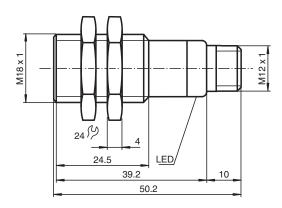


Single head system



Dimensions



Technical Data

General specifications	
Sensing range	50 800 mm
Adjustment range	70 800 mm
Dead band	0 50 mm
Standard target plate	100 mm x 100 mm
Transducer frequency	approx. 255 kHz
Response delay	approx. 100 ms
Indicators/operating means	
LED green	Power on

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

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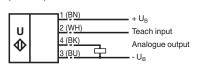


UB800-18GM40-U-V1

Operating voltage Up 1530 V DC, ripple 10 %ss No-lead supply current Up ≤ 20 mA Input type I program input lower evaluation limit A1:: Up +1 V, upper evaluation limit A2:: +4 V +Ug invert evaluation limit A1:: Up +1 V, upper evaluation limit A2:: +4 V +Ug invert evaluation limit A1:: Up +1 V, upper evaluation limit A2:: +4 V +Ug invert evaluation limit A1:: 00 m. Output I analog output 0 10 V Output type 1 analog output 0 10 V Default setting 0.4 mm at max. sensing range Resolution 0.4 mm at max. sensing range Deviation of the characteristic curve 4.1 % of full-scale value Resolution 4.0 % of full-scale value Load impedance 4.0 % of full-scale value Load impedance 4.0 % of full-scale value Compliance with standards and directives 5.0 % of full-scale value Standard conformity EN IEC 60947-5-2:0200 IEC 60947-5-2:000 IEC 60947-5-2:000 IEC 60947-5-2:000 IEC 60947-5-2:000 IEC 60947-5	Technical Data		
LED red solid red. Error red, flashing: program function, object detected Electrical specifications red, flashing: program function, object not detected Electrical specifications 15 30 V DC, ripple 10 %ss Operating voltage \baseling Input Ingregram input Input specification Ingregram input Input specification Ingregram input Output type 1 analog output 0 10 V Default setting 04 evaluation limit A1: -Ug +1 V, upper evaluation limit A2: +4 V +Ug input sectors > 1 s Default setting 04 mm at max. sensing range Resolution 04 full-scale value Default setting 0.4 full-scale value Resolution 0.4 full-scale value Inegrating input dimedance > 1.5 % of full-scale value Indegrating input dimedance > 1.5 % of full-scale value Compliance with standards and directives > 1.5 % of full-scale value Compliance with standards and directives > 1.5 % of full-scale value Compliance with standards and directives > 1.5 % of full-scale value Compliance with standards and directives > 1.5 % of full-scale value			solid vollow: object in the evaluation range
Image: Biologic	LED yellow		
Operating voltage Up 1530 V DC, ripple 10 %ss No-lead supply current Up ≤ 20 mA Input type I program input lower evaluation limit A1:: Up +1 V, upper evaluation limit A2:: +4 V +Ug invert evaluation limit A1:: Up +1 V, upper evaluation limit A2:: +4 V +Ug invert evaluation limit A1:: Up +1 V, upper evaluation limit A2:: +4 V +Ug invert evaluation limit A1:: 00 m. Output I analog output 0 10 V Output type 1 analog output 0 10 V Default setting 0.4 mm at max. sensing range Resolution 0.4 mm at max. sensing range Deviation of the characteristic curve 4.1 % of full-scale value Resolution 4.0 % of full-scale value Load impedance 4.0 % of full-scale value Load impedance 4.0 % of full-scale value Compliance with standards and directives 5.0 % of full-scale value Standard conformity EN IEC 60947-5-2:0200 IEC 60947-5-2:000 IEC 60947-5-2:000 IEC 60947-5-2:000 IEC 60947-5-2:000 IEC 60947-5	LED red		
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Input Iprogram input input type Iprogram input input impedance: > 4.7 kΩ, pulse duration: ≥ 1 s Output 0utput impedance: > 4.7 kΩ, pulse duration: ≥ 1 s Output type 1 analog output 0 10 V Default setting evaluation limit A1: 70 mm evaluation limit A2: 800 mm Resolution 0.4 mm at max. sensing range Deviation of the characteristic curve ≤ 1 % of full-scale value Repeat accuracy ± 0.5 % of full-scale value Load impedance > 1 kOhm Temperature influence ± 1.5 % of full-scale value Compliance with standards and directives EN IEC 60047-5-2:200 IEC 60047-	Operating voltage	UB	15 30 V DC , ripple 10 % _{SS}
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Default setting evaluation limit A1: 70 mm evaluation limit A2: 800 mm Resolution 0.4 mm at max. sensing range Deviation of the characteristic curve ± 1 % of full-scale value Repeat accuracy ± 0.5 % of full-scale value Load impedance > 1 KOhm Temperature influence ± 1.5 % of full-scale value Compliance with standards and directives ± Standards conformity EN IEC 60947-5-2:2020 IEC 60947-5-2:2030 IEC 60947-5-7:2003 Approvals and certificates EN IEC 60947-5-2:2020 IEC 60947-5-7:2003 UL approval cULus Listed, Class 2 Power Source CCC approval CCC approval / marking not required for products rated ≤36 V Ambient conditions -40 85 °C (-40 185 °F) Storage temperature -25 70 °C (-13 158 °F) Storage temperature -25 70 °C (-14 185 °F) Motentical specifications Connector plug M12 x 1 , 4-pin Housing length 40 mm Housing length 18 mm Degree of protection IP67 Material IP3 mm Image: pass, nickel-plated epsay resin/hollow glass sphere mixture; foam polyurethane, cover PBT	Output		
