



€





Model Number

OBR15M-R200-2EP-IO-0,3M-V31

Retroreflective sensor with polarization filter

with fixed cable and 4-pin, M8 connector

Features

- Medium design with versatile mounting options
- Extended temperature range -40°C ... 60°C
- · High degree of protection IP69K
- IO-link interface for service and process data

Product information

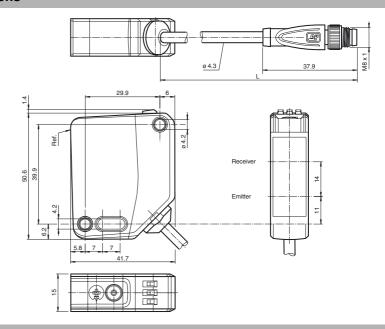
The optical sensors in the series are the first devices to offer an end-to-end solution in a medium-sized standard design—from the thru-beam sensor through to the measuring distance sensor. As a result of this design, the sensors are able to perform practically all standard automation tasks.

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

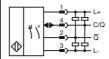
The DuraBeam laser sensors are durable and can be used in the same way as a standard sensor

Multi Pixel Technology (MPT) ensures that the standard sensors are flexible and can be adapted to the application environment.

Dimensions



Electrical connection



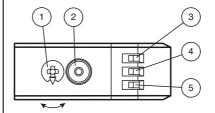
Pinout

Wire colors in accordance with EN 60947-5-

² (1) ⁴ 3

BN (brown WH (white BU (blue)

Indicators/operating means



	1	Sensitivity adjustment			
ſ	2	Light-on / dark-on changeover switch			
	3	Operating indicator / dark on	GN		
	4	Signal indicator	YE		
	5	Operating indicator / light on	GN		



