

Distance sensor OMT100-R101-EP-IO-V3-L



- Miniature design with versatile mounting options
- Space-saving distance sensors in small standardized design
- Multi Pixel Technology (MPT) exact and precise signal evaluation
- DuraBeam Laser Sensors durable and employable like an LED
- IO-Link interface for service and process data

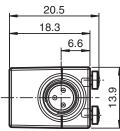
Measurement to object, 100 mm detection range, red laser light, laser class 1, measured value via IO-Link, push-pull output, M8 plug

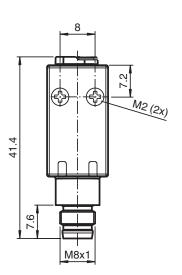


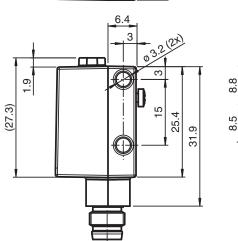
The miniature optical sensors are the first devices of their kind to offer an end-to- end solution in a small single standard design — from thru-beam sensor through to a distance measurement device. As a result of this design, the sensors are able to perform practically all standard automation tasks.

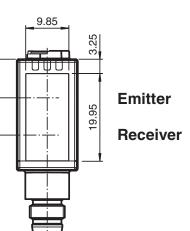
The DuraBeam laser sensors are durable and can be used in the same way as a standard sensor. The use of Multi Pixel Technology gives the standard sensors a high level of flexibility and enables them to adapt more effectively to their operating environment.

Dimensions











Technical Data

General specifications	
Measurement range	40 100 mm
Reference target	standard white, 100 mm x 100 mm
Light source	laser diode
Light type	modulated visible red light
Laser nominal ratings	
Note	LASER LIGHT , DO NOT STARE INTO BEAM
Laser class	1
Wave length	680 nm
Beam divergence	> 5 mrad d63 d63 < 1 mm in the range of 50 mm 250 mm
Pulse length	3 µs
Repetition rate	approx. 3 kHz
max. pulse energy	15.2 nJ
Angle deviation	max. +/- 1.5 °
Diameter of the light spot	approx. 3 mm at a distance of 100 mm
Opening angle	approx. 2 °
Ambient light limit	EN 60947-5-2 : 30000 Lux
Resolution	0.1 mm
Functional safety related parameters	
MTTF _d	560 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Release date: 2023-03-28 Date of issue: 2023-03-28 Filename: 267075-100099_eng.pdf

USA: +1 330 486 0001 fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111 fa-info@de.pepperl-fuchs.com Singapore: +65 6779 9091 fa-info@sg.pepperl-fuchs.com

