decimal m
standard - (no extra charges)
0100, 0160, 0250, 0400, 0600, 1000
optional - (see datasheet „accessories“):
0010, 0016, 0025, 0040, 0060

performance:
N - normal - usable in non-explosive areas only

Example of correct specification

HLM-25N-0100 cable 25 m
HLM-25N-0016 cable 5 m

Safety, protections and compatibility

Level meter is equipped with protection against reverse polarity, output current overload, short circuit and short time over voltages.
The protection against electric shock is done by safety voltage use.
Electromagnetic compatibility is provided by conformity with standards: EN 55022/B, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6.

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