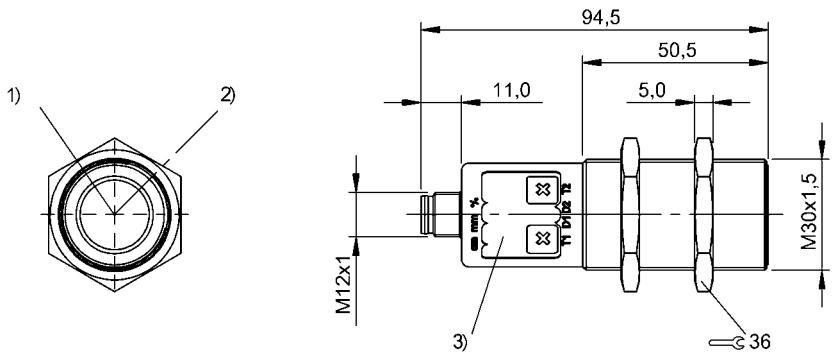


Ultrasonic Sensors  
BUS M30M1-PWC-20/130-S92K  
Order Code: BUS003N



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



Basic features

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

Display/Operation

Adjuster	Key (2x)
Display	Distance value - segment display Output function- LED yellow Object not in range - LED red Object in range - LED green Sensor settings - segment display
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

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**BALLUFF**

#### Electrical connection

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

#### Electrical data

Current draw max.	80 mA
Hysteresis H max.	20 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	8 Hz
Synchronization	internal, max. 10 sensors
Ultrasonic Frequency	200 kHz

#### Environmental conditions

Ambient temperature	-25...70 °C
IP rating	IP67
Storage temperature	-40...85 °C

#### Functional safety

MTTF (40 °C)	1483 a
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#### Interface

Analog output	Analog, voltage/Analog, current 0...10 V/4...20 mA
Output characteristic	linear rising/falling
Switching output	2x PNP normally open/normally closed (NO/NC)

#### Material

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

#### Mechanical data

Dimension	Ø 30 x 94.5 mm
Mounting part	Nut M30x1.5

#### Range/Distance

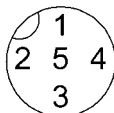
Measuring range	200...2000 mm
Rated operating distance Sn	1300 mm
Repeat accuracy	± 0.15 %FS
Resolution	≤ 0.180 mm

#### 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 Ø27mm. 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.

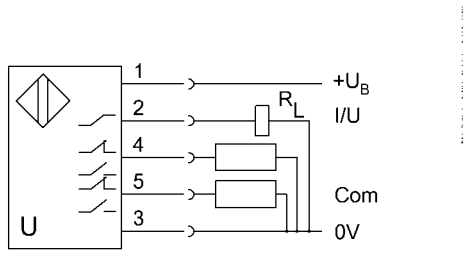
#### Connector Drawings



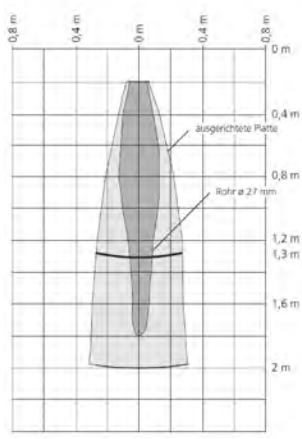
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Wiring Diagrams



Technical Drawings



Help Views

