OBT15-R3-E2-0,2M-V3

Dimensions



GNIIS CE

Model Number

OBT15-R3-E2-0,2M-V3

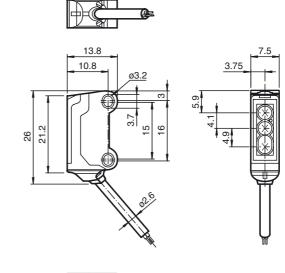
Triangulation sensor (BGS) with fixed cable and 3-pin, M8 connector

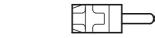
Features

- 45° cable outlet for maximum ٠ mounting freedom under extremely tight space constraints
- Improvement in machine availability • with abrasion-resistant, antistatic glass front
- Extremely small light spot for very ٠ high switching point accuracy
- Highly visible light spot, even on dark . materials
- Precision object detection, almost irrespective of the color

Product information

The nano sensor has been developed for a broad range of applications. It offers excellent durability and is exceptionally easy to install. The housing is compact and, with its 45° cable outlet, can be installed in the smallest spaces. New functional principles and functionality open up a range of new options. The abrasion-resistant lens allows long operating times close to the moving object.





Electrical connection

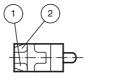


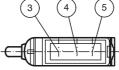
Pinout



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

Indicators/operating means





1	Operating display green	
2	Signal display yellow	
3	Emitter	
4	4 Receiver 1	
5	Receiver 2	

Refer to "General Notes Relating to Pepperl+Fuchs Product Information" 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 ⁵ PEPPERL+FUCHS 1