light-on, IO-Link /Q - Pin2: NPN normally closed / light-on, PNP normally dark-on Signal output 2 push-pull (4 in 1)outputs, short-circuit protected, revers polarity protected, overvoltage protected Switching voltage max. 30 V DC Switching current max. 100 mA , resistive load Usage category Voltage drop Ud ≤ 1.5 V DC Switching frequency f 1000 Hz Response time 0.5 ms Conformity Communication interface Product standard EN 60947-5-2 Ambient conditions Ambient temperature -40 60 °C (-40 140 °F) , fixed cable							
Effective detection range Reference target Light source Ambient light limit Functional safety related parameters MTTF ₆ Ambient light limit Functional safety related parameters MTTF ₈ Mission Time (T _M) 20 a Diagnostic Coverage (DC) Indicators/Operating means Operation indicator Diagnostic Coverage (DC) Indicators/Operating means Operation indicator LED green: constantly on - power on flashing (4Hz) - short circuit flashing with short break (1 Hz) - 10-Link mode Yellow LED: Permanently off - object detected Flashing (4 Hz) - institlent operating reserve Light-on/dark-on-changeover switch Scontrol elements Light-on/dark-on-changeover switch Light-on/dark-on-changeover switch Light-on/dark-on-changeover switch Light-on/dark-on-changeover switch Light-on/dark-on-changeover switch Light-on/dark-on-changeover switch Ligh							
Reflector distance	General specifications						
Threshold detection range Reference target Light source Light type Light syource Light type Light syource Polarization filter Polarization filter Polarization filter Polarization filter Ambient light limit Ender Syource Ambient light limit Functional safety related parameters MTITF_G Mission Time (T _M) 20 a Diagnostic Coverage (DC) Indicators/Operating means Operation indicator Control olements Operation indicator Function indicator Function indicator Function indicator Control elements Control elements Control elements Control elements Control elements Light-on/dark-on-changeover switch sensitivity adjustment Electrical specifications Operating overlage Up No-load supply current Ip No-load supply light-on-load	Effective detection range		0 15 m				
Reference target Light type Delarization filter Light type Diameter of the light spot Angle of divergence Ambient light limit Functional safety related parameters MTIF ₆ Mission Time (T ₁₀) Diagnostic Coverage (DC) Indicators/operating means Operation indicator Control elements Control element	Reflector distance		0.02 15 m				
Light source Light type Light type Light type Polarization filter Polarization filter Polarization filter Polarization filter Jameter of the light spot Angle of divergence Ambient light limit Functional safety related parameters MTTF _d Mission Time (T _M) Diagnosite Coverage (DC) Permanently (DF) open coverage (DF) open coverage (DC) Permanently (DF) open coverage (DF) open coverage (DF) Permane	Threshold detection range						
LED risk group labelling exempt group Polarization filter yes Diameter of the light spot approx. 520 mm at a distance of 15 m Angle of divergence 2° Ambient light limit EN 60947-5-2: 60000 Lux Functional safety related parameters MTTr_d Safety related parameters MTTr_d Mission Time (T _M) 20 a Diagnostic Coverage (DC) 0% Indicators/operating means Operation indicator LED green: Constantly on - power on flashing (4Hz) - short circuit flashing (4Hz) - insufficient operating reserve Light-on/dark-on changeover switch Function indicator Function indicator Function indicator Function indicator Control elements Ill Indicator Operating voltage No-load supply current Io - 30 V DC max. 10 % No-load supply current Io - 10 - 30 V DC max. 10 % No-load supply current Io - 10 - 30 V DC max. 10 % No-load supply current Io - 10 - 30 V DC max. 10 % No-load supply current Io - 10 - 30 V DC max. 10 % No-load supply current Io - 10 - 30 V DC max. 10 % No-load supply current Io - 10 - 30 V DC max. 10 % No-load supply current Io - 20 - 10 - 30 V DC max. 10 % No-load supply current Io - 10 - 30 V DC max. 10 % No-load supply current Io - 10 - 30 V DC max. 10 % No-load supply current Io - 10 - 30 V DC max. 10 % No-load supply current Io - 10 - 30 V DC max. 10 m A (38 A kBaud) Io-Link (via C/O = pin 4) Iottrace Interface type Io-Link (via C/O = pin 4) Iottrace Interface type Io-Link (via C/O = pin 4) Iottrace Interface type Iottrice ty	-						
LED risk group labelling Polarization filter Diameter of the light spot Angle of divergence 2° Ambient light limit Functional safety related parameters MTTF4 Mission Time (T _M) Degration indicator Function indicator Function indicator Function indicator Function indicator Function indicator Function indicator Control elements Control elements Control elements Electrical specifications Operating voltage Misple Mo-load supply current Device profile Interface type Interface type Device profile Min. cycle time Process data witch Process data output 2 Bit Process data output 2 Bit Process data output 2 Bit Switching type Control elements Electrical specifications Operating voltage Interface Interface type	Light source		LED				