Technical Data

Operation indicator LED prever matching (H2) - short errors in a bing (H1) - short errors in a bing (H1) - short errors errors errors in a bing (H1) - short error in a bing	Indicators/operating means		
Function indicator constanting only - power on listing of AP-1 short croat in the output interface Function indicator LED yallow constantify off - switch output active constantify off - switch output interface Control elements Estep ratio Control elements Estep ratio Deparating voltage U U 10 30 V DC Ripple max. 10 % Protection class III Interface III Interface type O-Link (vin C/G = pin 4) O-Link revision 1.1 Device protein Smart Sensor Device protein Ox 110604 (1116420) Transfer rate COM2 (20.4 KB/s) Min. cycle time Smart Sensor Device ID Ox 110604 (1116420) Transfer rate COM2 (20.4 KB/s) Min. cycle time Smart Sensor Device ID Ox 110604 (1116420) Transfer rate COM2 (20.4 KB/s) Silf mode support A Compatible master port type A Output The default setting is: Coli = Pinkt HPN normally open, PNP normally closed, IO-Link			
constantio constantio Control elements Electrical specifications Depending voltage Us Dynaming voltage Us Dynaming voltage Us Operating voltage Us Protection class III Method supply current Us Protection class III Interface III Protection class III Interface type IO-Link (via C/Q = pin 4.) O-Link revision I.1 Device profile Smart Sensor Device profile COMZ (34. kBit/s) Min. cycle time Godd supply Process data width Process data output 2 Bit SiO mode support A Output Yes Compatible master port type A Output The default setting is: Color profile godd godd In use, solt-C-criat protected, reverse polarity protected, orverse polarity protected, orverse polarity protected, orverse polarity protected, orverse polarity protected, reverse polarity protected, orverse polarity protected, orv			constantly on - power on flashing (4Hz) - short circuit
Control elements 5-step rotary switch for operating modes selection Electrical specifications U Operating votorage U Ripple max. 10 % No-load supply current Ig Interface III Interface type 0-Link (via C/Q = pin 4) IO-Link revision 1.1 Device profile Smart Sensor Device profile CoM2 (38.4 kBit/s) Min. opta time 3 ms Process data width Process data output 2 Bit Silo mode support yes Comput yes Computs The default setting is: CoC Pinet. NPN normally closed, IO-Link Silgnal output yes Switching votage max. 30 V DC Switching votage max. 30 V DC Repose sitta width pubs-level ID Output Switching output, short-circuit protected, reverse polarity protected, reverse polarity protected, overvoltage protected Switching votage max. 30 V DC Reponse time 2 ms Control standard EC 61131-9 Product standard EN 60047-5-2 Laser safety <t< td=""><td>Function indicator</td><td></td><td>constantly on - switch output active</td></t<>	Function indicator		constantly on - switch output active
Electrical specifications units Operating voltage Ua 1030 V DC Ripple max. 10 % No-load supply current Ib Protection class III Interface III Interface III Device profile Smart Sensor Device ID Oct.Ink (via C/Q = pin 4) IO-Link revision 1.1 Device profile Smart Sensor Device ID COM2 (38.4 KBit/s) Min. cycle time 3 ms Process data width Process data input 3 Byte Process data width Yes Compatible master port type A Output COV Pink: NPN normally open, PNP normally closed, IO-Link Silor node support Querrolitage protected Switching type COV Pink: NPN normally open, PNP normally closed, IO-Link Signal output 1 push-puil (4 in 1) output, short-circuit protected, reverse polarity protected, overvoltage protected Switching voltage max. 100 mA, resistive load Usage catagory DC-13 Voltage drop Ug Voltage torp Ug Temperature drift 0.03 %/K Warm up ine 5 min Response time 2 ms Conformity EN 60	Control elements		Teach-In key
Operating voltage Ua 1030 V DC Ripple max. 10 % No-load supply current Ua <2.5 m at 24 V supply voltage	Control elements		5-step rotary switch for operating modes selection
Pipple max: 10 % No-load supply current I,0 Protection class III Interface III Interface type IO-Link (via C/Q = pin 4.) O-Link version 1.1 Device profile Smart Sensor Device ID Ox110904 (1116420) Transfer rate COM2 (8.4 KBH\$) Min. cycle time 3 ms Process data width Process data input 3. Byte Process data supply current yes Compatible master portype A Output C/Q - Pin4: NPN normally open, PNP normally closed, IO-Link Signal output C/Q - Pin4: NPN normally open, PNP normally closed, IO-Link Signal output C/Q - Pin4: NPN normally open, PNP normally closed, IO-Link Signal output 1 push-put (4 in 1) output, short-circuit protected, reverse polarity protected, overvice approtected Switching vortage max: 30 V DC Switching output DC-12 ad DC-13 Voltage drop U _a Conformity EIE 61131-9 Product standard EIE 06131-9 Laser sately EN 60947-5-2 Laser sately EN 60947-5-2 Laser sately EIE 61002 - 120 - 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 10000, 1000, 1000, 1000, 1000, 1000, 1000	Electrical specifications		
No-load supply current Is <25 mA at 24 V supply voltage	Operating voltage	UB	10 30 V DC