Technical data

2

General specifications 2 15 mm Detection range 2 15 mm Reference target standard while, 100 mm x 100 mm Light source LED Light type modulated visible red light, 630 nm Black/While difference (6 %/90 %) < 5 % at 15 mm Angle deviation approx. 2 ° Diameter of the light spot approx. 2 ° Optical face frontal Andje of divergence approx. 2 ° Angle of divergence approx. 2 ° Optical face frontal Anbient light limit EN 60947-5-2 : 30000 Lux Function indicator LED green, statically lit Power on , short-circuit : LED green ftashing (approx. 4 Hz) Operation indicator LED green, statically lit Power on , short-circuit : LED green ftashing (approx. 4 Hz) No-load supply current lp<<10 30 V DC, class 2 No-load supply current lp<<10 30 V DC, class 2 Switching type NO contact Signal output 1 PNP output, short-circuit protected, reverse polarity protecte open collector Switching requency max. 30 V DC Switching requency max. 30 V DC	Detection range2 15 mmReference targetstandard while, 100 mm x 100 mmLight sourceLEDLight yoemodulated visible red light, 630 nmBlack/White difference (6 %/90 %)< 5 % at 15 mmAngle deviationapprox. 2 °Diameter of the light spotapprox. 2 °Angle of divergenceapprox. 2 °Optical facefrontalAmbient light limitEN 60947-5-2 : 30000 LuxFunctional safety related parametersMTTFd800 aMission Time (T_M)20 aDiagnostic Coverage (DC)0 %Indicators/operating meansOperation indicatorLED green, statically lit Power on , short-circuit : LED greenFunctional safety related parametersMoreating (approx. 4 Hz)Function indicatorLED green, statically lit Power on , short-circuit : LED greenParating indicatorLED green, statically lit Power on , short-circuit : LED greenSolid supply current10 30 V DC , class 2No-load supply current10 mAOutput1 PNP output, short-circuit protected, reverse polarity protopen (Lag of cop)Switching voltagemax. 30 V DCSwitching requencyfApprox. 800 HzResponse time600 µsConformityProduct standardEN 60947-5-2Ambient tonditionsAmbient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing depth1.38 mm<	Technical data		
Reference target standard while, 100 mm x 100 mm Light type modulated visible red light , 630 nm Black/White difference (6 %/90 %) < 5 % at 15 mm Angle deviation approx. 2 ° Diameter of the light spot approx. 2 ° Optical face frontal Anbient light limit EN 60947-5-2 : 30000 Lux Functional safety related parameters MTTFd Mission Time (T _M) 20 a Diagnostic Coverage (DC) 0 % Indicators/operating means Use of the system object is detected Operation indicator LED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz) Function indicator LED yellow ON: lights when object is detected Electrical specifications Up Operating voltage Up No-load supply current lo<30 V DC , class 2 No-load supply current nax. 30 v DC Signal output 1 PNP output, short-circuit protected, reverse polarity protected open collector Switching voltage max. 30 v DC Switching requency f Response time 600 µs Contract Storage temperature	Reference targetstandard white, 100 mm x 100 mmLight sourceLEDLight typemodulated visible red light, 630 nmBlack/White difference (6 %/90 %)< 5 % at 15 mmAngle deviationapprox. 2 °Diameter of the light spotapprox. 2 °Angle of divergenceapprox. 2 °Optical facefrontalAmbient light limitEN 60947-5-2 : 30000 LuxFunctional safety related parametersmodulated visible red light, 630 nmMTTFd800 aMission Time (T _M)20 aDiagnostic Coverage (DC)0 %Indicators/operating meansCoperation indicatorCoperation indicatorLED green, statically lit Power on , short-circuit : LED gree flashing (approx. 4 Hz)Function algostic relationsUB 0Operating voltageUB 0No-load supply current l_0 Switching vypeNo contactSignal output1 PNP output, short-circuit protected, reverse polarity prot open collectorSwitching voltagemax. 30 V DCSwitching voltagemax. 30 V DCSwitching requeryfResponse time600 µsConformityreprox. 800 HzProduct standardEN 60947-5-2Ambient conditions-30 70 °C (-22 158 °F)Mechanical specifications-30 70 °C (-22 158 °F)Mocusing height26 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connector	General specifications		
Light source LED Light type modulated visible red light, 630 nm Black/White difference (6 %/90 %) < 5 % at 15 mm	Light sourceLEDLight sourceLEDLight typemodulated visible red light , 630 nmBlack/White difference (6 %/90 %)< 5 % at 15 mm	•		2 15 mm
Light type modulated visible red light , 630 nm BlackWhite difference (6 %/90 %) < 5 % at 15 mm	Light typemodulated visible red light , 630 nmBlackWhite difference (6 %/90 %)< 5 % at 15 mm	0		standard white, 100 mm x 100 mm
