



Model Number

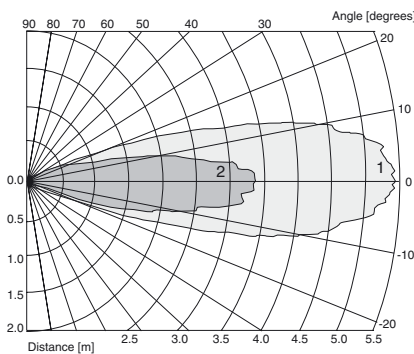
LUC4T-G5S-IU-V15

Features

- Fixed target suppression
- Simple calibration
- Function monitoring
- Fail-safe behavior in the event of no echo
- Output signal 4 mA ... 20 mA/ 0 V ... 10 V
- Temperature compensation

Diagrams

Characteristic response curves



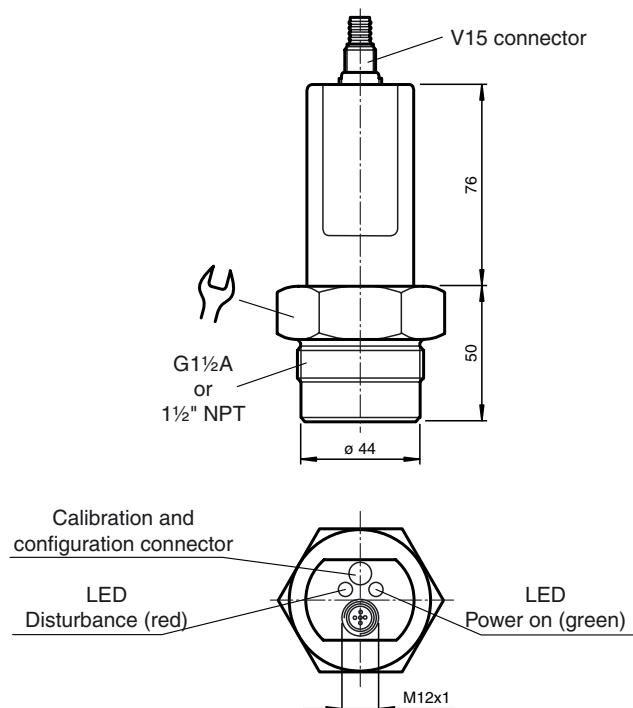
Curve 1: flat plate 100 mm x 100 mm
Curve 2: round bar, Ø 25 mm

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Technical data

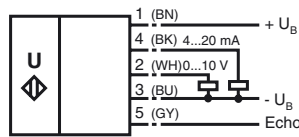
| | |
|---|--|
| General specifications | |
| Sensing range | 0.3 ... 4 m , with fluids |
| Transducer frequency | approx. 85 kHz |
| Indicators/operating means | |
| LED green | Power on |
| LED red | 2 Hz flashing: error |
| Electrical specifications | |
| Operating voltage U_B | 20 ... 30 V DC , ripple 10 % _{SS} |
| Power consumption P_0 | ≤ 1200 mW |
| Output | |
| Output type | 1 analog output 4 ... 20 mA, $R_L \leq 500 \text{ Ohm}$, error ≥ 21 mA 1 voltage output 0 ... 10 V, $R_L \geq 1000 \text{ Ohm}$, error ≥ 10.5 V |
| Resolution | 2 mm |
| Deviation of the characteristic curve | 0.5 % of upper limit of measuring range |
| Ambient conditions | |
| Ambient temperature | -25 ... 70 °C (-13 ... 158 °F) |
| Storage temperature | -40 ... 85 °C (-40 ... 185 °F) |
| Mechanical specifications | |
| Degree of protection | IP65 |
| Connection | 5-pin V15 (M12 x 1) connector |
| Material | |
| Housing | PBT, stainless steel 1.4571 |
| Transducer | PTFE (diaphragm surface) |
| Mass | 220 g |
| Mounting | G1½A connection |
| Compliance with standards and directives | |
| Standard conformity | |
| Standards | EN 60947-5-2:2007 + A1:2012 IEC 60947-5-2:2007 + A1:2012 EN 60947-5-7:2003 IEC 60947-5-7:2003 |
| Approvals and certificates | |
| CCC approval | CCC approval / marking not required for products rated ≤36 V |

Dimensions



Electrical Connection

Standard symbol/Connection:



Core colours in accordance with EN 60947-5-2.

Pinout

Connector V15



Accessories

UC-30GM-PROG

LUC4-Z30-G2V

LUC4-Z30-N2V

V15-G-2M-PVC

Female cordset, M12, 5-pin, PVC cable

UC-30GM-TEMP

Temperature sensor

Product description:

The LUC4T-... ultrasonic sensor is especially designed to measure the fill level of liquids. With its Teflon-coated surface, the sensor is outstandingly suited for use with corrosive liquids. The masking of fixed objects permits the sensor to be deployed in locations in which struts or other internal structures extend into the measuring field. Sensors of the LUC4T-... series feature a 4 mA ... 20 mA current and 0 V ... 10 V voltage output as standard. The outputs have fail-safe behaviour in the event of a fault.

Function

The ultrasonic converter sends out an acoustic pulse. This pulse is reflected by the contents of the container and registered by the converter after traveling the measurement distance.

A microprocessor evaluates the echo signals and determines the fill level.

Sources of interference such as weld seams, fixed installations, etc. are suppressed reliably via the masking of fixed objects.

Temperature-related changes of the velocity of sound are compensated.

Measuring system:

A measuring system consists of a LUC4T-...-IU-V15 ultrasonic level sensor and a DA5... display unit or power supply. The LUC4T-...-IU-V15 ultrasonic level sensor can also be connected directly to a PLC.

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Compensation:

| Compensation (not installed) | Compensation (installed) | Plug position |
|--|--|---------------|
| 1. Empty TEACH-IN simulation of 0 % level (wait 15 s) | 1. Empty TEACH-IN approach 0 % level in container (wait 15 s) | T |
| Accept empty value Empty value accepted (red LED flashing) Empty TEACH-IN complete | Accept empty value Empty value accepted (red LED flashing) Empty TEACH-IN complete | A1 A1 T |
| 2. Full TEACH-IN simulation of 100 % level (wait 15 s) | 2. Full TEACH-IN approach 100 % level in container (wait 15 s) | T |
| Accept full value Full value accepted (red LED flashing) Full TEACH-IN complete | Accept full value Full value accepted (red LED flashing) Full TEACH-IN complete | A2 A2 T |
| TEACH-IN complete | TEACH-IN complete | T |

Caution

The connection "Echo" (Pin 5) is only for diagnosis purposes. It has to be left unconnected. A short circuit or the connection of a voltage to the connection "Echo" (Pin 5) can cause damage to the sensor!

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