Protection class III Interface Interface type Interface type IO-Link (via C/Q = pin 4) IO-Link revision 1.1 Device ID Ox 110904 (1116420) Transfer rate COM2 (38.4 KBu/s) Min. cycle time 3 ms Process data width Process data inpul 3 Byte Process data width Process data inpul 3 Byte Process data width Process data output 2 Bit SIO mode support yes Compatible master port type A Output Output Switching type CQ - Pin4: NPN normally copen, PNP normally closed, IO-Link Signal output 1 push-pull (4 in 1) output, short-circuit protected, reverse polarity protected, overvoltage protected Switching voltage max. 300 MC Switching current max. 300 MA, resistive load Usage category DC-12 and DC-13 Voltage drop Ua Communication interface IEC 61131-9 Product standard EN 60825-12014 Measurement accuracy 40.5 % Linearly error 40.5 % Linearly error 40.5 % Linearly error 40.5 % Linearly error 40.5 % Lineardy error 40.75 % Aperotal	Ripple		max. 10 %
InterfaceInterface typeIO-Link (via C/Q = pin 4)IO-Link revision1.1Device profileSmart SensorDevice IDOx110904 (1116420)Transfer rateCOM2 (38.4 kBv/s)Min. cycle time3 msProcess data widthProcess data in ulpu 2 BitSIO mode supportyesCompatible master port typeAOutputSignal output 2 BitSwitching typeThe default setting is: C/Q - Fin4: NPN normally open, PNP normally closed, IO-LinkSignal outputI push-pul (4 in 1) output, short-circuit protected, reverse polarity protected, overvolage protectedSwitching voltagemax. 30 V DCSwitching surgerUg ≤ 1.5 V DCResponse timeZmsCommunication interfaceIEC 61131-9Product standardEN 60825-1:2014Measurement accuracy< 0.5 %	No-load supply current	I ₀	< 25 mA at 24 V supply voltage
Interface type IO-Link (via C/Q = pin 4.) IO-Link revision I.1 Device profile Smart Sensor Device ID Oxt1004 (1116420) Transfer rate COM2 (38.4 kBi/s) Min. cycle time 3 ms Process data width Process data input 3 Byte Process data output 2 Bit SIO mode support Jyse SiO mode support Jyse Compatible master port type A Output The default setting is: C/Q - Pin4: NPN normally open, PNP normally closed, IO-Link Signal output Ipush-pul (4 in 1) output, short-circuit protected, reverse polarity protected, overvoltage protected Switching voltage max. 30 V DC Switching current Imax. 100 mA, resistive load Usage category DC-12 and DC-13 Voltage drop U _g < 1.5 V DC	Protection class		III
IO-Link revision 1.1 Device profile Smart Sensor Device ID 0x110904 (1116420) Transfer rate COM2 (38.4 KB/rs) Min. cycle time 3 ms Process data width Process data input 3 Byte Process data upt 2 Bit StO mode support yes Compatible master port type A Output Signal output. Short-circuit protected, reverse polarity protected, overvoltage protected Switching type CQ - Pink: PIN normally open, PIN P normally closed, IO-Link Signal output 1 push-pull (4 in 1) output, short-circuit protected, reverse polarity protected, overvoltage protected Switching voltage max. 30 V DC Switching urrent max. 30 V DC Response time 2 ms Conformity Communication interface Product standard EN 60947-5-2 Laser safety EN 60947-5-2 Laser safety EN 60947-5-2 Usage couracy 20.5 % Linearity error ± 0.75 % Approval ES 7056 , cULus Listed , class 2 power supply , type rating 1 EDA approval ES 7056 , cULus Listed , class 2 power supply , type rationg 1 EDA ap	Interface		
Device profile Smart Sensor Device ID 0x110904 (1116420) Transfer rate COM2 (38.4 kBit/s) Mn. cycle time 3 ms Process data width Process data input 3 Byte Process data width Process data input 3 Byte Process data width Process data output 2 Bit SIO mode support yes Compatible master port type A Output Switching type Switching type The default setting is: C/Q - Pin4: NPN normally open, PNP normally closed, IO-Link Signal output 1 push-pull (4 in 1) output, short-circuit protected, reverse polarity protected, overenoidage protected Switching outrat max. 30 V DC Switching outrat max. 30 V DC Switching outrat max. 30 V DC Switching outrat Ext op C-13 Voltage drop U ₄ ≤ 1.5 V DC Response time 2 ms Conformity Ext op C-13 Wota standard EN 60825-1:2014 Measurement accuracy ≤0.5 % Laser safety EN 60825-1:2014 Measurement accuracy ≤0.5 % Linearity error ±0.75 %	Interface type		IO-Link (via $C/Q = pin 4$)
Device ID 0x110904 (1116420) Transfer rate COM2 (8.4 kBit/s) Min. cycle time 3 ms Process data input 3 Byte Process data output 2 Bit SIO mode support A Compatible master port type A Output The default setting is: C/C - Pin4: NPN normally open, PNP normally closed, IO-Link Signal output 1 push-pull (4 in 1) output, short-circuit protected, reverse polarity protected, overvoltage protected Switching voltage max. 30 V DC Switching outge max. 100 mA, resistive load Usage category DC-12 and DC-13 Voltage drop U, a 1.5 V DC Response time 2 ms Conformity EN 60947-5-2 Laser safety EN 60947-5-2 Laser safety EN 60947-5-2 Measurement accuracy ≤ 0.5 % Linearity error ± 0.75 % Approval sand certificates EIC 60926, cULus Listed, class 2 power supply, type rating 1	IO-Link revision		1.1
