

## Product Features

- *Measuring range 0 to 300 meter (900 ft) water column*
- *Accuracy 0.25% of full scale*
- *Utilizes Diffused Silicon Sensor*
- *Multiple pressure ranges and signal outputs available*
- *Compact all stainless steel probe*
- *Reliable and compact*
- *Dirt resistant*
- *Surge and polarity protection available*

## Description

Model LHT11 submersible hydrostatic level transmitter is designed for applications where high reliability, long term stability and accuracy are required. It is easy to install and is ideally suited for protecting submersible pumps in deep wells. The level metering is based on the measuring of the pressure difference between the hydrostatic pressure of the liquid head over the diaphragm and the actual atmospheric pressure. This pressure difference is converted into 4-20mA current in the 2-wire version and 0-5VDC or 0-10VDC voltage in the 3-wire version.

The LHT11 consists of a stainless steel measuring cell, transmitter, stainless steel probe and a special breathing cable. Stainless flush diaphragm is protected by use of a stainless protection cap. Easy installation and wiring is ensured by the use of the complete set of accessories. For outdoor measurements the application of over voltage protection is suggested.

To ease installation, the use of terminal box is recommended serving as terminal for the wires and for the breathing tube.

## Applications

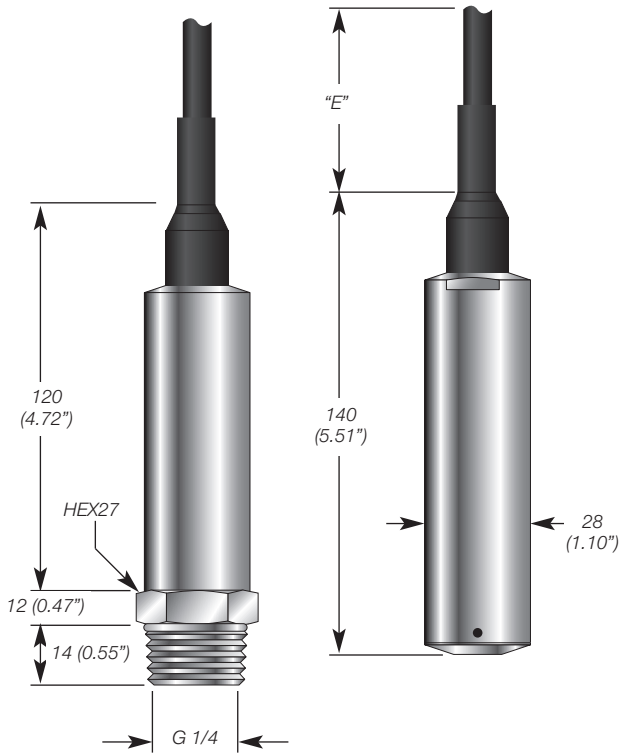
LHT11 hydrostatic level transmitters are applicable for water-based liquids in deep-wells and are especially recommended for monitoring and controlling submersible pumps. For water-based applications use Polyethylene cable.

LHT11 can also be used for level measurement of oils, diesel fuels and mild corrosive liquids. For these applications use Polyurathene cable.

- *Water deep well monitoring*
- *Water storage tanks*
- *Water saving irrigation*
- *Urban flood control*
- *Waste water treatment*
- *For oil, diesel fuel and mild corrosive liquids*



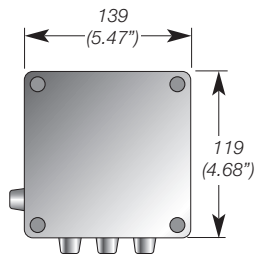
## Dimensions



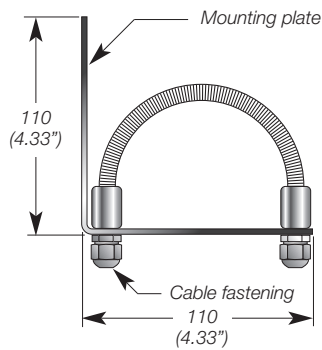
## Technical Data

| Type   | LHT11-current out   | LHT11-voltage out                   |
|--|---|-------------------------------------|
| Measuring range  | 0 ... 200m water head   |                                     |
| Maximum pressure as the multiplied range                   | 3X  |                                     |
| Output signal  | 2-wire. 4 ... 20mA  | 3-wire 0 ... 5V<br>3-wire 0 ... 10V |
| Power supply   | 12 ... 36VDC  |                                     |
| Maximum load resistance<br>$V_s$ = voltage of power supply | $R_L = \frac{(V_s - 10)}{0.02 A}$                                     | $\geq 100 k\Omega$                  |
| Power consumption  | ---   | < 6mA                               |
| Accuracy   | $\pm 0.25 \% F.S.$ , $\pm 0,50 F.S\%$                                 |                                     |
| Temperature coefficient                                    | $\leq \pm 0,1\% / 10K$  | $\leq \pm 0.2\% / 10K$              |
| Temperature range  | - 10 °C ... + 80 °C (14 °F ... + 176 °F)                              |                                     |
| Compensated Temperature                                    | - 10 °C ... + 70 °C (14 °F ... + 158 °F)                              |                                     |
| Ingress protection   | IP 68   |                                     |
| EMC  | EMI: EN50081-1/-2; EMS: EN50082-2                                     |                                     |
| Electric connection  | Shielded, breathing cable $\varnothing 7$ mm ( $\varnothing 0.28$ " ) |                                     |
| Cable cross section  | 0.34 mm <sup>2</sup>  |                                     |
| Cable length   | 0 ... 300m (0...900 ft)   |                                     |
| Dimensions   | $\varnothing 28 \times 140$ mm (1.10 x 5.51)                          |                                     |
| Mass   | Probe : 0.2 kg, Cable : ~ 0.06 kg/m                                   |                                     |
| Material of wetted parts                                   | Diaphragm   | 1.4404 (Stainless 316L)             |
|  | Housing   | 1.4571 (Stainless 316)              |
|  | Cable   | Polyethylene, Polyurethane          |
|  | Gasket  | VITON® (FKM)                        |