Black/White difference (6 %/90 %) < 5 % at 15 mm	Black/White difference (6 %/90 %)< 5 % at 15 mmAngle diviationapprox. 2 °Diameter of the light spotapprox. 2 mm at a distance of 15 mmAngle of divergenceapprox. 2 °Optical facefrontalAmbient light limitEN 60947-5-2: 30000 LuxFunctional safety related parametersMTTFd800 aMission Time (T _M)20 aDiagnostic Coverage (DC)0 %Indicators/operating meansOperation indicatorLED green, statically lit Power on , short-circuit : LED greenFunction indicatorLED yellow ON: lights when object is detectedElectrical specifications0Operating voltageUBNo-load supply currentI0 0_0 10 mAOutput1 PNP output, short-circuit protected, reverse polarity protoper collectorSwitching typeNQ contactSignal output1 PNP output, short-circuit protected, reverse polarity protoper collectorSwitching frequencyfApprox. 800 HzResponse time600 μ sCorformityProduct standardProduct standardAmbient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing width7.5 mmHousing height26 mmHousing height26 mmHousing height20 mmHousing height20 mmHousing height20 mmHousing height20 mmHousin	•		LED
Angle deviationapprox. 2 °Diameter of the light spotapprox. 2 nm at a distance of 15 mmAngle of divergenceapprox. 2 °Optical facefrontalAmbient light limitEN 60947-5-2 : 30000 LuxFunctional safety related parametersMTTFqMTTFq800 aMission Time (T _N)20 aDiagnostic Coverage (DC)0 %Indicators/Operating meansIED green, statically lit Power on , short-circuit : LED greenOperation indicatorLED green, statically when object is detectedElectrical specificationsUOverating voltageUBNo-load supply current10 30 V DC , class 2No-load supply current10 NO contactSwitching typeNO contactSwitching voltagemax. 50 mA, resistive loadVoltage dropUdSwitching current4 prox. 800 HzResponse time600 (psConformityPortox. 800 HzProduct standardEN 60947-5-2Ambient conditions-25 60 °C (13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specifications1967Housing width7.5 mmHousing width1967Connection1967Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialPURHousing width200 mmAmbient temperature200 mmConnection200 mmHousing width200 mmHousing CablePURMate	Angle deviationapprox. 2 °Diameter of the light spotapprox. 2 mm at a distance of 15 mmAngle of divergenceapprox. 2 °Optical facefrontalAmbient light limitEN 60947-5-2: 30000 LuxFunctional safety related parametersMTTF_d800 aMission Time (T _M)20 aDiagnostic Coverage (DC)0 %Indicators/operating meansOperation indicatorLED green, statically lit Power on , short-circuit : LED greeFunction indicatorLED yellow ON: lights when object is detectedElectrical specifications0Operating voltageUBOutput10 30 V DC, class 2No-load supply currentI0Switching typeNO contactSignal output1 PNP output, short-circuit protected, reverse polarity proto open collectorSwitching currentmax. 50 mA , resistive loadVoltage dropUdSwitching frequencyfApprox. 800 HzResponse time600 μ sConformityProduct standardProduct standardEN 60947-5-2Ambient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specifications-30 70 °C (-22 158 °F)Housing height26 mmHousing height26 mmHousing keight26 mmHousing keight20 mm fixed cable with 3-pin, M8 x 1 connectorMaterial-1967Connection200 mm fixed cabl	Light type		modulated visible red light , 630 nm
Dameter of the light spotapprox. 2 °Angle of divergenceapprox. 2 °Optical facefrontalAmbient light limitEN 60947-5-2 : 30000 LuxFunctional safety related parametersMTTF _d MTTF _d 800 aMission Time (T _M)20 aDiagnostic Coverage (DC)0 %Indicators/operating meansLED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz)Function indicatorLED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz)Function indicatorLD yellow ON: lights when object is detectedElectrical specifications0 contactOperating voltageU _B No-load supply currentI ₀ Voltagemax. 30 V DCSwitching typeNO contactSignal output1 PNP output, short-circuit protected, reverse polarity protected open collectorSwitching frequencyfgaprox. 2 * 600 µsCortornityProduct standardEN 60947-5-2Ambient temperature-25 60 °C (-13 140 °F)Storage temperature-25 60 °C (-13 140 °F)Storage temperature-26 mmHousing width7.5 mmHousing height26 mmDagree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialHousingHousingPC/ABS and TPUOptical faceglassCablePURMassapprox. 20 gCable length200 mm<	Dameter of the light spotapprox. 2 mm at a distance of 15 mmAngle of divergenceapprox. 2 °Optical facefrontalAmbient light limitEN 60947-5-2: 30000 LuxFunctional safety related parameters $Kin 00947-5-2: 30000 Lux$ MTTF _d 800 aMission Time (T _M)20 aDiagnostic Coverage (DC)0 %Indicators/operating means O %Operation indicatorLED green, statically lit Power on , short-circuit : LED greenfunction indicatorLED green, statically lit Power on , short-circuit : LED greenfunction indicatorLED green, statically lit Power on , short-circuit : LED greenfunction indicatorLED green, statically lit Power on , short-circuit : LED greenfunction indicatorLED yellow ON: lights when object is detectedElectrical specifications 0 %Operating voltageUB0.10 mA 0 Output 1 PNP output, short-circuit protected, reverse polarity proteopen collectorSwitching typeNO contactSwitching output1 PNP output, short-circuit protected, reverse polarity proteopen collectorSwitching frequencyfgaprox. 800 HzResponse time600 µsConformityProduct standardEN 60947-5-2Ambient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing width7.5 mmHousing height26 mmHousing height26 mmHou	Black/White difference (6 %/90 %))	< 5 % at 15 mm
