

Model Number

OBE20M-R100-SEP-IO-V3-L

Laser thru-beam sensor with 3-pin, M8 x 1 connector

Features

- Miniature design with versatile • mounting options
- DuraBeam Laser Sensors durable ٠ and employable like an LED
- IO-link interface for service and • process data
- Various frequencies for avoiding mutual interference (cross-talk immunity)
- Extended temperature range -40°C ... 60°C
- High degree of protection IP69K

Product information

The R100 series miniature optical sensors are the first devices of their kind to offer an end-to-end solution in a small single standard design - from thru-beam sensor through to a distance measurement device. As a result of this design, the sensors are able to perform practically all standard automation tasks.

The entire series enables sensors to communicate via IO-Link.

The DuraBeam laser sensors are durable and can be used in the same way as a standard sensor.

The use of Multi Pixel Technology gives the standard sensors a high level of flexibility and enables them to adapt more effectively to their operating environment.





Electrical connection emitter



Electrical connection receiver



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Pinout



dance with EN 60947-5-2 Wire colors in acco BN BU BK (brown) (blue) (black)

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Indicators/operating means Laserlabel Emitter Operating indicator 1 CLASS 1 I, T, I ASER 1 PRODUCT Receiver 1 2 Light-on/Dark-on changeover switch 1 CLASS 1 2 Sensitivity adjuster LASER PRODUCT Ø 3 Operating indicator / dark on T IEC 60825-1: 2007 certified. (\mathbb{P}) i ti 4 4 Complies with 21 CFR 1040.10 and 1040.11 except Signal indicator 5 Operating indicator / light on for deviations pursuant to Laser Notice No. 50, dated June 24, 2007 5 CLASS 1 LASER PRODUCT IEC 60825-1: 2007 certified. Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007 Accessories V3-WM-2M-PUR Cable socket, M8, 3-pin, PUR cable V3-GM-2M-PUR Cable socket, M8, 3-pin, PUR cable IO-Link-Master02-USB

IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection

OMH-R10X-01 Mounting bracket

OMH-R10X-02 Mounting bracket

OMH-R10X-04 Mounting bracket

OMH-R10X-10 Mounting bracket

OMH-ML100-03 Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

OMH-ML100-031 Mounting aid for round steel

 Mounting aid for round steel

 Ø 10 ... 14 mm or sheet 1 mm ... 5 mm

 Other suitable accessories can be found at 5

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System OBE20M-R100-EP-0/0-4. Benearier OBE20M-R100-EP-0/0-4. Ceneral spocifications range 020 m Threshold detection range 020 m Laser rolmain ratings Laser rolmain ratings Laser rolmain ratings 5 mrad : d63 < 2 mm in the range of 250 mm750 mm Beam divergence > 5 mrad : d63 < 2 mm in the range of 250 mm750 mm Pate length 1.6 ga Repetition rate max. 17.6 kHz max. puble energy 9.6 n.J Angle of divergence approx. 50 mm at a distance of 20 m Angle of divergence approx. 50 mm at a distance of 20 m Angle of divergence approx. 50 mm at a distance of 20 m Marge of divergence approx. 50 mm at a distance of 20 m Masien Time (Tm) 20 a Diagnostic Coverage (DC) 0 % Indicators/ persition made Baser (dot 40 membra energitistic (HD) = 0.Link mode Procein olacator Reselener, isphy danser Operation	Technical data		
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Ambient conditions	-		

Refer to "General Notes Relating to Pepperl+Fuchs Product Information". Pepperl+Fuchs Group www.pepperl-fuchs.com

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Ambient temperature	-40 60 °C (-40 140 °F)
Storage temperature	-40 70 °C (-40 158 °F)
Mechanical specifications	
Housing width	11 mm
Housing height	37.1 mm
Housing depth	21.5 mm
Degree of protection	IP67 / IP69 / IP69K
Connection	M8 x 1 connector, 3-pin
Material	
Housing	PC (Polycarbonate)
Optical face	PMMA
Mass	Emitter: approx. 10 g receiver: approx. 10 g

Approvals and certificates

UL approval FDA approval E87056 , cULus Listed , class 2 power supply , type rating 1 IEC 60825-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007

Curves/Diagrams





Functions and Operation



4

- 1 Light-on / dark-on changeover switch
- 2 Sensing range / sensitivity adjuster
- 3 Operating indicator / dark on
- 4 Signal indicator
- 5 Operating indicator / light on

To unlock the adjustment functions turn the sensing range /sensitivity adjuster for more than 180 degrees.

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Sensing Range / Sensitivity

Turn sensing range / sensitivity adjuster clockwise to increase sensing range / sensitivity.

Turn sensing range / sensitivity adjuster counter clockwise to decrease sensing range / sensitivity.

If the end of the adjustment range is reached, the signal indicator starts flashing with 8 Hz.

Light-on / Dark-on Configuration

Press the light-on / dark-on changeover switch for more than 1 second (less than 4 seconds). The light-on / dark-on mode changes and the operating indicators are activated accordingly.

If you press the light-on / dark-on changeover switch for more than 4 seconds, the light-on /dark-on mode changes back to the original setting. On release of the light-on / dark-on changeover switch the current state is activated.

Restore Factory Settings

Press the light-on / dark-on changeover switch for more than 10 seconds (less than 30 seconds) until all LEDs turn off. On release of the light-on / dark-on changeover switch the signal indicator turns on. After 5 seconds the sensor resumes operation with factory default settings.

After 5 minutes of inactivity the sensing range / sensitivity adjustment is locked. In order to reactivate the sensing range / sensitivity adjustment, turn the sensing range /sensitivity adjuster for more than 180 degrees.