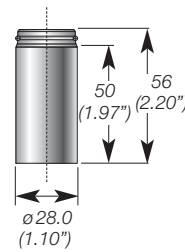
## Accessories



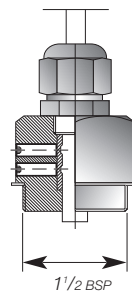
Cable Terminal Box  
LHT-101/LHT-102



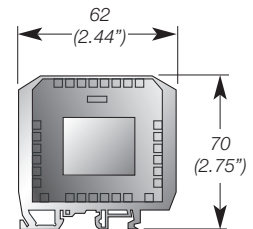
Cable Fastening  
LHT-103



Adapter for waste water  
LHT-104



Cable Holding Assy  
LHT-105



Surge Protection  
SP-110D

| CABLE TERMINAL BOX   | LHT-101   |
|----------------------|---|
| Dimension            | 139 x 119 x 70 mm   |
| Ingress protection   | IP 65   |
| Ambient temperature  | -40°C ... +65°C   |
| Material             | Polycarbonate   |
| Conduit              | ASM 16<br>(cable outer diameter. Ø5...Ø10 mm)               |
| Electric connection  | Terminal screw<br>(cross section max. 2,5 mm <sup>2</sup> ) |
| CABLE FASTENING      | LHT-103 /LHT-105  |
| Maximum cable length | 150m / 100m   |
| Ambient temperature  | -10°C ... + 45°C  |
| Dimension            | 110 x 110 mm  |
| ADAPTER              | LHT-104   |
| Dimension            | ø21.3 x 56 mm   |
| Material             | 1.4571 (Stainless 316)                                      |

| CABLE TERMINAL BOX WITH SURGE PROTECTION LHT-102* |  |                        |
|---|--|------------------------|
| General data                                      | Same as with LHT-101                   |                        |
| Electric data                                     | Same as with SP                        |                        |
| SURGE PROTECTION                                  | SP110*                                 | SP110D*                |
| Version   | Open air                               | DIN 35 mm rail mounted |
| Dimension   | 72 x 42 x 19 mm                        | 62 x 65 x 18 mm        |
| Ingress protection                                | IP 54                                  | IP 20                  |
| Wire  | Cross section max. 2,5 mm <sup>2</sup> |                        |
| Voltage clipping                                  | 33 V                                   |                        |
| Pulse power                                       | 600 W / 1 ms                           |                        |
| Input resistance                                  | 13 ohm                                 |                        |
| Leakage current                                   | ≤ 10 µA                                |                        |

\* For 4-20mA loop powered units only

## Custom Builder

MODEL                    1                    2                    3                    4                    5                    6                    7

LHT11 -  -  -  -  -  -  -  -

| BOX 1 CODE | Pressure Range  |
|------------|---|
| H-___      | WC in Inches (1 in increments)<br>Ex.: <b>H160</b> = 0- 160 in WC<br>(max. 999 in)    |
| F-___      | WC in Feet (1 ft increments)<br>Ex.: <b>F060</b> = 0- 60 ft WC<br>(max. 900 ft)       |
| M-___      | In Meters (1 m increments)<br>Ex.: <b>M060</b> = 0- 60 m WC<br>(max. 300 m)           |
| P-___      | In PSIG (1 PSIG increments)<br>Ex.: <b>P010</b> = 0- 10 PSIG range<br>(max. 400 PSIG) |

| BOX 2 CODE | Pressure Type |
|------------|---------------|
| G          | Gauge         |

| BOX 3 CODE | Accuracy F.S.                        |
|------------|--------------------------------------|
| C5         | ± 0.25 % BFSL (0.50 % of span), std. |
| C2         | ± 0.12 % BFSL (0.25 % of span), spc. |

| BOX 4 CODE | Output            |
|------------|-------------------|
| LA         | 4- 20 mA, 2-wire  |
| VA         | 0- 5 Vdc, 3-wire  |
| VD         | 0- 10 Vdc, 3-wire |

| BOX 5 CODE | Level Transmitter Body Type/Size |
|------------|----------------------------------|
| A          | Standard Protection Cap, SS316L  |
| C          | Adapter for Waste Water          |
| E          | G1/4" male                       |

| BOX 6 CODE | Extension Cable Type                               |
|------------|--|
| PE         | Polyethylene,<br>90°C (195°F) max. ambient (water) |
| PU         | Polyurathene,<br>90°C (195°F) max. ambient (oils)  |

| BOX 7 CODE | Cable Length "E"   |
|------------|--|
| M-___      | In Meters (1 m increments)<br>Ex.: <b>M060</b> = 60 m long<br>(max. 300 m)   |
| F-___      | In feet (1 ft increments)<br>Ex.: <b>F100</b> = 100 ft long<br>(max. 900 ft) |