Potarization filter Diameter of the light spot Angle of divergence 2° Ambient light limit EN 60947-5-2: 60000 Lux Functional safety related parameters MTTF_d Mission Time (T _M) Diagnostic Coverage (DC) O% Indicators/operating means Operation indicator Operation indicator Function indicator Control elements Interface Interface Interface Interface Interface Interface Interface yee Device profile Co-Link Revision 1.1 Min. cycle time Process data wildh Process data output 2 Bit Process data output 3 Bit Process data output 4 Bit Process data output 5 Bit Process data output 6 Bit Process data output 6 Bit Process data output 7 Bit Process data output 6 Bit Process data output 7 Bit Process data output 6 Bit Process data output 7 Bit Process data output 6 Bit Process data output 7 Bit Process data output 9 Bit Process data output	· ,,		-				
Diameter of the light spot Angle of divergence 2° Ambient light limit Functional safety related parameters MTTFq Mission Time (T _M) Diagnostic Coverage (DC) Deriction indicator Function indicator Function indicator Function indicator Control elements Light-on/dark-on changeover switch Control elements Light-on/dark-on dark-on, PNP ormally classed light-on, PNP normally clight-on, IO-Link (Via C/Q - Pina: NPN normally closed / light-on, PNP normally clight-on, Light-on, Light	= : =		exempt group				
Ambient light limit EN 60947-5-2 : 60000 Lux Functional safety related parameters MTTF _d 724 a Mission Time (T _W) 20 a Diagnostic Coverage (DC) 0 % Indicators/operating means Operation indicator Function indicator Funct			•				
Ambient light limit Functional safety related parameters MTFG Mission Time (T _{kk}) 20 a Diagnostic Coverage (DC) 0% Indicators/operating means Operation indicator Function indicator	• '		* *				
Functional safety related parameters MTTF _d Mission Time (T _M) Diagnostic Coverage (DC) Indicators/operating means Operation indicator Coperation indicator Function indicator Yellow LED: Permanently lit: light path clear Permanently int: ligh			_				
MITF _d Mission Time (T _M) Diagnostic Coverage (DC) Indicators/operating means Operation indicator Deration indicator Function indicator Fun	· ·		EN 60947-5-2 : 60000 Lux				
Mission Time (T _M) Diagnostic Coverage (DC) O% Diagnostic Coverage (DC) O% Departion indicator Certain indicator Function indicator Function indicator Function indicator Control elements Control elements Departing voltage Ripple No-load supply current Protection class Illetrace Interface bye Device profile Collar Revision Min. cycle time Process data witdh Process data input 2 Bit Process data witdh Process data output 2 Bit SiO mode support Device ID Compatible master port type Output Switching type The switching type of the sensor is adjustable. The defats setting is: C/Q - Pind: NPn normally closed / light-on, PNP normally dark-on Jo-Pinz: NPn normally closed / light-on, PNP normally dark-on Switching current Usage category Voltage Switching current Usage category Voltage frop Voltage Switching frequency Response time Device of On-C (-40 140 °F) , fixed cable -20 60 °C (-40 140 °F) , fixed cable -20 60 °C (-40 140 °F) , fixed cable -20 60 °C (-40 140 °F) , fixed cable -20 60 °C (-40 140 °F) , movable cable not appropria conveyor chains Storage temperature Mechanical specifications Housing height Housing	Functional safety related parar	meters					
Diagnostic Coverage (DC) Indicators/operating means Operation indicator Deration indicator Function indicator Yellow LED: Permanently of - object detected Flashing (4 Hz) - insufficient operating reserve Light-on/dark-on changeover switch sensitivity adjustment Electrical specifications Operating voltage Ripple Role of the sensitivity adjustment Electrical specifications Operating voltage Ripple Role of the sensitivity adjustment III III III III III III III							
Indicators/operating means Operation indicator Operation indicator Function indicator Permanently (if - object detected Flashing (if k1-) - insufficient operating reserve Light-on/dark-on changeover switch sensitivity adjustment Electrical specifications Operating voltage Ripple No-load supply current Protection class Ill Interface Interface bye Device profile Interface bye Io-Link (via C/Q = pin 4) Identification and diagnosis Smart Sensor type 2-4 Transfer rate COM 2 (38.4 kBaud) Io-Link Revision I.1 Min. cycle time Process data input 2 Bit Process data output 2 Bit SiO mode support Device ID Compatible master port type Output Switching type The switching type of the sensor is adjustable. The defat setting is: C/Q - Pinix: NPN normally open / dark-on, PNP normally dight-on, O-Link //Q - Piniz: NPN normally open / dark-on, PNP normally dight-on, O-Link //Q - Piniz: NPN normally open / dark-on, PNP normally dight-on, O-Link //Q - Piniz: NPN normally open / dark-on, PNP normally dight-on, O-Link //Q - Piniz: NPN normally open / dark-on, PNP normally dight-on, O-Link //Q - Piniz: NPN normally open / dark-on, PNP normally dight-on, O-Link //Q - Piniz: NPN normally open / dark-on, PNP normally dight-on, O-Link //Q - Piniz: NPN normally open / dark-on, PNP normally dight-on, O-Link //Q - Piniz: NPN normally open / dark-on, PNP normally dight-on, O-Link //Q - Piniz: NPN normally open / dark-on, PNP normally dight-on, O-Link //Q - Piniz: NPN normally open / dark-on, PNP normally dight-on, O-Link //Q - Piniz: NPN normally open / dark-on, PNP normally dight-on, D-Link //Q - Piniz: NPN normally open / dark-on, PNP normally dight-on, D-Link //Q - Piniz: NPN normally open / dark-on, PNP normally open /	(111)						