Resolution0.4 mm at max. sensing rangeDeviation of the characteristic curve \pm 1 % of full-scale valueRepeat accuracy \pm 0.5 % of full-scale valueLoad impedance $>$ 1 kOhmTemperature influence \pm 1.5 % of full-scale valueCompliance with standards and directivesStandards onformityStandardsEN IEC 60947-5-2:2020 IEC 60947-5-2:2019 IEC 60947-5-2:2019 IEC 60947-5-7:2003 IEC 60947-5-7:2003 	Output type		1 analog output 0 10 V
Deviation of the characteristic curve	Default setting		evaluation limit A1: 70 mm evaluation limit A2: 800 mm
Repeat accuracy ± 0.5 % of full-scale value Load impedance > 1 kOhm Temperature influence ± 1.5 % of full-scale value Compliance with standards and directives Standard conformity Standards EN IEC 60947-5-2:200 IEC 60947-5-2:2003 IEC 60947-5-2:2019 EN 60947-5-2:2019 EN 60947-5-2:2019 EN 60947-5-2:2019 EN 60947-5-2:2003 Approvals and certificates EN IEC 60947-5-2:2003 UL approval cULus Listed, Class 2 Power Source CCC approval CCC approval / marking not required for products rated ≤36 V Ambient conditions cCC caproval / marking not required for products rated ≤36 V Ambient temperature -25 70 °C (-13 158 °F) Storage temperature -40 85 °C (-40 185 °F) Storage temperature Connector plug M12 x 1 , 4-pin Housing length 40 mm Housing length 40 mm Housing diameter IB mm Degree of protection IP67 Material prass, nickel-plated Housing prass, nickel-plated	Resolution		0.4 mm at max. sensing range
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Temperature influence ± 1.5 % of full-scale value Compliance with standards and directives Standard conformity Standards EN IEC 60947-5-2:2020 IEC 60947-5-2:2003 IEC 60947-5-2:2003 IEC 60947-5-7:2003 Approvals and certificates UL us be constructed of the co	Repeat accuracy		± 0.5 % of full-scale value
Compliance with standards and directives Standard conformity Standards Standards Standards EN IEC 60947-5-2:2020 IEC 60947-5-7:2003 Approvals and certificates UL approval CCC approval CCC approval CCC approval CCC approval Ambient conditions Ambient temperature Connection type Connection type Connection type Indusing length Housing diameter Degree of protection Material Housing Industrial Industrial Industrial Industrial Industrial Industrial	Load impedance		> 1 kOhm
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IEC 60947-5-7:2003 IEC 60947-5-7:2003Approvals and certificatesUL approvalcULus Listed, Class 2 Power SourceCCC approvalCCC approval / marking not required for products rated ≤36 VAmbient conditionsAmbient temperature-25 70 °C (-13 158 °F)Storage temperaturea-40 85 °C (-40 185 °F)Storage temperature2Connection typeConnector plug M12 x 1 , 4-pinHousing length40 mmHousing diameter18 mmDegree of protection1967Material197Housingbrass, nickel-platedTransducerepoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT	Standard conformity		
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UL approvalCCLus Listed, Class 2 Power SourceCCC approvalCCC approval / marking not required for products rated ≤36 VAmbient conditions-25 70 °C (-13 158 °F)Ambient temperature-25 70 °C (-40 185 °F)Storage temperature-40 85 °C (-40 185 °F)Mechanical specificationsConnector plug M12 x 1, 4-pinMousing length40 mmHousing diameter18 mmDegree of protectionIP67MaterialIP67Housingbrass, nickel-platedTransducerEoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT	Approvals and certificates		
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Storage temperature-40 85 °C (-40 185 °F)Mechanical specificationsConnection typeConnector plug M12 x 1 , 4-pinConnection type40 mmHousing length18 mmDegree of protection1967MaterialIP67Housingbrass, nickel-platedTransducerepoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT	Ambient conditions		
Storage temperature-40 85 °C (-40 185 °F)Mechanical specificationsConnection typeConnector plug M12 x 1 , 4-pinConnection type40 mmHousing length18 mmDegree of protection1967MaterialIP67Housingbrass, nickel-platedTransducerepoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT	Ambient temperature		-25 70 °C (-13 158 °F)
Mechanical specifications Connection type Connector plug M12 x 1, 4-pin Housing length 40 mm Housing diameter 18 mm Degree of protection IP67 Material brass, nickel-plated Housing brass, nickel-plated Transducer epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT			
Housing length40 mmHousing diameter18 mmDegree of protectionIP67MaterialHousingbrass, nickel-platedTransducerepoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT	Mechanical specifications		
Housing diameter18 mmDegree of protectionIP67MaterialHousingbrass, nickel-platedTransducerepoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT	Connection type		Connector plug M12 x 1, 4-pin
Degree of protection IP67 Material Fransducer Housing brass, nickel-plated Transducer epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT	Housing length		40 mm
Degree of protection IP67 Material Fransducer Housing brass, nickel-plated Transducer epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT	• •		18 mm
Material brass, nickel-plated Housing brass, nickel-plated Transducer epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT	-		
Transducer epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT			
Transducer epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT	Housing		brass, nickel-plated
	-		
	Mass		25 g