Transfer rateCOM2 (38.4 kBit/s)Min. cycle time3 msProcess data widthProcess data input 3 Byte Process data output 2 BitSilO mode supportyesCompatible master port typeAOutput $C(Q - Pin4: NPN normally open, PNP normally closed, IO-LinkSignal output1 push-pull (4 in 1) output, short-circuit protected, reverse polarity protected,overoitage protectedSwitching votagemax. 30 V DCSwitching output1 push-pull (4 in 1) output, short-circuit protected, reverse polarity protected,overoitage protectedSwitching ourgemax. 30 V DCSwitching ourgemax. 100 mA, resistive loadUsage categoryDC-12 and DC-13Voltage dropUd4 ≤ 1.5 V DCResponse time2 msContentityCommunication interfaceProduct standardEIC 61131-9Product standardEIC 61131-9Product standard0.03 %/KWarm up time5 minRepeat accuracy< 0.5 %Linearity error< 0.75 %Approvals and certificatesIEC 60025-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviationspuscuant to Lase 2 power supply, type rating 1FDA approvalEEC 60025-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviationspuscuant to Lase 2 power supply, type rating 1FDA approvalEEC 60025-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviationspuscuant to Lase 2 power supply, type rating 1FDA approvalEEC 60025-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviationspuscuan$	Device profile		Smart Sensor
Min. cycle time 3 ms Process data width Process data input 3 Byte Process data output 3 Byte Process data output 2 Bit SIO mode support yes Compatible master port type A Output The default setting is: Switching type The default setting is: C/Q - Pin4: NPN normally open, PNP normally closed, IO-Link Signal output 1 push-pull (4 in 1) output, short-circuit protected, reverse polarity protected, overollage protected Switching vortage max. 30 V DC Switching current Imax. 100 mA, resistive load Usage category DC-12 and DC-13 Voltage drop Ug 4 : 1.5 V DC Response time 2 ms Communication interface IEC 61131-9 Product standard EN 60947-5-2 Laser safety EN 60825-1:2014 Measurement accuracy < 0.5 %	Device ID		0x110904 (1116420)
Process data width Process data input 3 Byte Process data output 2 Bit SIO mode support yes Compatible master port type A Output The default setting is: C/O - Pin4: NPN normally open, PNP normally closed, IO-Link Signal output 1 push-pull (4 in 1) output, short-circuit protected, reverse polarity protected, overvoltage protected Switching votage max. 30 V DC Switching current Imax. 100 mA, resistive load Usage category DC-12 and DC-13 Votage drop Ug Still communication interface IEC 61131-9 Product standard EN 60947-5-2 Laser safety EN 60947-5-2 Measurement accuracy ≤ 0.5 % Linearity error ± 0.75 % Approvals and certificates E87056, cULus Listed , class 2 power supply, type rating 1 IPA approval E87056, cULus Listed , class 2 power supply, type rating 1 PDA approval E87056, cULus Listed , class 2 power supply, type rating 1 PDA approval E87056, cULus Listed , class 2 power supply, type rating 1 PDA approval E87056, cULus Listed , class 2 power supply, type rating 1 PDA approval E87056, cULus Listed , class 2 power supply, type rating 1 PDA approval E87056, cULus Listed , class 2 power supply, type rating 1 PDA approval E87056, cULus List	Transfer rate		COM2 (38.4 kBit/s)
Process data oùtput 2 Bit SIO mode support yes Compatible master port type A Output The default setting is: C/Q - Pin4: NPN normally open, PNP normally closed, IO-Link Signal output 1 push-pull (4 in 1) output, short-circuit protected, reverse polarity protected, overvoltage protected Switching outge max. 30 V DC Switching current (max. 100 mA, resistive load Usage category DC-12 and DC-13 Voltage drop Ug Response time 2 ms Communication interface IEC 61131-9 Product standard EN 60947-5-2 Laser safety EN 60825-1:2014 Measurement accuracy ≤ 0.5 % Linearity error = 0.75 % Approvals and certificates E87056, cULus Listed , class 2 power supply , type rating 1 IE Approval E87056, cULus Listed , class 2 power supply , type rating 1 ED Approval E87056, cULus Listed , class 2 power supply , type rating 1 FDA approval E87056, cULus Listed , class 2 power supply , type rating 1 ED Approval E87056, cULus Listed , class 2 power supply , type rating 1 ED Approval E87056, cULus Listed , class 2 power supply , type rating 1 <	Min. cycle time		3 ms
Compatible master port typeAOutputSwitching typeThe default setting is: $C/C - Pin4$: NPN normally open, PNP normally closed, IO-LinkSignal output1 push-pull (4 in 1) output, short-circuit protected, reverse polarity protected, overvoltage protectedSwitching voltagemax. 30 V DCSwitching currentmax. 100 mA, resistive loadUsage categoryDC-12 and DC-13Voltage dropU_d< 1.5 V DC	Process data width		
Output The default setting is: C/Q - Pin4: NPN normally open, PNP normally closed, IO-Link Signal output 1 push-pull (4 in 1) output, short-circuit protected, reverse polarity protected, overvoltage protected Switching voltage max. 30 V DC Switching current 1 max. 100 mA, resistive load Usage category DC-12 and DC-13 Voltage drop Ua < 1.5 V DC	SIO mode support		yes