Comparation indicator	o , ,		0 %				
constantly on - power on flashing (4Hz) - IO-Link mode Function indicator Function indicator Function indicator Function indicator Vallow LED: Permanently iff - light path clear Permanently off - object detected Permanently off - object off Permanently object off Perm							
Permanently lit - light path clear Permanently off - object detected Flashing (4 Hz) - insufficient operating reserve Light-on/dark-on changeover switch sensitivity adjustment Electrical specifications Operating voltage U _B 10 30 V DC Ripple max. 10 % No-load supply current I _O < 18 mA at 24 V Operating voltage Interface III Interface III Interface V IO-Link (via C/Q = pin 4) Device profile Identification and diagnosis Smart Sensor type 2.4 Transfer rate COM 2 (38.4 kBaud) IO-Link Revision 1.1 Min. cycle time Process data witdh Process data input 2 Bit Process data witdh Process data output 2 Bit Pro	Operation indicator		constantly on - power on flashing (4Hz) - short circuit				
Control elements Electrical specifications Operating voltage Ripple No-load supply current Protection class Ill Interface Int	Function indicator		Permanently lit - light path clear Permanently off - object detected				
Electrical specifications Operating voltage	Control elements		Light-on/dark-on changeover switch				
Operating voltage N _B 10 30 V DC Ripple max. 10 % 10 octood supply current No-load supply No-	Control elements		sensitivity adjustment				
Ripple	Electrical specifications						
No-load supply current Protection class Interface Interface type Device profile Identification and diagnosis Smart Sensor type 2.4 Transfer rate IO-Link Revision I.1 Min. cycle time Process data witdh Process data input 2 Bit Process data output 2 Bit SIO mode support Pevice ID Output Switching type The switching type of the sensor is adjustable. The defat setting is: C/Q - Pin4: NPN normally open / dark-on, PNP normally of airch in output, including type of the sensor is adjustable. The defat setting is: C/Q - Pin4: NPN normally open / dark-on, PNP normally of airch in output, including type of the sensor is adjustable. The defat setting is: C/Q - Pin4: NPN normally open / dark-on, PNP normally of airch in output, including type of the sensor is adjustable. The defat setting is: C/Q - Pin4: NPN normally open / dark-on, PNP normally of airch in output, including type of the sensor is adjustable. The defat setting is: C/Q - Pin4: NPN normally open / dark-on, PNP normally of airch in output, including type of the sensor is adjustable. The defat setting is: C/Q - Pin4: NPN normally open / dark-on, PNP normally of airch in output, including type of the sensor is adjustable. The defat setting is: C/Q - Pin4: NPN normally open / dark-on, PNP normally of airch in output, including type of the sensor is adjustable. The defat setting is: C/Q - Pin2: NPN normally open / dark-on, PNP normally of airch in output, including is: C/Q - Pin2: NPN normally open / dark-on, PNP normally of airch in output, including is: C/Q - Pin2: NPN normally open / dark-on, PNP normally of airch in output, in	Operating voltage	U _B	10 30 V DC				
Protection class	Ripple		max. 10 %				
Interface Interface type Device profile Identification and diagnosis Smart Sensor type 2.4 Transfer rate COM 2 (38.4 kBaud) IO-Link Revision I.1 Min. cycle time Process data witdh Process data input 2 Bit Process data output 2 Bit SIO mode support Device ID Ox111201 (1118721) Compatible master port type Output Switching type The switching type of the sensor is adjustable. The defat setting is: C/Q - Pin4: NPN normally open / dark-on, PNP normally of dark-on, PNP normally of dark-on, O-Link Q - Pin2: NPN normally closed / light-on, PNP normally of dark-on, PN	No-load supply current	Io	< 18 mA at 24 V Operating voltage				
Interface type Device profile Device Device D Device ID	Protection class		III				
Device profile Identification and diagnosis Smart Sensor type 2.4 Transfer rate IO-Link Revision I.1 Min. cycle time Process data witdh Process data input 2 Bit Process data output 2 Bit SIO mode support Pevice ID Ox111201 (1118721) Compatible master port type Output Switching type The switching type of the sensor is adjustable. The defat setting is: C/O- Pin2: NPN normally open / dark-on, PNP normally of dark-on, IO-Link / Q - Pin2: NPN normally olosed / light-on, PNP normally of dark-on Signal output 2 push-pull (4 in 1) outputs, short-circuit protected, revers polarity protected, overvoltage protected Switching voltage max. 30 V DC Switching current max. 100 mA, resistive load Usage category Voltage drop Ud 1.5 V DC Switching frequency f 1000 Hz Response time 0.5 ms Conformity Communication interface Product standard EN 60947-5-2 Ambient conditions Ambient temperature -40 60 °C (-40 140 °F) , fixed cable -20 60 °C (-40 140 °F) , movable cable not appropriat conveyor chains Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications Housing width Housing depth Fixed cable 300 mm with M8 x 1 male connector; 4-pin	Interface						
