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Inductive sensor

NSB2-12GM45-2E2-V1-S2D2

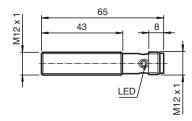
- No unusable area
- 2 mm flush
- Use of standard metallic actuating surfaces
- Applications up to Cat. 2, PLd/SIL 2 possible (can be used redundantly up to Cat. 3, PLe/SIL 3)
- LED for switching state and fault indication
- Safety outputs OSSD
- TÜV certified



Function

The inductive safety sensors are TÜV-certified in accordance with the EU Machinery Directive, Performance Level PLd, Category 2, and SIL2. They are used to safeguard machines and plant components, as well as for reliable position detection in this environment. With their OSSD interface for reliable, redundant shutdown of electronic outputs, they enable easy connection to a safety PLC or fail-safe control interfaces. They can also be operated as standard sensors. The sensors reliably detect standard metal objects in front of the sensor face without coding or similar; there is no blind zone. High characteristic safety values allow longer testing intervals than comparable solutions with a microcontroller. 2 sensors can be connected with 2-channel redundancy and allow PLe as a Category 3 solution.

Dimensions



Technical Data

General specifications		
Switching function		2 x normally open (NO)
Output type		PNP
Rated operating distance	Sn	2 mm
Installation		flush
Output polarity		DC
Assured operating distance	Sa	0 1.62 mm
Actuating element		Reference target according EN IEC 60947-5-2 (FE360 - ST37K) 12 mm x 12 mm x 1 mm
Reduction factor r _{Al}		0.6
Reduction factor r _{Cu}		0.45

Reduction factor r _{Posts} 0.9	Technical Data		
Peduction factor r passe 0.6 4-wire	Beduction factor read		0.9
Output type 4-wire Nominal ratings Volantial ratings U ₈ 18 30 V Rated operating voltage U ₂ 24 V Switching frequency f 0 30 Hz Hysteresis H typ. 5% Reverse polarity protection pulsing Overload resistance yes Voltage drop U ₉ ≤3 V Rated insulation voltage U ₉₀ 30 V Operating current I ₁ 1 30 mA per output Off-state current I ₁ 0 0.5 mA No-load supply current I ₂ ≤15 mA No-load supply current I ₂ ≤15 mA I'm delay before availability I ₁ ≤300 ms Switching state indicator LED, yellow Error indicator LED, yellow Salety Integrity Level (SIL) SIL 2 Performance level (
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Mechanical specifications Connection type Connector plug M12 x 1 , 4-pin Housing material Sensing face PBT Degree of protection IP68 / IP69 Mass 18 g	Storage temperature		-40 85 °C (-40 185 °F)
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Housing material brass, nickel-plated Sensing face PBT Degree of protection IP68 / IP69 Mass 18 g	Mechanical specifications		
Sensing face PBT Degree of protection IP68 / IP69 Mass 18 g	Connection type		Connector plug M12 x 1 , 4-pin
Degree of protection IP68 / IP69 Mass 18 g	Housing material		brass, nickel-plated
Degree of protection IP68 / IP69 Mass 18 g			РВТ
Mass 18 g			IP68 / IP69
-	-		18 g
deficial information	General information		
Scope of delivery 2 self locking nuts in scope of delivery	Scope of delivery		2 self locking nuts in scope of delivery

OSSD2/ OSSD1/

Connection Assignment



Wire colors in accordance with EN 60947-5-2

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

Commissioning

Note for Setting the Safety Control
The sensor has a self-monitoring function for the outputs. Therefore, to avoid any malfunctions of the sensor, deactivate all test pulses of the connected safety controller to the sensor.

Accessories

	BF 12	Mounting flange, 12 mm
	V1-G-S-BK2M-PUR-A- V1-G	Cordset M12 socket yellow straight to M12 plug yellow straight A-coded, 4-pin, PUR cable weld spatter resistant black, UL approved, drag chain suitable, torsion resistant
6	V1-W-S-BK2M-PUR-A- V1-G	Cordset M12 socket yellow angled to M12 plug yellow straight A-coded, 4-pin, PUR cable weld spatter resistant black, UL approved, drag chain suitable, torsion resistant