Switching type The default setting is: C/Q - Pin4: NPN normally open, PNP normally closed, IO-Link Signal output 1 push-pull (4 in 1) output, short-circuit protected, reverse polarity protected, overootlage protected Switching voltage max. 30 V DC Switching current max. 100 mA, resistive load Usage category DC-12 and DC-13 Voltage drop U _q Response time 2 ms Conformity Conformity Communication interface IEC 61131-9 Product standard EN 60947-5-2 Laser safety EN 60825-1:2014 Measurement accuracy ≤ 0.5 % Warm up time 5 min Repeat accuracy ≤ 0.5 % Linearity error ± 0,75 % Approval 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 Ambient temperature 10 60 °C (50 140 °F) Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications -40 70 °C (-40 158 °F)	Compatible master port type		A
C/Q - Pin4: NPN normally open, PNP normally closed, IO-LinkSignal output1 push-pull (4 in 1) output, short-circuit protected, reverse polarity protected, overvoltage protectedSwitching ourrentmax. 30 V DCSwitching currentmax. 100 mA, resistive loadUsage categoryDC-12 and DC-13Voltage dropUdQ d < 1.5 V DC	Output		
Switching voltage overvoltage protected Switching voltage max. 30 V DC Switching current max. 100 mA, resistive load Usage category DC-12 and DC-13 Voltage drop Ud ≤ 1.5 V DC Response time 2 ms Conformity Conformity Communication interface IEC 61131-9 Product standard EN 60947-5-2 Laser safety EN 60825-1:2014 Measurement accuracy EN 60825-1:2014 Warm up time 5 min Repeat accuracy ≤ 0.5 % Linearity error ± 0.75 % Approvals and certificates 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 Mabient temperature 10 60 °C (50 140 °F) Storage temperature 40 70 °C (-40 158 °F) Mechanical specifications Housing width	Switching type		The default setting is: C/Q - Pin4: NPN normally open, PNP normally closed, IO-Link
Switching currentmax. 100 mA, resistive loadUsage categoryDC-12 and DC-13Voltage dropU_d ≤ 1.5 V DCResponse time2 msConformityConformityCommunication interfaceIEC 61131-9Product standardEN 60947-5-2Laser safetyEN 60825-1:2014Measurement accuracy ≤ 0.03 %/KWarm up time5 minRepeat accuracy ≤ 0.5 %Linearity error ± 0.75 %Approvals and certificatesIEC 60825-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007Ambient temperature10 60 °C (50 140 °F)Storage temperature $\sim 40 70$ °C (-40 158 °F)Mechanical specificationsHousing widthHousing width13.9 mm	Signal output		
Usage categoryDC-12 and DC-13Voltage drop U_d ≤ 1.5 V DCResponse time2 msConformityEC 61131-9Communication interfaceIEC 61131-9Product standardEN 60947-5-2Laser safetyEN 60825-1:2014Measurement accuracyTemperature drift0.03 %/KWarm up time5 minRepeat accuracy ≤ 0.5 %Linearity error $\leq 275 \%$ Approvals and certificatesUL approvalE87056, cULus Listed, class 2 power supply, type rating 1FDA approval126 C6825-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007Ambient temperature10 60 °C (50 140 °F)Storage temperature $\sim 40 70 °C (-40 158 °F)$ Mechanical specifications13.9 mm	Switching voltage		max. 30 V DC
Voltage dropUd $\leq 1.5 \text{ V DC}$ Response time2 msConformityCommunication interfaceIEC 61131-9Product standardEN 60947-5-2Laser safetyEN 60825-1:2014Measurement accuracyTemperature drift0.03 %/KWarm up time5 minRepeat accuracy $\leq 0.5 \%$ Linearity error $\pm 0.75 \%$ Approvals and certificatesUL approvalE87056, cULus Listed, class 2 power supply, type rating 1FDA approvalIEC 60825-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007Ambient temperature10 60 °C (50 140 °F)Storage temperature $40 70 °C (-40 158 °F)$ Mechanical specifications13.9 mm	Switching current		max. 100 mA , resistive load
Response time2 msConformityCommunication interfaceIEC 61131-9Product standardEN 60947-5-2Laser safetyEN 60825-1:2014Measurement accuracyEN 60825-1:2014Measurement accuracy0.03 %/KWarm up time5 minRepeat accuracy< 0.5 %Linearity error4 0.75 %Approvals and certificatesE87056 , cULus Listed , class 2 power supply , type rating 1UL approvalE87056 , cULus Listed , class 2 power supply , type rating 1FDA approvalIEC 60825-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007Ambient temperature10 60 °C (50 140 °F)Storage temperature10 60 °C (-40 158 °F)Mechanical specifications13.9 mm	Usage category		DC-12 and DC-13
ConformityCommunication interfaceIEC 61131-9Product standardEN 60947-5-2Laser safetyEN 60825-1:2014Measurement accuracyEN 60825-1:2014Measurement accuracy0.03 %/KWarm up time5 minRepeat accuracy≤ 0.5 %Linearity error± 0,75 %Approvals and certificatesUL approvalUL approvalE87056 , cULus Listed , class 2 power supply , type rating 1FDA approvalIEC 60825-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007Ambient temperature10 60 °C (50 140 °F)Storage temperature-40 70 °C (-40 158 °F)Mechanical specificationsI3.9 mm	Voltage drop	U_d	≤ 1.5 V DC
Communication interfaceIEC 61131-9Product standardEN 60947-5-2Laser safetyEN 60825-1:2014Measurement accuracy0.03 %/KTemperature drift0.03 %/KWarm up time5 minRepeat accuracy≤ 0.5 %Linearity error± 0.75 %Approvals and certificatesUL approvalE87056, cULus Listed, class 2 power supply, type rating 1FDA approvalIEC 60825-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007Ambient temperature10 60 °C (50 140 °F)Storage temperature-40 70 °C (-40 158 °F)Mechanical specificationsHousing width13.9 mm	Response time		2 ms