Smart Sensor type 2.4	Interface type		IO-Link (via C/Q = pin 4)				
Transfer rate IO-Link Revision Min. cycle time Process data witdh Process data input 2 Bit Process data output 2 Bit SIO mode support Device ID Compatible master port type A Output Switching type The switching type of the sensor is adjustable. The defau setting is: C/Q - Pin4: NPN normally open / dark-on, PNP normally of light-on, IO-Link /Q - Pin2: NPN normally closed / light-on, PNP normally of dark-on Signal output Switching voltage Switching voltage Switching current Usage category Voltage drop Voltage drop Voltage drop Voltage frequency Response time O.5 ms Conformity Communication interface Product standard Ambient conditions Ambient temperature -40 60 °C (-40 140 °F) , fixed cable -20 60 °C (-4 140 °F) , movable cable not appropria conveyor chains Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications Housing width Housing height Housing depth Degree of protection [P67 / IP69 / IP69 / IP69K] fixed cable 300 mm with M8 x 1 male connector; 4-pin	Device profile		Identification and diagnosis				
IO-Link Revision Min. cycle time Process data witdh Process data input 2 Bit Process data output 2 Bit SIO mode support Pes Device ID Compatible master port type A Output Switching type The switching type of the sensor is adjustable. The defausetting is: C/Q - Pin4: NPN normally open / dark-on, PNP normally of light-on, IO-Link /Q - Pin2: NPN normally closed / light-on, PNP normally of dark-on Signal output Signal output 2 push-pull (4 in 1)outputs, short-circuit protected, revers polarity protected, overvoltage protected Switching voltage max. 30 V DC Switching current Usage category DC-12 and DC-13 Voltage drop Ud 2 1.5 V DC Switching frequency f 1000 Hz Response time 0.5 ms Conformity Communication interface Product standard EN 60947-5-2 Ambient conditions Ambient temperature -40 60 °C (-40 140 °F) , fixed cable -20 60 °C (-4 140 °F) , movable cable not appropriat conveyor chains Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications Housing width 15 mm Housing depth 41.7 mm Degree of protection [P67 / IP69 / IP69 / IP69 K] fixed cable 300 mm with M8 x 1 male connector; 4-pin			Smart Sensor type 2.4				
Min. cycle time Process data witdh Process data input 2 Bit Process data output 2 Bit Process data input 2 Bit Process data output 2 Bit Provessing Provessing Provessing Proves in put 3 Bit Process data output 3 Bit Process data output 2 Bit Prof. Interpret. Product dark-on, PNP normally of Pnermally defauts Prof. Interpret. Product dark-on, PNP normally of Pnermally defauts Prof. Interpret. Product dark-on, PNP normally of Pnermally of P			COM 2 (38.4 kBaud)				
Process data witdh Process data input 2 Bit Process data output 2 Bit SIO mode support Device ID Ox111201 (1118721) A Output Switching type The switching type of the sensor is adjustable. The defausetting is: C/Q - Pin4: NPN normally open / dark-on, PNP normally of light-on, IO-Link /Q - Pin2: NPN normally closed / light-on, PNP normally of dark-on Signal output 2 push-pull (4 in 1) outputs, short-circuit protected, revers polarity protected, overvoltage protected Switching voltage max. 30 V DC Switching current Usage category DC-12 and DC-13 Voltage drop Ud ≤1.5 V DC Switching frequency f 1000 Hz Response time 0.5 ms Conformity Communication interface Product standard EN 60947-5-2 Ambient conditions Ambient temperature -40 60 °C (-40 140 °F) , fixed cable -20 60 °C (-4 140 °F) , movable cable not appropriat conveyor chains Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications Housing widh 15 mm Housing depth 41.7 mm Degree of protection IP67 / IP69 / IP69K Connection			***				
Process data output 2 Bit SIO mode support Device ID Compatible master port type Output Switching type The switching type of the sensor is adjustable. The defausetting is: C/Q - Pin4: NPN normally open / dark-on, PNP normally of light-on, IO-Link /Q - Pin2: NPN normally closed / light-on, PNP normally of dark-on Signal output 2 push-pull (4 in 1)outputs, short-circuit protected, revers polarity protected, overvoltage protected Switching voltage max. 30 V DC Switching current Usage category Voltage drop Ud ≤1.5 V DC Switching frequency f 1000 Hz Response time Conformity Communication interface Product standard EN 60947-5-2 Ambient conditions Ambient temperature -4060 °C (-40140 °F), fixed cable -2060 °C (-4140 °F), movable cable not appropriat conveyor chains Storage temperature -4070 °C (-40158 °F) Mechanical specifications Housing width 15 mm Housing depth 41.7 mm Degree of protection [P67 / IP69 / IP69K] Connection	-						
