



### Basic features

<b>Application</b>	Object detection
<b>Approval/Conformity</b>	CE UKCA cULus WEEE Ecolab
<b>Basic standard</b>	IEC 60947-5-2
<b>Operating mode</b>	SIO Mode IO-Link Mode
<b>Scope of delivery</b>	2x nut M12x1
<b>Secondary features for condition monitoring</b>	Vibration monitoring Inclination monitoring and installation aid Internal temperature monitoring Internal humidity detection

### Display/Operation

<b>Function indicator</b>	yes
<b>Power indicator</b>	no

### Electrical connection

<b>Connection</b>	M12x1-Male, 4-pin, A-coded
<b>Polarity reversal protected</b>	yes
<b>Protection against device mix-ups</b>	yes
<b>Short-circuit protection</b>	yes

### Electrical data

<b>Load capacitance max. at Ue</b>	0.25 µF
<b>Operating voltage U<sub>b</sub></b>	10...30 VDC
<b>Rated operating current I<sub>e</sub></b>	100 mA
<b>Rated operating voltage U<sub>e</sub> DC</b>	24 V
<b>Rated short circuit current</b>	100 A
<b>Ready delay t<sub>v</sub> max.</b>	300 ms
<b>Ripple max. (% of U<sub>e</sub>)</b>	10 %
<b>Switching frequency</b>	1000 Hz
<b>Utilization category</b>	DC -13
<b>Voltage drop static max.</b>	1.5 V

### Environmental conditions

<b>Ambient temperature</b>	-40...85 °C
<b>Contamination scale</b>	3
<b>EN 60068-2-27, Shock</b>	Half-sinus, 30 g <sub>n</sub> , 11 ms
<b>EN 60068-2-6, Vibration</b>	55 Hz, amplitude 1 mm, 3x30 min
<b>IP rating</b>	IP68, IP69K

### Functional safety

<b>MTTF (40 °C)</b>	380.7 a
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Smart Automation and Monitoring System  
 Inductive Sensors  
**BES M12EG1-L01C80F-S04G-L04**  
 Order Code: **BES05ZW**



**IO-Link**

<b>IO-Link Profil IDs</b>	0x0004 SSP2.1 0x0005 SSP2.2 0x0006 SSP2.3 0x4000 Identification and Diagnosis
<b>Supported IO-Link Profiles</b>	Common Profile Legacy Smart Sensor Profile Smart Sensor Profile - Adjustable Switching Sensor

**Interface**

<b>Interface</b>	IO-Link 1.1
<b>Interface setting option</b>	Factory setting (Reset) SIO mode/IO-Link mode Teach-In of switchpoints
<b>Process data IN</b>	Teaching successfully reply 1 byte
<b>Switching output</b>	Switching state PNP/NPN/push-pull NO/NC Push-pull NO/NC

**Material**

<b>Housing material</b>	1.4404 stainless steel
<b>Material sensing surface</b>	PBT

**Mechanical data**

<b>Dimension</b>	Ø 12 x 65 mm
<b>Installation</b>	non-flush
<b>Size</b>	M12x1
<b>Tightening torque</b>	10 Nm

**Range/Distance**

<b>Assured operating distance Sa</b>	6.4 mm
<b>Hysteresis H max. (% of Sr)</b>	15 %
<b>Measuring range</b>	1...8 mm
<b>Rated operating distance Sn</b>	8 mm
<b>Repeat accuracy max. (% of Sr)</b>	5 %
<b>Switching distance marking</b>	■ ■
<b>Temperature drift max. (% of Sr)</b>	10 %
<b>Tolerance Sr</b>	10 %

**Remarks**

The sensor is functional again after the overload has been eliminated.  
 Sensors with IO-Link function are not suitable for series or parallel wiring.  
 For more information about MTTF and B10d see MTTF / B10d Certificate

Indication of the MTTF- / B10d value does not represent a binding composition and/or life expectancy assurance; these are simply experiential values with no warranty implications. These declared values also do not extend the expiration period for defect claims or affect it in any way.

**Connector Drawings**



**Wiring Diagrams**