Product standardEN 60947-5-2Laser safetyEN 60825-1:2014Measurement accuracyO.03 %/KTemperature drift0.03 %/KWarm up time5 minRepeat accuracy< 0.5 %	Conformity		
Laser safetyEN 60825-1:2014Measurement accuracy0.03 %/KTemperature drift0.03 %/KWarm up time5 minRepeat accuracy≤ 0.5 %Linearity error≤ 0.75 %Approvals and certificatesE87056 , cULus Listed , class 2 power supply , type rating 1UL approvalE87056 , cULus Listed , class 2 power supply , type rating 1FDA approvalE87056 , cULus Listed , class 2 power supply , type rating 1Meint conditionsIEC 60825-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007Ambient temperature10 60 °C (50 140 °F)Storage temperature10 70 °C (-40 158 °F)Mechanical specificationsI3.9 mm	Communication interface		IEC 61131-9
Measurement accuracy 0.03 %/K Temperature drift 0.03 %/K Warm up time 5 min Repeat accuracy ≤ 0.5 % Linearity error ± 0,75 % Approvals and certificates UL approval UL approval E87056 , cULus Listed , class 2 power supply , type rating 1 FDA approval E87056 , cULus Listed , class 2 power supply , type rating 1 FDA approval E87056 , cULus Listed , class 2 power supply , type rating 1 FDA approval E87056 , cULus Listed , class 2 power supply , type rating 1 FDA approval E87056 , cULus Listed , class 2 power supply , type rating 1 FDA approval E87056 , cULus Listed , class 2 power supply , type rating 1 FDA approval E060825-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007 Ambient temperature 10 60 °C (50 140 °F) Storage temperature 10 70 °C (-40 158 °F) Mechanical specifications Housing width Housing width 13.9 mm	Product standard		EN 60947-5-2
Temperature drift 0.03 %/K Warm up time 5 min Repeat accuracy ≤ 0.5 % Linearity error ± 0,75 % Approvals and certificates UL approval UL approval E87056 , cULus Listed , class 2 power supply , type rating 1 FDA approval 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 Ambient conditions 10 60 °C (50 140 °F) Storage temperature 10 60 °C (50 140 °F) Mechanical specifications -40 70 °C (-40 158 °F) Housing width 13.9 mm	Laser safety		EN 60825-1:2014
Warm up time5 minRepeat accuracy≤ 0.5 %Linearity error± 0,75 %Approvals and certificatesE87056, cULus Listed, class 2 power supply, type rating 1UL approvalE87056, cULus Listed, class 2 power supply, type rating 1FDA approvalE87056, cULus Listed, class 2 power supply, type rating 1FDA approvalE87056, cULus Listed, class 2 power supply, type rating 1FDA approvalE87056, cULus Listed, class 2 power supply, type rating 1FDA approvalE87056, cULus Listed, class 2 power supply, type rating 1Ambient conditionsIEC 60825-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007Ambient temperature10 60 °C (50 140 °F)Storage temperature-40 70 °C (-40 158 °F)Mechanical specificationsI3.9 mm	•		
Repeat accuracy $\leq 0.5 \%$ Linearity error $\pm 0,75 \%$ Approvals and certificates $\pm 0,75 \%$ UL approvalE87056, cULus Listed, class 2 power supply, type rating 1FDA approvalIEC 60825-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007Ambient conditions10 60 °C (50 140 °F)Storage temperature10 60 °C (-40 158 °F)Mechanical specifications13.9 mm			0.03 %/K
Linearity error ± 0,75 % Approvals and certificates UL approval UL approval E87056 , cULus Listed , class 2 power supply , type rating 1 FDA approval 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 Ambient conditions 10 60 °C (50 140 °F) Storage temperature 10 60 °C (-40 158 °F) Mechanical specifications 13.9 mm			5 min
Approvals and certificates E87056 , cULus Listed , class 2 power supply , type rating 1 UL approval E87056 , cULus Listed , class 2 power supply , type rating 1 FDA approval 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 Ambient conditions 10 60 °C (50 140 °F) Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications 13.9 mm			
UL approval E87056, cULus Listed, class 2 power supply, type rating 1 FDA approval 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 Ambient conditions 10 60 °C (50 140 °F) Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications 13.9 mm	•		± 0,75 %
FDA approval 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 Ambient conditions In 60 °C (50 140 °F) Ambient temperature 10 60 °C (-40 158 °F) Mechanical specifications In 70 °C (-40 158 °F) Housing width 13.9 mm			
Ambient conditions Ambient temperature 10 60 °C (50 140 °F) Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications 13.9 mm			
Ambient temperature 10 60 °C (50 140 °F) Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications -40 70 °C (-40 158 °F) Housing width 13.9 mm			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
Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications -40 70 °C (-40 158 °F) Housing width 13.9 mm	Ambient conditions		
Mechanical specifications Housing width 13.9 mm	Ambient temperature		10 60 °C (50 140 °F)
Housing width 13.9 mm	Storage temperature		-40 70 °C (-40 158 °F)
-	Mechanical specifications		
Housing height /1 / mm	Housing width		13.9 mm
1 rousing neight 41.4 mm	Housing height		41.4 mm
Housing depth 18.3 mm	Housing depth		18.3 mm

 Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

 Pepperl+Fuchs Group
 USA: +1 330 486 0001
 General General

Germany: +49 621 776 1111 fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091 fa-info@sg.pepperl-fuchs.com

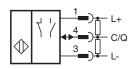
Distance sensor

OMT100-R101-EP-IO-V3-L

Tec	hh		

Degree of protection	IP67 / IP69 / IP69K
Connection	M8 x 1 connector, 3-pin
Material	
Housing	PC (Polycarbonate)
Optical face	РММА
Mass	approx. 10 g

Connection



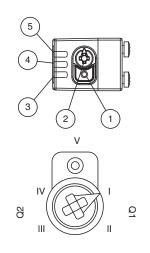
Connection Assignment



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
3	BU	(blue)
4	BK	(black)

Assembly



1	1	TEACH-IN button
2	2	Mode rotary switch
3	3	Switch output indicator Q2
4	4	Switch output indicator Q1
5	5	Operating indicator

I	Switch output 1 / switch point B
Ш	Switch output 1 / switch point A
III	Switch output 2 / switch point A
IV	Switch output 2 / B
V	Keylock

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group www.pepperl-fuchs.com USA: +1 330 486 0001 fa-info@us.pepperl-fuchs.com

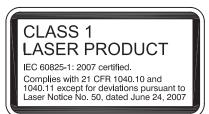
Germany: +49 621 776 1111 fa-info@de.pepperl-fuchs.com Singapore: +65 6779 9091 fa-info@sg.pepperl-fuchs.com