Device ID Compatible master port type Output Switching type The switching type of the sensor is adjustable. The defausetting is: C/Q - Pin4: NPN normally open / dark-on, PNP normally olight-on, IO-Link /Q - Pin2: NPN normally closed / light-on, PNP normally odark-on. Signal output 2 push-pull (4 in 1)outputs, short-circuit protected, revers polarity protected, overvoltage protected Switching voltage max. 30 V DC Switching current Usage category Voltage drop Ud 5 1.5 V DC Switching frequency f 1000 Hz Response time Conformity Communication interface Product standard Ambient conditions Ambient temperature -40 60 °C (-40 140 °F) , fixed cable -20 60 °C (-4 140 °F) , movable cable not appropriat conveyor chains Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications Housing width 15 mm Housing depth Housing depth 41.7 mm Degree of protection IP67 / IP69 / IP69 / IP69K fixed cable 300 mm with M8 x 1 male connector; 4-pin			Process data output 2 Bit				
Compatible master port type Output Switching type The switching type of the sensor is adjustable. The defausetting is: C/Q - Pin4: NPN normally open / dark-on, PNP normally olight-on, IO-Link /Q - Pin2: NPN normally closed / light-on, PNP normally of dark-on Signal output 2 push-pull (4 in 1)outputs, short-circuit protected, revers polarity protected, overvoltage protected Switching voltage max. 30 V DC Switching current Usage category DC-12 and DC-13 Voltage drop Ud 1.5 V DC Switching frequency Found the frequency Response time Conformity Communication interface Product standard Ambient conditions Ambient temperature -40 60 °C (-40 140 °F) , fixed cable -20 60 °C (-4 140 °F) , movable cable not appropriat conveyor chains Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications Housing width 15 mm Housing depth 41.7 mm Degree of protection IP67 / IP69 / IP69 / IP69 K fixed cable 300 mm with M8 x 1 male connector; 4-pin			•				
Output Switching type The switching type of the sensor is adjustable. The defausetting is: C/Q - Pin4: NPN normally open / dark-on, PNP normally olight-on, IO-Link /Q - Pin2: NPN normally closed / light-on, PNP normally of dark-on Signal output 2 push-pull (4 in 1) outputs, short-circuit protected, revers polarity protected, overvoltage protected Switching voltage max. 30 V DC Switching current Usage category DC-12 and DC-13 Voltage drop Ud ≤ 1.5 V DC Switching frequency f 1000 Hz Response time Conformity Communication interface Product standard EN 60947-5-2 Ambient conditions Ambient temperature -40 60 °C (-40 140 °F) , fixed cable -20 60 °C (-4 140 °F) , movable cable not appropriat conveyor chains Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications Housing width 15 mm Housing depth 41.7 mm Degree of protection IP67 / IP69 / IP69K Connection Fixed cable 300 mm with M8 x 1 male connector; 4-pin			, ,				
Switching type The switching type of the sensor is adjustable. The defau setting is: C/Q - Pin4: NPN normally open / dark-on, PNP normally olight-on, IO-Link /Q - Pin2: NPN normally closed / light-on, PNP normally of dark-on Signal output 2 push-pull (4 in 1) outputs, short-circuit protected, revers polarity protected, overvoltage protected Switching voltage max. 30 V DC Switching current Usage category DC-12 and DC-13 Voltage drop Ud ≤ 1.5 V DC Switching frequency f 1000 Hz Response time Conformity Communication interface Product standard EN 60947-5-2 Ambient conditions Ambient temperature -40 60 °C (-40 140 °F), fixed cable -20 60 °C (-40 140 °F), movable cable not appropriat conveyor chains Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications Housing width 15 mm Housing depth 41.7 mm Degree of protection IP67 / IP69 / IP69K Connection Fixed cable 300 mm with M8 x 1 male connector; 4-pin			A				
setting is: C/Q - Pin4: NPN normally open / dark-on, PNP normally of light-on, IO-Link /Q - Pin2: NPN normally closed / light-on, PNP normally of dark-on Signal output 2 push-pull (4 in 1)outputs, short-circuit protected, revers polarity protected, overvoltage protected Switching voltage max. 30 V DC Switching current Usage category Voltage drop Ud ≤ 1.5 V DC Switching frequency f 1000 Hz Response time 0.5 ms Conformity Communication interface Product standard EN 60947-5-2 Ambient conditions Ambient temperature -40 60 °C (-40 140 °F), fixed cable -20 60 °C (-4 140 °F), movable cable not appropriat conveyor chains Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications Housing width 15 mm Housing depth 41.7 mm Degree of protection IP67 / IP69 / IP69K Connection fixed cable 300 mm with M8 x 1 male connector; 4-pin	·						
polarity protected, overvoltage protected Switching voltage max. 30 V DC Switching current max. 100 mA , resistive load Usage category DC-12 and DC-13 Voltage drop U _d ≤ 1.5 V DC Switching frequency f 1000 Hz Response time 0.5 ms Conformity Communication interface IEC 61131-9 Product standard EN 60947-5-2 Ambient conditions Ambient temperature -40 60 °C (-40 140 °F) , fixed cable -20 60 °C (-4 140 °F) , movable cable not appropriate conveyor chains Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications Housing width 15 mm Housing height 50.6 mm Housing depth 41.7 mm Degree of protection IP67 / IP69 / IP69K Connection fixed cable 300 mm with M8 x 1 male connector; 4-pin	Switching type		setting is: C/Q - Pin4: NPN normally open / dark-on, PNP normally closed light-on, IO-Link /Q - Pin2: NPN normally closed / light-on, PNP normally open /				