Angle of divergenceapprox. 2° frontalOptical facefrontalAmbient light limitEN 60947-5-2 : 30000 LuxFunctional safety related parametersMTTF_g800 aMission Time (T_M)20 aDiagnostic Coverage (DC)0%Indicators/operating means0%Operation indicatorLED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz)Function indicatorLED yellow ON: lights when object is detectedElectrical specifications0 $<$ < 10 mA	Angle of divergenceapprox. 2°Optical facefrontalAmbient light limitEN 60947-5-2: 30000 LuxFunctional safety related parametersMTTF_d800 aMission Time (T_M)20 aDiagnostic Coverage (DC)0%Indicators/operating means0Operation indicatorLED green, statically lit Power on , short-circuit : LED greenfunction indicatorLED green, statically lit Power on , short-circuit : LED greenfunction indicatorLED yellow ON: lights when object is detectedElectrical specificationsOperating voltageOperating voltageUBNo-load supply currentI0lo< 10 mA	Angle deviation		approx. 2 °
Optical face frontal Ambient light limit EN 60947-5-2 : 30000 Lux Functional safety related parameters MTTFq Mission Time (T _M) 20 a Diagnostic Coverage (DC) 0 % Indicators/Operating means LED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz) Function indicator LED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz) Porating voltage UB Ov-load supply current 10 30 V DC , class 2 No-load supply current 10 m A Output Switching type Switching type NO contact Signal output 1 PNP output, short-circuit protected, reverse polarity protected open collector Switching frequency f Switching frequency f Wolage drop Ud Voltage drop Ud Storage temperature -25 60 °C (-13 140 °F) Storage temperature -25 60 °C (-13 140 °F) Storage temperature -25 60 °C (-13 140 °F) Housing depth 13.8 mm Dagree di protection <t< td=""><td>Optical facefrontalAmbient light limitEN 60947-5-2 : 30000 LuxFunctional safety related parametersMTTFd800 aMitssion Time (T_M)20 aDiagnostic Coverage (DC)0 %Indicators/operating means0Operation indicatorLED green, statically lit Power on , short-circuit : LED greeFunction indicatorLED yellow ON: lights when object is detectedElectrical specifications0Operating voltageUB10 30 V DC , class 2No-load supply currentIoIo< 10 mA</td>OutputSwitching typeNO contactSignal output1 PNP output, short-circuit protected, reverse polarity protoopen collectorSwitching voltagemax. 30 V DCSwitching frequencyfapprox. 800 HzResponse time600 μsConformityProduct standardEN 60947-5-2Ambient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing width7.5 mmHousing width7.5 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialHousingHousingPC/ABS and TPU</t<>	Optical facefrontalAmbient light limitEN 60947-5-2 : 30000 LuxFunctional safety related parametersMTTFd800 aMitssion Time (T _M)20 aDiagnostic Coverage (DC)0 %Indicators/operating means0Operation indicatorLED green, statically lit Power on , short-circuit : LED greeFunction indicatorLED yellow ON: lights when object is detectedElectrical specifications0Operating voltageUB10 30 V DC , class 2No-load supply currentIoIo< 10 mA			approx. 2 mm at a distance of 15 mm
Ambient light limit EN 60947-5-2 : 30000 Lux Functional safety related parameters 800 a MTTFq 800 a Mission Time (T _M) 20 a Diagnostic Coverage (DC) 0 % Indicators/operating means EED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz) Function indicator LED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz) Function indicator UB Operation source 0 mA Operating voltage UB Operating voltage UB No-load supply current 0 Voltad 10 30 V DC, class 2 No-load supply current 0 Switching type NO contact Signal output 1 PNP output, short-circuit protected, reverse polarity protecter open collector Switching requency f Woltage drop Ud Voltage drop Ud Conformity E Product standard EN 60947-5-2 Ambient temperature -25 60 °C (-13 140 °F) Storage temperature -30 70 °	Ambient light limitEN 60947-5-2 : 30000 LuxFunctional safety related parameters MTF_d 800 aMTF_d20 aDiagnostic Coverage (DC)0 %Indicators/operating meansOperation indicatorLED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz)Function indicatorLED yellow ON: lights when object is detectedElectrical specificationsNoOperating voltageUB 010 30 V DC , class 2No-load supply currentI0 0< 10 mA	U .		approx. 2 °
Functional safety related parametersMTTFd800 aMTTFd800 aMission Time (TM)20 aDiagnostic Coverage (DC)0%Indicators/operating means0%Operation indicatorLED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 H2)Function indicatorLED yellow ON: lights when object is detectedElectrical specifications0Operating voltageUg1010 30 V DC , class 2No-load supply currentIg10<10 mA	Functional safety related parametersMTTFd800 aMTFFd800 aMission Time (TM)20 aDiagnostic Coverage (DC)0 %Indicators/operating means0Operation indicatorLED green, statically lit Power on , short-circuit : LED greenFunction indicatorLED yellow ON: lights when object is detectedElectrical specifications0Operating voltageUBNo-load supply current100<10 mA			frontal
