

1) Ultrasonic transducer axis, 2) Exit direction 90° connector, 3) Display and control panel



IND. CONT. EQ  
5HP6  
for use in the secondary of  
a class 2 source of supply

### Basic features

Application	Distance measurement Object detection
Approval/Conformity	cULus LISTED CE EAC WEEE
Operating mode	Refl.light scanner (window) Reflectionlight scanner (switching point) Retro-reflector Analog measurement (output curve)
Series	M30M1

### Display/Operation

Adjuster	Key (2x)
Setting	Response delay 0 to 20 s Filter strength (10 levels) Segment displ. bright/dark/off Foreground suppression range Multiplex sensor address Sensor calibration Temperature comp. on/off Output curve rising/falling Analog output U/I/Auto Segment display mode Synchronous/Multiplex mode Synchronization on/off Multiplex speed Measured value filter Hysteresis Key disable on/off Normally open/Normally closed Switching distance, 2 values Operating mode Detection range (3 levels) Teach-in mode display/button Factory setting (Reset) Output curve window

### Electrical connection

Connection	M12x1-Male, 5-pin
Polarity reversal protected	yes
Short-circuit protection	yes

Ultrasonic Sensors  
**BUS M30M1-PPC-03/025-S92K**  
Order Code: BUS002L

**BALLUFF**

#### Electrical data

Current draw max.	80 mA
Hysteresis H max.	3 mm
Input function	Synchronization signal
Load resistance RL max. (Analog I)	500 Ohm at UB 20 V 100 Ohm at UB 20 V
Load resistance RL min. (Analog V)	100 kOhm at UB 15 V
Operating voltage Ub	9...30 VDC
Output current max.	200 mA
Rated operating voltage Ue DC	24 V
Switching frequency	25 Hz
Synchronization	internal, max. 10 sensors
Ultrasonic Frequency	320 kHz

#### Environmental conditions

Ambient temperature	-25...70 °C
Protection degree	IP67
Storage temperature	-40...85 °C

#### Functional safety

MTTF (40 °C)	1483 a
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#### Material

Housing material	Brass PBT, TPU
Material sensing surface	PU foam/Epoxy resin/Glass
Surface protection	nickel plated

#### Mechanical data

Dimension	Ø 30 x 94.5 mm
Mounting	Nut M30x1.5

#### Output/Interface

Analog output	Analog, voltage/Analog, current 0...10 V/4...20 mA
Output characteristic	linear rising/falling
Switching output	PNP normally open/normally closed (NO/NC)

#### Range/Distance

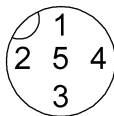
Range	30...350 mm
Rated operating distance Sn	250 mm
Repeat accuracy	± 0.15 %FS
Resolution	≤ 0.025 mm

#### Remarks

Do not press key using a pointed tool.  
For additional information, refer to user's guide.  
Order accessories separately.  
The sensor is functional again after the overload has been eliminated.  
Reference object for Sn: tube Ø10mm. Max. range refers to the aligned plate.  
For more information about MTTF and B10d see MTTF / B10d Certificate

Indication of the MTTF- / B10d value does not represent a binding composition and/or life expectancy assurance; these are simply experiential values with no warranty implications. These declared values also do not extend the expiration period for defect claims or affect it in any way.

### Connector Drawings



The diagram shows a Wheatstone bridge circuit. A variable resistor (represented by a rectangle with a diagonal arrow) is connected between terminals 1 and 2. A load resistor  $R_L$  is connected between terminals 4 and 5. The bridge is powered by a voltage source  $U$  connected between terminals 3 and 4. The output voltage  $I/U$  is measured across the load resistor  $R_L$  between terminals 5 and 6. The common terminal is labeled  $0V$ .

Technical drawing of a garment pattern on a grid. The grid has a vertical axis from 0 to 35 cm and a horizontal axis from -10 to 10 cm. The pattern is a long, narrow piece with a central opening. Labels indicate "ausgerichtete Platte" and "Rohr ø 10 mm".

Diagram showing the front view of the measurement device with the following labels:

- 3 stell. LED Anzeige
- Messbereich
- cm mm %
- Taster T1
- T1 D1 D2 T2
- Taster T2
- LED D1
- LED D2