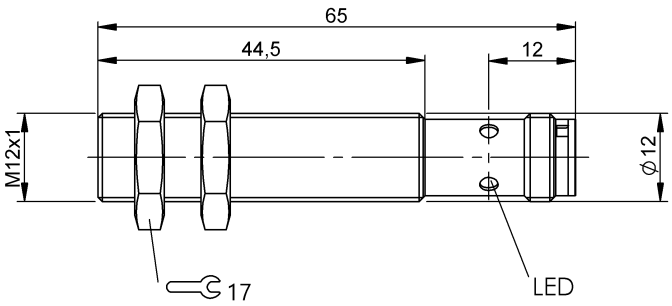
Smart Automation and Monitoring System
Inductive Sensors

BES M12EH1-L01C40B-S04G-L04
Order Code: BES05Y7



Basic features

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

Display/Operation

Function indicator	yes
Power indicator	no

Electrical connection

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

Electrical data

Load capacitance max. at Ue	0.25 µF
Operating voltage Ub	10...30 VDC
Rated operating current Ie	100 mA
Rated operating voltage Ue DC	24 V
Rated short circuit current	100 A
Ready delay tv max.	300 ms
Ripple max. (% of Ue)	10 %
Switching frequency	1000 Hz
Utilization category	DC -13
Voltage drop static max.	1.5 V

Environmental conditions

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

Functional safety

MTTF (40 °C)	380.7 a

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IO-Link

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

Interface

Interface	IO-Link 1.1
Interface setting option	Factory setting (Reset) SIO mode/IO-Link mode Teach-In of switchpoints
Process data IN	Teaching successfully reply 1 byte Switching state
Switching output	PNP/NPN/push-pull NO/NC Push-pull NO/NC
Transfer rate	COM3 (230.4 kBaud)

Material

Housing material	1.4404 stainless steel
Material sensing surface	PBT

Mechanical data

Dimension	Ø 12 x 65 mm
Installation	quasi-flush
Mounting length	44.5 mm
Size	M12x1
Tightening torque	10 Nm

Range/Distance

Assured operating distance Sa	3.2 mm
Hysteresis H max. (% of Sr)	15 %
Measuring range	0.5...4 mm
Rated operating distance Sn	4 mm
Repeat accuracy max. (% of Sr)	5 %
Switching distance marking	■■
Temperature drift max. (% of Sr)	10 %
Tolerance Sr	10 %

Remarks

After eliminating the overload, the sensor must be disconnected from the supply voltage. The sensor is then functional again.
Sensors with IO-Link function are not suitable for series or parallel wiring.
Quasi-flush: See installation instructions for inductive sensors with extended range 939221
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 (Schematic)