MTTFd800 aMission Time (T_M)20 aDiagnostic Coverage (DC)0 %Indicators/operating meansUOperation indicatorLED green, statically lit Power on , short-circuit : LED green fisshing (approx. 4 Hz)Function indicatorLED yellow ON: lights when object is detectedElectrical specificationsOperating voltageOperating voltageUB1030 V DC , class 2No-load supply currentI010< 10 mA	MTTFd800 aMission Time (T_M)20 aDiagnostic Coverage (DC)0 %Indicators/operating meansLED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz)Function indicatorLED yellow ON: lights when object is detectedElectrical specificationsOperating voltageOperating voltageUB10 30 V DC , class 2No-load supply currentI0Switching typeNO contactSignal output1 PNP output, short-circuit protected, reverse polarity protopen collectorSwitching voltagemax. 30 V DCSwitching voltagemax. 30 V DCSwitching requencyfapprox. 800 HzResponse time600 μ sConformityProduct standardEN 60947-5-2Ambient conditionsAmbient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing height1.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialHousingHousingPC/ABS and TPU	Ambient light limit		EN 60947-5-2 : 30000 Lux
Mission Time (T_M)20 aDiagnostic Coverage (DC)0 %Indicators/operating means0Operation indicatorLED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz)Function indicatorLED yellow ON: lights when object is detectedElectrical specifications0Operating voltageUBNo-load supply currentI0 I_0 < 10 mA	Mission Time (T_M)20 aDiagnostic Coverage (DC)0 %Indicators/operating meansLED green, statically lit Power on , short-circuit : LED greenOperation indicatorLED green, statically lit Power on , short-circuit : LED greenFunction indicatorLED yellow ON: lights when object is detectedElectrical specificationsOperating voltageOperating voltageUB10 30 V DC , class 2No-load supply currentI0< 10 mA	Functional safety related parame	eters	
Diagnostic Coverage (DC)0 %Indicators/operating meansOperation indicatorLED green, statically lit Power on , short-circuit : LED green Itashing (approx. 4 Hz)Function indicatorLED yellow ON: lights when object is detectedElectrical specificationsOperating voltageUBNo-load supply currentIo 0 < 10 mA	Diagnostic Coverage (DC)0 %Indicators/operating meansLED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz)Function indicatorLED yellow ON: lights when object is detectedElectrical specifications0Operating voltageUB 10 30 V DC , class 2No-load supply currentI0 0 < 10 mAOutputNO contactSignal output1 PNP output, short-circuit protected, reverse polarity proteopen collectorSwitching voltagemax. 30 V DCSwitching voltagemax. 30 V DCSwitching frequencyfapprox. 800 HzResponse time600 μ sConformityProduct standardEN 60947-5-2Ambient temperature-25 60 °C (-13 140 °F)Storage temperature-25 60 °C (-13 140 °F)Storage temperature-26 maxHousing width7.5 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialPC/ABS and TPU	MTTF _d		800 a
Indicators/operating meansLED green, statically lit Power on, short-circuit : LED green flashing (approx. 4 Hz)Function indicatorLED yellow ON: lights when object is detectedElectrical specificationsOperating voltageUB0.1 0 30 V DC, class 2No load supply currentI0VoltageVB10 30 V DC, class 2Switching typeNO contactSignal output1 PNP output, short-circuit protected, reverse polarity protecte open collectorSwitching voltagemax. 30 V DCSwitching currentmax. 50 mA, resistive loadVoltage dropUd s 1.5 V DCSwitching frequencyfapprox. 800 HzResponse time600 µsConformityProduct standardEN 60947-5-2Ambient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing width7.5 mmHousing width1.967Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialHousingPC/ABS and TPUOptical faceglassCablePURMassapprox. 20 gCablePURMassapprox. 20 gCablePURMassapprox. 20 gCablePURMassapprox. 20 gCablePURMassapprox. 20 gCablePURMassapprox. 20 gCablePURMass<	Indicators/operating meansOperation indicatorLED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz)Function indicatorLED yellow ON: lights when object is detectedElectrical specificationsOperating voltageUBOperating voltageUB10 30 V DC , class 2No-load supply currentI0< 10 mA	Mission Time (T _M)		20 a
Operation indicatorLED green, statically lit Power on , short-circuit : LED green Itashing (approx. 4 Hz)Function indicatorLED yellow ON: lights when object is detectedElectrical specificationsOperating voltageUB0.10 ad supply currentI0< 10 mA	Operation indicatorLED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz)Function indicatorLED yellow ON: lights when object is detectedElectrical specificationsOperating voltageUB 10 30 V DC , class 2Operating voltageUB 10 30 V DC , class 2Operating voltageNo-load supply currentI0 0<10 mA	Diagnostic Coverage (DC)		0 %
Function indicator LED yellow ON: lights when object is detected Electrical specifications Operating voltage UB 1030 V DC , class 2 No-load supply current I0 <10 mA	flashing (approx. 4 Hz)Function indicatorLED yellow ON: lights when object is detectedElectrical specificationsOperating voltageUB10 30 V DC , class 2No-load supply currentI0<10 mA	Indicators/operating means		