Switching voltage max. 30 V DC Switching current max. 100 mA , resistive load Usage category DC-12 and DC-13 Voltage drop U _d ≤ 1.5 V DC Switching frequency f 1000 Hz Response time 0.5 ms Conformity IEC 61131-9 Product standard EN 60947-5-2 Ambient conditions = 40 60 °C (-40 140 °F) , fixed cable -20 60 °C (-4 140 °F) , movable cable not appropriate conveyor chains Storage temperature = 40 70 °C (-40 158 °F) Mechanical specifications Housing width Housing height 50.6 mm Housing depth 41.7 mm Degree of protection IP67 / IP69 / IP69K Connection fixed cable 300 mm with M8 x 1 male connector; 4-pin	Signal output		2 push-pull (4 in 1)outputs, short-circuit protected, reverse polarity protected, overvoltage protected				
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	Switching voltage						
$ \begin{array}{llllllllllllllllllllllllllllllllllll$			max. 100 mA, resistive load				
$ \begin{array}{llllllllllllllllllllllllllllllllllll$			DC-12 and DC-13				
Response time 0.5 ms Conformity Communication interface IEC 61131-9 Product standard EN 60947-5-2 Ambient conditions Ambient temperature -40 60 °C (-40 140 °F) , fixed cable -20 60 °C (-4 140 °F) , movable cable not appropriate conveyor chains Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications Housing width 15 mm Housing height 50.6 mm Housing depth 41.7 mm Degree of protection IP67 / IP69 / IP69K Connection fixed cable 300 mm with M8 x 1 male connector; 4-pin	Voltage drop	U _d	≤ 1.5 V DC				
Conformity Communication interface IEC 61131-9 Product standard EN 60947-5-2 Ambient conditions Ambient temperature -40 60 °C (-40 140 °F), fixed cable -20 60 °C (-4 140 °F), movable cable not appropriate conveyor chains Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications Housing width 15 mm Housing height 50.6 mm Housing depth 41.7 mm Degree of protection IP67 / IP69 / IP69K Connection fixed cable 300 mm with M8 x 1 male connector; 4-pin	Switching frequency	f	1000 Hz				
Communication interface IEC 61131-9 Product standard EN 60947-5-2 Ambient conditions Ambient temperature -40 60 °C (-40 140 °F) , fixed cable -20 60 °C (-4 140 °F) , movable cable not appropriate conveyor chains Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications Housing width 15 mm Housing height 50.6 mm Housing depth 41.7 mm Degree of protection IP67 / IP69 / IP69K Connection fixed cable 300 mm with M8 x 1 male connector; 4-pin	Response time		0.5 ms				
Product standard EN 60947-5-2 Ambient conditions Ambient temperature -40 60 °C (-40 140 °F), fixed cable -20 60 °C (-4 140 °F), movable cable not appropriate conveyor chains Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications Housing width 15 mm Housing height 50.6 mm Housing depth 41.7 mm Degree of protection IP67 / IP69 / IP69K Connection fixed cable 300 mm with M8 x 1 male connector; 4-pin	Conformity						
Ambient conditions Ambient temperature -40 60 °C (-40 140 °F), fixed cable -20 60 °C (-4 140 °F), movable cable not appropriate conveyor chains Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications Housing width 15 mm Housing height 50.6 mm Housing depth 41.7 mm Degree of protection IP67 / IP69 / IP69K Connection fixed cable 300 mm with M8 x 1 male connector; 4-pin	Communication interface		IEC 61131-9				
Ambient temperature -40 60 °C (-40 140 °F) , fixed cable -20 60 °C (-4 140 °F) , movable cable not appropriate conveyor chains Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications Housing width 15 mm Housing height 50.6 mm Housing depth 41.7 mm Degree of protection IP67 / IP69 / IP69K Connection fixed cable 300 mm with M8 x 1 male connector; 4-pin	Product standard		EN 60947-5-2				
-20 60 °C (-4 140 °F), movable cable not appropriate conveyor chains Storage temperature -40 70 °C (-40 158 °F) Mechanical specifications Housing width 15 mm Housing height 50.6 mm Housing depth 41.7 mm Degree of protection IP67 / IP69 / IP69K Connection fixed cable 300 mm with M8 x 1 male connector; 4-pin	Ambient conditions						
Mechanical specificationsHousing width15 mmHousing height50.6 mmHousing depth41.7 mmDegree of protectionIP67 / IP69 / IP69KConnectionfixed cable 300 mm with M8 x 1 male connector; 4-pin	Ambient temperature		-20 60 °C (-4 140 °F) , movable cable not appropriate for conveyor chains				
Housing width 15 mm Housing height 50.6 mm Housing depth 41.7 mm Degree of protection IP67 / IP69 / IP69K Connection fixed cable 300 mm with M8 x 1 male connector; 4-pin	Storage temperature		-40 70 °C (-40 158 °F)				
Housing height 50.6 mm Housing depth 41.7 mm Degree of protection IP67 / IP69 / IP69K Connection fixed cable 300 mm with M8 x 1 male connector; 4-pin	Mechanical specifications						
Housing depth 41.7 mm Degree of protection IP67 / IP69 / IP69K Connection fixed cable 300 mm with M8 x 1 male connector; 4-pin	Housing width		15 mm				
Degree of protection IP67 / IP69 / IP69K Connection fixed cable 300 mm with M8 x 1 male connector; 4-pin	Housing height		50.6 mm				
Connection fixed cable 300 mm with M8 x 1 male connector; 4-pin	Housing depth						
Material			fixed cable 300 mm with M8 x 1 male connector; 4-pin				
Housing PC (Polycarbonate)	•						
Optical face PMMA	Optical face		PMMA				