Connection

Standard symbol/Connections: (version U)



Core colours in accordance with EN 60947-5-2.

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

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CHS 2

Connection Assignment

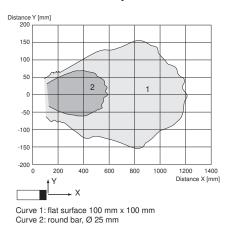


Wire colors in accordance with EN 60947-5-2

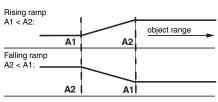
1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Characteristic Curve

Characteristic response curve



Programming the analog output mode



A1 -> ∞, A2 -> ∞: Detection of object presence

Object detected: 10 V No object detected: 0 V

Programming

The sensor features a programmable analog output with two programmable evaluation boundaries. Programming the evaluation boundaries and the operating mode is done by applying the supply voltage $-U_B$ or $+U_B$ to the Teach-In input. The supply voltage must be applied to the Teach-In input for at least 1 s. LEDs indicate whether the sensor has recognized the target during the programming procedure. **Note**:

Evaluation boundaries may only be specified directly after Power on. A time lock secures the adjusted switching points against unintended modification 5 minutes after Power on. To modify the evaluation boundaries later, the user may specify the desired values only after a new Power On. Note:

If a programming adapter UB-PROG2 is used for the programming procedure, button A1 is assigned to -UB and button A2 is assigned to +UB.

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Programming

Programming the analog output

- Rising ramp 1. Place the target at the near end of the desired evaluation range
- 2. Program the evaluation boundary by applying -U_B to the Teach-In input (yellow LED flashes)
- 3. Disconnect the Teach-In input from $-U_B$ to save the evaluation boundary
- 4. Place the target at the far end of the desired evaluation range
- 5. Program the evaluation boundary by applying +U_B to the Teach-In input (yellow LED flashes)
- 6. Disconnect the Teach-In input from $+U_B$ to save the evaluation boundary
- Falling ramp
- 1. Place the target at the far end of the desired evaluation range
- 2. Program the evaluation boundary by applying $-U_B$ to the Teach-In input (yellow LED flashes)
- 3. Disconnect the Teach-In input from $-U_B$ to save the evaluation boundary
- 4. Place the target at the near end of the desired evaluation range
- 5. Program the evaluation boundary by applying $+U_B$ to the Teach-In input (yellow LED flashes)
- 6. Disconnect the Teach-In input from $+U_B$ to save the evaluation boundary

4

Installation Conditions

If the sensor is installed at places, where the environment temperature can fall below 0 °C, for the sensors fixation, one of the mounting flanges BF18, BF18-F or BF 5-30 must be used.

In case of direct mounting of the sensor in a through hole using the steel nuts, it has to be fixed at the middle of the housing thread. If a fixation at the front end of the threaded housing is required, plastic nuts with centering ring (accessories) must be used.

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

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