Electrical specifications 0 Operating voltage U_B 10 30 V DC , class 2 No-load supply current I_0 <10 mA	Electrical specifications UB 1030 V DC , class 2 No-load supply current I0 < 10 mA	Operation indicator		
Operating voltage U_B 10 30 V DC , class 2No-load supply current I_0 < 10 mA	Operating voltage U_B 10 30 V DC , class 2No-load supply current I_0 < 10 mA	Function indicator		LED yellow ON: lights when object is detected
No-load supply current I ₀ < 10 mA	No-load supply current I_0 < 10 mAOutputNO contactSwitching typeNO contactSignal output1 PNP output, short-circuit protected, reverse polarity proteopen collectorSwitching voltagemax. 30 V DCSwitching currentmax. 50 mA, resistive loadVoltage drop U_d Switching frequencyfapprox. 800 HzResponse time600 μ sConformityProduct standardEN 60947-5-2Ambient conditionsAmbient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing width7.5 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialPC/ABS and TPU	Electrical specifications		
Output NO contact Switching type NO contact Signal output 1 PNP output, short-circuit protected, reverse polarity protected open collector Switching voltage max. 30 V DC Switching current max. 50 mA , resistive load Voltage drop U _d ≤ 1.5 V DC Switching frequency f Response time 600 μs Conformity Product standard Product standard EN 60947-5-2 Ambient conditions -25 60 °C (-13 140 °F) Storage temperature -30 70 °C (-22 158 °F) Mechanical specifications -26 mm Housing width 7.5 mm Housing height 26 mm Housing depth 13.8 mm Degree of protection IP67 Connection 200 mm fixed cable with 3-pin, M8 x 1 connector Material PUR Mass approx. 20 g Cable PUR Mass approx. 20 g Cable length 200 mm	OutputNO contactSwitching typeNO contactSignal output1 PNP output, short-circuit protected, reverse polarity protected, and the protection of the protected of the protected of the protection of the protected of the protection of t	Operating voltage	UB	10 30 V DC , class 2
Switching type NO contact Signal output 1 PNP output, short-circuit protected, reverse polarity protecte open collector Switching voltage max. 30 V DC Switching current max. 50 mA, resistive load Voltage drop U _d Switching frequency f Response time 600 μs Conformity F Product standard EN 60947-5-2 Ambient conditions -25 60 °C (-13 140 °F) Storage temperature -30 70 °C (-22 158 °F) Mechanical specifications -25 60 °C (-13 140 °F) Housing width 7.5 mm Housing width 7.5 mm Housing depth 13.8 mm Degree of protection IP67 Connection 200 mm fixed cable with 3-pin, M8 x 1 connector Material	Switching typeNO contactSignal output1 PNP output, short-circuit protected, reverse polarity protected, reverse polar	No-load supply current	I ₀	< 10 mA
Signal output 1 PNP output, short-circuit protected, reverse polarity protected open collector Switching voltage max. 30 V DC Switching current max. 50 mA , resistive load Voltage drop U _d Switching frequency f Response time 600 μs Conformity Product standard Product standard EN 60947-5-2 Ambient conditions -25 60 °C (-13 140 °F) Storage temperature -30 70 °C (-22 158 °F) Mechanical specifications - Housing width 7.5 mm Housing depth 13.8 mm Degree of protection IP67 Connection 200 mm fixed cable with 3-pin, M8 x 1 connector Material Housing Housing PC/ABS and TPU Optical face glass Cable PUR Mass approx. 20 g Cable length 200 mm	Signal output1 PNP output, short-circuit protected, reverse polarity prote open collectorSwitching voltagemax. 30 V DCSwitching currentmax. 50 mA, resistive loadVoltage drop U_d Switching frequencyfapprox. 800 HzResponse time600 μ sConformityProduct standardEN 60947-5-2Ambient conditionsAmbient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing width7.5 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialHousingPC/ABS and TPU	Output		
open collector Switching voltage max. 30 V DC Switching current max. 50 mA , resistive load Voltage drop U _d Switching frequency f Response time 600 µs Conformity F Product standard EN 60947-5-2 Ambient conditions -25 60 °C (-13 140 °F) Storage temperature -30 70 °C (-22 158 °F) Mechanical specifications -25 mm Housing width 7.5 mm Housing depth 13.8 mm Degree of protection IP67 Connection 200 mm fixed cable with 3-pin, M8 x 1 connector Material PUR Mass approx. 20 g Cable PUR Mass approx. 20 g Cable length 200 mm	open collectorSwitching voltagemax. 30 V DCSwitching currentmax. 50 mA , resistive loadVoltage drop U_d Switching frequencyfapprox. 800 HzResponse time600 μ sConformityProduct standardEN 60947-5-2Ambient conditionsAmbient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing width7.5 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialFHousingPC/ABS and TPU	Switching type		NO contact