Safety Information



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

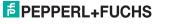


Accessories

61	V31-GM-2M-PUR	Female cordset single-ended M8 straight A-coded, 4-pin, PUR cable grey
6/	V31-WM-2M-PUR	Female cordset single-ended M8 angled A-coded, 4-pin, PUR cable grey
6/	V3-WM-2M-PUR	Female cordset single-ended M8 angled A-coded, 3-pin, PUR cable grey
	ICE2-8IOL-G65L-V1D	EtherNet/IP IO-Link master with 8 inputs/outputs
	ICE3-8IOL-G65L-V1D	PROFINET IO IO-Link master with 8 inputs/outputs
and the second	ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
	ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
	ICE2-8IOL-K45P-RJ45	EtherNet/IP IO-Link master with 8 inputs/outputs, DIN rail, push-in connectors
	ICE2-8IOL-K45S-RJ45	EtherNet/IP IO-Link master with 8 inputs/outputs, DIN rail, screw terminal
	ICE3-8IOL-K45P-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN rail, push-in terminals
	ICE3-8IOL-K45S-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN rail, screw terminal

Refer to "General Notes Relating to Pepperl+Fuchs Product Information"

Release date: 2023-03-28 Date of issue: 2023-03-28 Filename: 267075-100099_eng.pdf



Distance sensor

Accessories



IO-Link-Master02-USB IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection

Refer to "General Notes Relating to Pepperl+Fuchs Product Information"

Pepperl+Fuchs Group www.pepperl-fuchs.com

6

Teach-In

You can use the rotary switch to select the relevant switching threshold A and/or B for teaching in for switch signal Q1 or Q2. The yellow LEDs indicate the current state of the selected output.

To store a threshold value, press and hold the "TI" button until the yellow and green LEDs flash in phase (approx. 1 s). Teach-In starts when the "TI" button is released.

Successful Teach-In is indicated by alternating flashing (2.5 Hz) of the yellow and green LEDs.

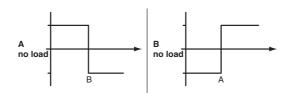
An unsuccessful Teach-In is indicated by rapidly alternating flashing (8 Hz) of the yellow and green LEDs.

After an unsuccessful Teach-In, the sensor continues to operate with the previous valid setting after the relevant visual fault signal is issued.

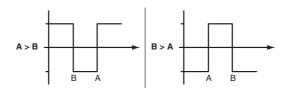
Different switching modes can be defined by teaching in the relevant distance measured values

for the switching thresholds A and B:

Single point mode:



Window mode:



Every taught-in switching threshold can be retaught (overwritten) by pressing the "TI" button again.

Pressing and holding the "TI" button for > 4 s completely deletes the taught-in value. The yellow and green LEDs go out simultaneously to indicate that this procedure has been completed. Successful resetting is indicated by alternating flashing (2.5 Hz) of the yellow and green LEDs.

Resetting to Factory Default Settings

Press the "TI" button for > 10 s in rotary switch position ,O' to reset to factory default settings. The yellow and green LEDs go out simultaneously to indicate the resetting.

Resetting process starts when the "TI" button is released and is indicated by the yellow LED. After the process the sensor works with factory default settings, immediately.

OMT:

- Factory default settings switch signal Q1: Switch signal active, window mode
- Factory default settings switch signal Q2: Switch signal active, window mode

OQT:

- Factory default settings switch signal Q1:
- Switch signal active, BGS mode (background suppression) • Factory default settings switch signal Q2:
- Switch signal active, BGS mode (background suppression)

Configuration

Setting different operating modes via the IO-Link interface

The devices are equipped with an IO-Link interface as standard for diagnostics and parameterization tasks to ensure optimum adjustment of the sensors to the relevant application.

Single point mode operating mode (one switch point):

- "Detection of objects irrespective of type and color in a defined detection range. Objects in the background are suppressed.
- "The switch point corresponds exactly to the set point.

active detection range

Release date: 2023-03-28 Date of issue: 2023-03-28 Filename: 267075-100099_eng.pdf

Refer to "General Notes Relating to Pepperl+Fuchs Product Information

Background suppression

Distance sensor

Window mode operating mode (two switch points):

- Detection of objects irrespective of type and color in a defined detection range. Reliable detection when object leaves the detection range.
- Window mode with two switch points.

a	ctive detection range
Foreground suppression	Background suppression

Center window mode operating mode (one switch point):

- Detection of objects irrespective of type and color in a defined detection range. Sets a defined window around a given object. Objects outside this window are not detected.
- Window mode with one switch point.

active detection range					
Foreground suppression	Background suppression				

Two point mode operating mode (hysteresis operating mode):

• Detection of objects irrespective of type and color between a defined switch-on and switch-off point.

	active detection range	
		Output
Output	Hysteresis	Culpur

Inactive operating mode:

• Evaluation of switching signals is deactivated.

The associated IODD device description file can be found in the download area at www.pepperl-fuchs.com.

Refer to "General Notes Relating to Pepperl+Fuchs Product Information"



OMT100-R101-EP-IO-V3-L