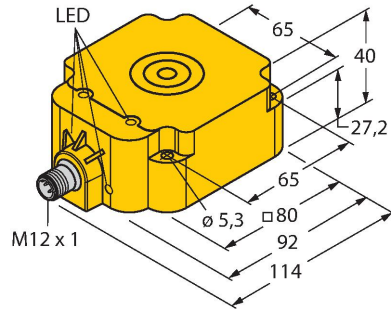


BI50U-Q80-RP6X2-H1143/S1751

Inductive Sensor – With Extended Switching Distance

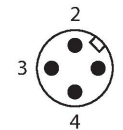
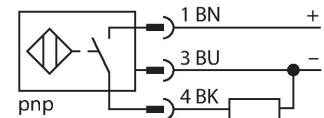
With FM Approval



Features

- Rectangular, height 40 mm
- Active face on top
- Plastic, PBT-GF30-V0
- Factor 1 for all metals
- Increased switching distance
- Protection class IP68
- Resistant to magnetic fields
- DC 3-wire, 10...30 VDC
- NC contact, PNP output
- M12 x 1 male connector

Wiring diagram



Functional principle

Inductive sensors detect metal objects contactless and wear-free. For this, they use a high-frequency electromagnetic AC field that interacts with the target. Inductive sensors generate this field via an RLC circuit with a ferrite coil.

Technical data

Type	BI50U-Q80-RP6X2-H1143/S1751
ID	1608979
Special version	S1751 Corresponds to: FM — Class I Div 2 approval
General data	
Rated switching distance	50 mm
Mounting conditions	Flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Repeat accuracy	$\leq 2 \%$ of full scale
Hysteresis	3...15 %
Electrical data	
Operating voltage U_s	10...30 VDC
Ripple U_{ss}	$\leq 10 \%$ U_{Bmax}
DC rated operating current I_o	≤ 200 mA
No-load current	≤ 15 mA
Residual current	≤ 0.1 mA
Isolation test voltage	0.5 kV
Short-circuit protection	yes/Cyclic
Voltage drop at I_o	≤ 1.8 V
Wire break/reverse polarity protection	yes/Complete
Output function	3-wire, NC contact, PNP
DC field stability	300 mT
AC field stability	300 mT _{ss}

Technical data

Insulation class	□
Switching frequency	0.25 kHz
Mechanical data	
Design	Rectangular, Q80
Dimensions	92 x 80 x 40 mm
Housing material	Plastic, PBT-GF30-V0, Yellow
Active area material	PBT-GF30-V0, yellow
Tightening torque fixing screw	4 Nm
Electrical connection	Connector, M12 × 1
Environmental conditions	
Ambient temperature	-25...+70 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	874 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
Switching state	LED, Yellow

Mounting instructions

Mounting instructions/Description	
	Distance D 240 mm
	Distance W 150 mm
	Distance S 80 mm
	Distance G 300 mm
	Width active area B 80 mm

BI50U-Q80-RP6X2-H1143/S1751| 02/21/2025 13:57 | technical changes reserved