Accessories

IO-Link-Master02-USB

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

OMH-MLV12-HWK

Mounting bracket for series MLV12 sensors

OMH-R200-01

Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

OMH-R20x-Quick-Mount

Quick mounting accessory

OMH-MLV12-HWG

Mounting bracket for series MLV12 sensors

REF-H85-2

Reflector, rectangular 84.5 mm x 84.5 mm, mounting holes

REF-C110-2

Reflector, round ø 84 mm, central mounting hole

REF-H50

Reflector, rectangular 51 mm x 61 mm, mounting holes, fixing strap

Reflector, rectangular 60 mm x 19 mm, mounting holes

OFR-100/100

Reflective tape 100 mm x 100 mm

V31-GM-2M-PUR

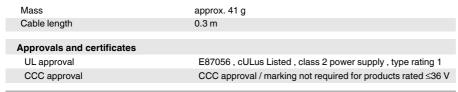
Female cordset single-ended, M8, 4-pin, PUR cable

V31-WM-2M-PUR

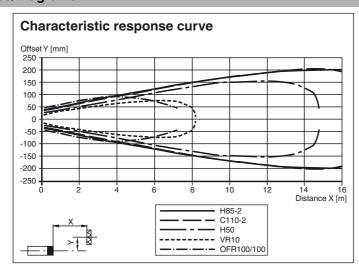
Female cordset single-ended, M8, 4-pin, PUR cable

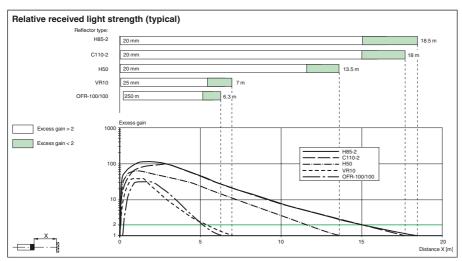
Other suitable accessories can be found at www.pepperl-fuchs.com

Date of issue: 2019-10-31 295670-100010_eng.xml



Curves/Diagrams





Functions and Operation

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

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.