Baumer
Passion for Sensors

Ultrasonic proximity sensors

UR12.P50-GP1C.7BF

Article number: 11704835

Overview

- Fastest limit value detection due to extremely short response times
- Flexible parameterization and additional diagnostic data thanks to IO-Link
- Shortest blind zone in its class
- High performance in compact housing

CE c(UL)us IO-Link

Technical data

General data

Scanning range Sd	15 … 500 mm
Scanning range close limit Sdc	15 … 500 mm
Scanning range far limit Sde	15 … 500 mm
Version	IO-Link Multiplex version
Hysteresis typ.	4 % Sde
Repeat accuracy	< 0.5 mm
Temperature drift	> 50 mm < 2 % of distance to target Sde < 50 mm ± 1 mm
Power-up drift	Compensated after 15 min.
Response time ton/toff min	< 16 ms
Response time ton/toff standard	< 40 ms
Sonic frequency	290 kHz
Adjustment	line-Teach, IO-Link
Light indicator	LED yellow
Power on indication	LED green
Alignment measuring axis	< 2°
Resolution	< 0.3 mm

Electrical data

Voltage supply range +Vs	12 … 30 VDC
Current consumption typ.	35 mA
Output circuit	Push-pull
Output current	100 mA
Voltage drop Vd	<3 VDC
Residual ripple	< 10 % Vs
Short circuit protection	Yes
Reverse polarity protection	Yes, Vs to GND

Communication interface

Interface	IO-Link V1.1
Baud rate	38,4 kBaud (COM 2)
Cycle time	≥ 8 ms
Process data length	48 Bit
Process data structure	Bit 0 = SSC1 (distance) Bit 1 = SSC2 (distance) Bit 2 = quality Bit 3 = alarm Bit 5 = SSC4 (counter) Bit 8-15 = scale factor Bit 16-47 = 32 Bit measurement
IO-Link port type	Class A
Additional data	Distance Excess gain Operating cycles Operating hours Boot cycles Operating voltage Device temperature Histograms
Adjustable parameters	Time filters LED status indicators Output logic Output circuit Counter Beam forming Deactivate the sensor element Find Me function
IO-Link	Yes

Mechanical data

Design	Cylindrical threaded
Housing material	Brass nickel plated
Width / diameter	12 mm
Height / length	50 mm

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Connection types	Connector M12 5 pin
Tightening torque max.	15 Nm (Front: 10 Nm)

Ambient conditions

Operating temperature	-25 … +65 °C
Storage temperature	-40 … +75 °C
Protection class	IP 67

Dimension drawing

M12 x 1

3 x LED   SW 17

M12 x 1

35

49.6

Connection diagram

Push Pull

BN (1) — +Vs
WH (2) — n.c.
BK (4) — IO-Link / output
BU (3) — 0 V
GY (5) — control

Pin assignment

2
5
3   1
4
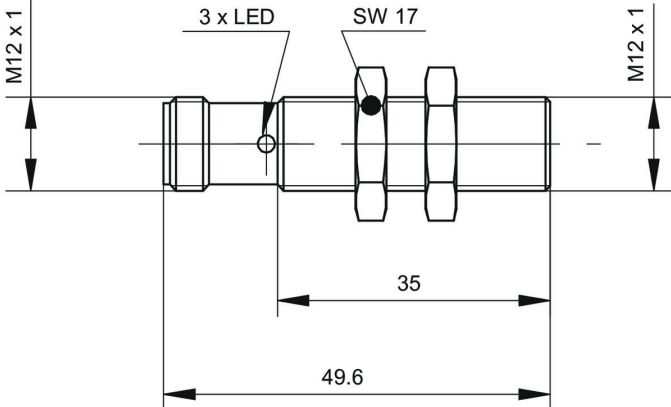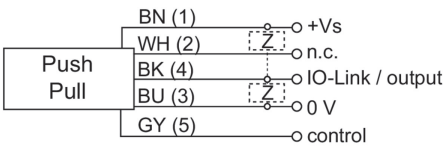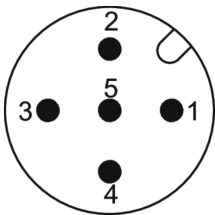
Typical sonic cone profile

lateral distance to reference axis (mm)

sensing limit
— narrow
— medium
— wide

object distance (So) from sensor front (mm)
standard target with 30 x 30 mm, directed rectangular to sensor's reference axis