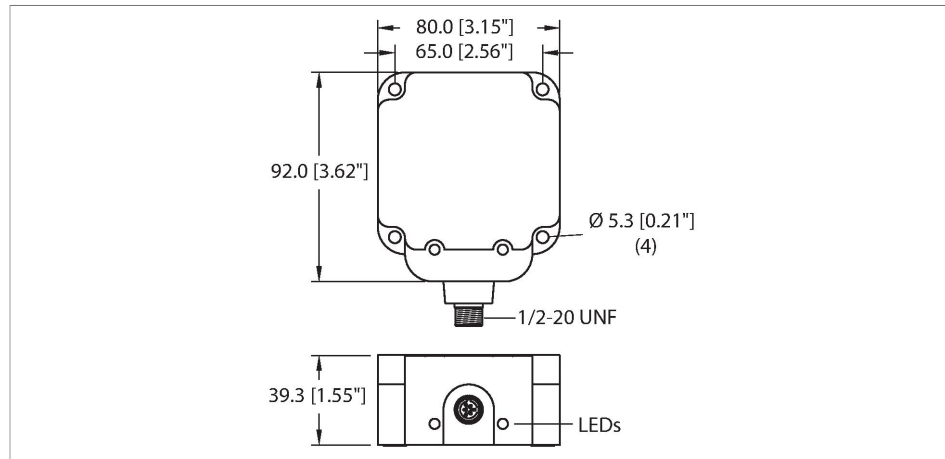


BI50-Q80-ADZ30X2-B3131

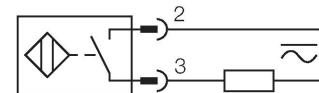
Inductive Sensor – With Increased Switching Distance



Features

- Rectangular, height 40 mm
- Active face on top
- Plastic, PBT-GF30-V0
- Large sensing range
- AC 2-wire, 20...250 VAC
- DC 2-wire, 10...300 VDC
- NO contact
- 1/2" male connector

Wiring diagram

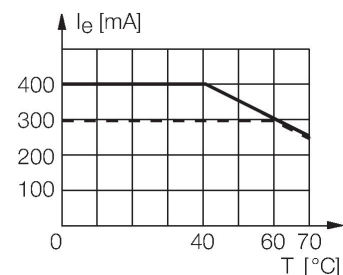


Technical data

Type	BI50-Q80-ADZ30X2-B3131
ID	4200311
General data	
Rated switching distance	50 mm
Mounting conditions	Flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeat accuracy	≤ 2 % of full scale
Hysteresis	3...15 %
Electrical data	
Operating voltage U_b	20...250 VAC
Operating voltage U_b	10...300 VDC
AC rated operational current	≤ 400 mA
DC rated operating current I_o	≤ 300 mA
Frequency	$\geq 50 \dots \leq 60$ Hz
Residual current	≤ 1.7 mA
Isolation test voltage	1.5 kV
Surge current	≤ 3 A (≤ 20 ms max. 5 Hz)
Short-circuit protection	yes/Latching
Voltage drop at I_o	≤ 6 V
Wire break/reverse polarity protection	yes/Complete
Output function	2-wire, NO contact, 2-wire
Smallest operating current	≥ 3 mA

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

Switching frequency	0.02 kHz
Mechanical data	
Design	Rectangular, Q80
Dimensions	92 x 80 x 40 mm
Housing material	Plastic, PBT-GF30-V0
Active area material	PBT-GF30-V0, black
Tightening torque fixing screw	4 Nm
Electrical connection	Connector, 1/2"
Environmental conditions	
Ambient temperature	-25...+70 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	2283 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
Switching state	LED, Red

Mounting instructions

Mounting instructions/Description

The diagram illustrates the mounting of the BI50-Q80-ADZ30X2-B3131 sensor on a rail. It consists of two parts: a perspective view and a top-down view. In the perspective view, two yellow sensor units are mounted on a grey rail. Dimension B is the height of the sensor unit. Dimension D is the distance between the centers of the two sensors. Dimension S is the distance from the center of a sensor to the back of the rail. Dimension W is the total width of the rail assembly. In the top-down view, dimension G is the width of the sensor unit.

Distance D	3 x B
Distance W	3 x Sn
Distance S	1.5 x B
Distance G	6 x Sn
Width active area B	80 mm

BI50-Q80-ADZ30X2-B3131| 02/21/2025 13:44 | technical changes reserved