

IND. CONT. EQ.
 81U2
 Class 2 Type 1



Basic features

Approval/Conformity	CE cULus EAC Ecolab FDA compliant WEEE
Basic standard	IEC 60947-5-2
Trademark	Proxinox®

Display/Operation

Function indicator	no
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 U_e	1 μ F
Min. operating current I_m	0 mA
No-load current I_o max., damped	25 mA
No-load current I_o max., undamped	12 mA
Operating voltage U_b	10...30 VDC
Output resistance R_a	2.2 k Ω + D
Rated insulation voltage U_i	75 V DC
Rated operating current I_e	130 mA
Rated operating voltage U_e DC	24 V
Rated short circuit current	100 A
Ready delay t_v max.	50 ms
Residual current I_r max.	80 μ A
Ripple max. (% of U_e)	15 %
Switching frequency	800 Hz
Utilization category	DC -13
Voltage drop static max.	3.5 V

Environmental conditions

Ambient temperature	-40...105 °C
Chemical resistance	6 % H ₂ O ₂ solution 15 % H ₂ O ₂ solution 3 % H ₂ O ₂ solution
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 30 gn, 11 ms
EN 60068-2-6, Vibration	55 Hz, amplitude 1 mm, 3x30 min
IP rating per DIN 40050	IP69K
Protection degree	IP68 per BWN Pr 27

Functional safety

MTTF (40 °C)	1620 a
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Inductive Sensors
BES M12EE1-PSY20B-S04G-L01
Order Code: BES0444



Material

Housing material	Stainless steel (1.4571)
Material sensing surface	PEEK

Mechanical data

Dimension	Ø 12 x 50 mm
Installation	for flush mounting
Size	M12x1
Tightening torque	12 Nm

Output/Interface

Switching output	PNP normally open (NO)
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Range/Distance

Assured operating distance Sa	1.6 mm
Hysteresis H max. (% of Sr)	15.0 %
Rated operating distance Sn	2 mm
Real switching distance sr	2 mm
Repeat accuracy max. (% of Sr)	5.0 %
Temperature drift max. (% of Sr)	10 %
Tolerance Sr	±10 %

Remarks

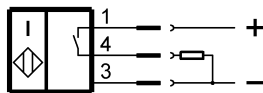
The sensor is functional again after the overload has been eliminated.
 *Current reduction max. 30 min at: $T_a \geq 70 \text{ °C} \dots \leq 105 \text{ °C}$: $I_e = 130 - 2.86 \times (T_a - 70)$.
 For more information about MTTF and B10d see MTTF / B10d Certificate

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



Technical Drawings