Switching currentmax. 50 mA, resistive loadVoltage dropUd≤ 1.5 V DCSwitching frequencyfapprox. 800 HzResponse time600 μsConformityProduct standardEN 60947-5-2Ambient conditions-25 60 °C (-13 140 °F)Storage temperature-25 60 °C (-22 158 °F)Mechanical specifications-26 mmHousing width7.5 mmHousing height26 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterial	Switching currentmax. 50 mA, resistive loadWoltage drop U_d $\leq 1.5 V DC$ Switching frequencyfapprox. 800 HzResponse time $600 \ \mu s$ ConformityProduct standardEN 60947-5-2Ambient conditions $-25 \dots 60 \ ^{\circ}C (-13 \dots 140 \ ^{\circ}F)$ Storage temperature $-25 \dots 60 \ ^{\circ}C (-22 \dots 158 \ ^{\circ}F)$ Mechanical specificationsHousing width7.5 mmHousing height $26 \ mm$ Housing depth $13.8 \ mm$ Degree of protectionIP67Connection $200 \ mm$ fixed cable with 3-pin, M8 x 1 connectorMaterialPC/ABS and TPU	Signal output		1 PNP output, short-circuit protected, reverse polarity protecte open collector
Voltage dropUd g≤ 1.5 V DCSwitching frequencyfapprox. 800 HzResponse time600 μsConformityProduct standardEN 60947-5-2Ambient conditionsAmbient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing width7.5 mmHousing depth26 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialQiassCablePURMassapprox. 20 gCable length200 mm	Voltage dropUd d≤ 1.5 V DCSwitching frequencyfapprox. 800 HzResponse time600 μ sConformityProduct standardEN 60947-5-2Ambient conditions-25 60 °C (-13 140 °F)Storage temperature-25 60 °C (-22 158 °F)Mechanical specifications-25 mmHousing width7.5 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialPC/ABS and TPU	Switching voltage		max. 30 V DC
Switching frequency f approx. 800 Hz Response time 600 µs Conformity Product standard EN 60947-5-2 Ambient conditions Ambient temperature -25 60 °C (-13 140 °F) Storage temperature -25 60 °C (-22 158 °F) Mechanical specifications Housing width 7.5 mm Housing depth 26 mm Housing depth 13.8 mm Degree of protection IP67 Connection 200 mm fixed cable with 3-pin, M8 x 1 connector Material Housing PC/ABS and TPU Optical face glass Cable PUR Mass approx. 20 g Cable length 200 mm	Switching frequencyfapprox. 800 HzResponse time600 μsConformityProduct standardEN 60947-5-2Ambient conditionsAmbient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing width7.5 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialHousingPC/ABS and TPU	Switching current		max. 50 mA , resistive load
Response time600 μsConformityEN 600 μsProduct standardEN 60947-5-2Ambient conditions-25 60 °C (-13 140 °F)Ambient temperature-25 60 °C (-22 158 °F)Mechanical specifications-25 60 °C (-22 158 °F)Housing width7.5 mmHousing height26 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterial	Response timeapproximationResponse time60 μsConformityFroduct standardProduct standardEN 60947-5-2Ambient conditions-25 60 °C (-13 140 °F)Storage temperature-25 60 °C (-22 158 °F)Mechanical specifications	Voltage drop	Ud	≤ 1.5 V DC
ConformityProduct standardEN 60947-5-2Ambient conditionsAmbient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing width7.5 mmHousing height26 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialHousingPC/ABS and TPUOptical faceglassCablePURMassapprox. 20 gCable length200 mmVApprovals and certificatesUL approvalcULus Recognized, Class 2 Power Source	ConformityProduct standardEN 60947-5-2Ambient conditionsAmbient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing width7.5 mmHousing height26 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialFC/ABS and TPU	Switching frequency	f	approx. 800 Hz
Product standardEN 60947-5-2Ambient conditionsAmbient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing width7.5 mmHousing height26 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialHousingPC/ABS and TPUOptical faceglassCablePURMassapprox. 20 gCable length200 mmUL approvalcULus Recognized, Class 2 Power Source	Product standardEN 60947-5-2Ambient conditionsAmbient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing width7.5 mmHousing height26 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialPC/ABS and TPU	Response time		600 µs
Ambient conditionsAmbient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing width7.5 mmHousing width26 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialglassCollePURMassapprox. 20 gCable length200 mmUL approvalcULus Recognized, Class 2 Power Source	Ambient conditionsAmbient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing width7.5 mmHousing height26 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialHousingHousingPC/ABS and TPU	Conformity		
Ambient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specifications7.5 mmHousing width7.5 mmHousing height26 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialglassColleglassCablePURMassapprox. 20 gCable length200 mmUL approvalcULus Recognized, Class 2 Power Source	Ambient temperature-25 60 °C (-13 140 °F)Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing width7.5 mmHousing height26 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialPC/ABS and TPU	Product standard		EN 60947-5-2
Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing width7.5 mmHousing height26 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialImage: Cable of CableHousingPC/ABS and TPUOptical faceglassCablePURMassapprox. 20 gCable length200 mmCullus Recognized, Class 2 Power Source	Storage temperature-30 70 °C (-22 158 °F)Mechanical specificationsHousing width7.5 mmHousing height26 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialHousingHousingPC/ABS and TPU	Ambient conditions		
Mechanical specifications Housing width 7.5 mm Housing height 26 mm Housing depth 13.8 mm Degree of protection IP67 Connection 200 mm fixed cable with 3-pin, M8 x 1 connector Material Housing PC/ABS and TPU Optical face glass Cable PUR Mass approx. 20 g Cable length 200 mm	Mechanical specifications Housing width 7.5 mm Housing height 26 mm Housing depth 13.8 mm Degree of protection IP67 Connection 200 mm fixed cable with 3-pin, M8 x 1 connector Material Housing PC/ABS and TPU	Ambient temperature		-25 60 °C (-13 140 °F)
Housing width7.5 mmHousing height26 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialHousingPC/ABS and TPUOptical faceglassCablePURMassapprox. 20 gCable length200 mmUL approvalcULus Recognized, Class 2 Power Source	Housing width7.5 mmHousing height26 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialHousingHousingPC/ABS and TPU	Storage temperature		-30 70 °C (-22 158 °F)
Housing height26 mmHousing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialHousingPC/ABS and TPUOptical faceglassCablePURMassapprox. 20 gCable length200 mmUL approvalcULus Recognized, Class 2 Power Source	Housing height 26 mm Housing depth 13.8 mm Degree of protection IP67 Connection 200 mm fixed cable with 3-pin, M8 x 1 connector Material PC/ABS and TPU	Mechanical specifications		
Housing depth13.8 mmDegree of protectionIP67Connection200 mm fixed cable with 3-pin, M8 x 1 connectorMaterialHousingPC/ABS and TPUOptical faceglassCablePURMassapprox. 20 gCable length200 mmCull approvals and certificatesUL approvalcULus Recognized, Class 2 Power Source	Housing depth 13.8 mm Degree of protection IP67 Connection 200 mm fixed cable with 3-pin, M8 x 1 connector Material Housing Housing PC/ABS and TPU	Housing width		7.5 mm
Degree of protection IP67 Connection 200 mm fixed cable with 3-pin, M8 x 1 connector Material PC/ABS and TPU Optical face glass Cable PUR Mass approx. 20 g Cable length 200 mm	Degree of protection IP67 Connection 200 mm fixed cable with 3-pin, M8 x 1 connector Material PC/ABS and TPU			26 mm
Connection 200 mm fixed cable with 3-pin, M8 x 1 connector Material Housing Housing PC/ABS and TPU Optical face glass Cable PUR Mass approx. 20 g Cable length 200 mm	Connection 200 mm fixed cable with 3-pin, M8 x 1 connector Material Housing PC/ABS and TPU			13.8 mm
Material Housing PC/ABS and TPU Optical face glass Cable PUR Mass approx. 20 g Cable length 200 mm	Material Housing PC/ABS and TPU	. .		IP67
Housing PC/ABS and TPU Optical face glass Cable PUR Mass approx. 20 g Cable length 200 mm Approvals and certificates UL approval CULus Recognized, Class 2 Power Source	Housing PC/ABS and TPU	Connection		200 mm fixed cable with 3-pin, M8 x 1 connector
Optical face glass Cable PUR Mass approx. 20 g Cable length 200 mm Approvals and certificates UL approval cULus Recognized, Class 2 Power Source	-	Material		
Cable PUR Mass approx. 20 g Cable length 200 mm Approvals and certificates UL approval UL approval cULus Recognized, Class 2 Power Source		Housing		PC/ABS and TPU
Mass approx. 20 g Cable length 200 mm Approvals and certificates UL approval UL approval cULus Recognized, Class 2 Power Source	Optical face glass	Optical face		glass
Cable length 200 mm Approvals and certificates UL approval UL approval cULus Recognized, Class 2 Power Source	Cable PUR	Cable		PUR
Approvals and certificates UL approval cULus Recognized, Class 2 Power Source	Mass approx. 20 g	Mass		approx. 20 g
UL approval CULus Recognized, Class 2 Power Source	Cable length 200 mm	Cable length		200 mm
CCC approval CCC approval / marking not required for products rated <36				-
	CCC approval CCC approval / marking not required for products rated <	CCC approval		CCC approval / marking not required for products rated ≤36 V

Characteristic response curve Offset Y [mm] 1.5 1.0 0.5 0.0 -0.5 -1.0 -1.5 6 10 12 14 8 16 2 Distance X [mm] — — — • grey 18 %

series, mounting bracket MH-R3-02 Mounting aid for sensors from the R3 series, mounting bracket MH-R3-03 Mounting aid for sensors from the R3 series, mounting bracket

Accessories

MH-R3-01

MH-R3-04 Mounting aid for sensors from the R3 series, mounting bracket

Mounting aid for sensors from the R3

V3-WM-2M-PUR Female cordset single-ended, M8, 3-pin, PUR cable

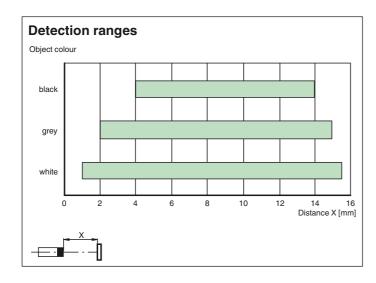
Other suitable accessories can be found at www.pepperl-fuchs.com

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

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



Pepperl+Fuchs Group www.pepperl-fuchs.com

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