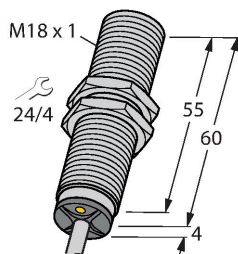


BI5-M18-LIU

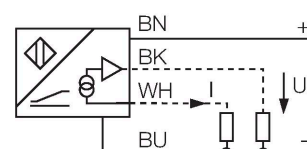
Inductive Sensor – With Analog Output



Features

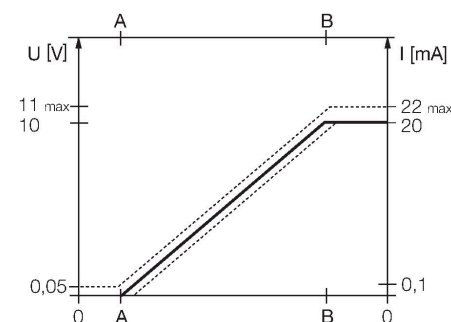
- Threaded barrel, M18 x 1
- Chrome-plated brass
- 4-wire, 15...30 VDC
- Analog output
- 0...10 V and 0...20 mA
- Cable connection

Wiring diagram



Functional principle

Inductive TURCK sensors with analog output accomplish simple control tasks. They provide a current, voltage or frequency signal proportional to the target's distance. The output signal is linear to the distance of the target over the entire sensing range.



Technical data

Type	BI5-M18-LIU
ID	1536000
General data	
Measuring range	2...4 mm
Rated switching distance	5 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
Repeatability	≤ 1 % of measuring range A - B
	0.5 %, after warm-up 0.5 h
Reproducibility	≤ 20 μ m
	≤ 10 μ m, after a warm-up time of 0.5 h
Linearity deviation	≤ 3 %
Temperature drift	$\leq \pm 0.06$ %/K
Electrical data	
Operating voltage U_B	15...30 VDC
Ripple U_{ss}	≤ 10 % U_{Bmax}
No-load current	≤ 8 mA
Isolation test voltage	0.5 kV
Short-circuit protection	yes
Wire break/reverse polarity protection	no/Complete
Output function	4-wire, Analog output
Voltage output	0...10 V
Current output	0...20 mA
Load resistance voltage output	≥ 4.7 k Ω
Load resistance current output	≤ 0.4 k Ω
Measuring sequence frequency	200 Hz

Technical data

Mechanical data	
Design	Threaded barrel, M18 x 1
Dimensions	64 mm
Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, PA12-GF30
End cap	Plastic, EPTR
Max. tightening torque of housing nut	25 Nm
Electrical connection	Cable
Cable quality	Ø 5.2 mm, Gray, LifYY, PVC, 2 m
Core cross-section	4 x 0.34 mm ²
Environmental conditions	
Ambient temperature	-25...+70 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	751 years acc. to SN 29500 (Ed. 99) 40 °C

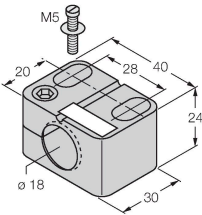
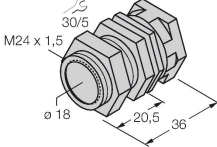
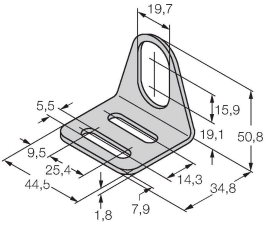
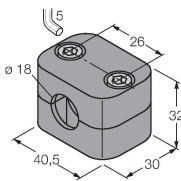
Mounting instructions

Mounting instructions/Description

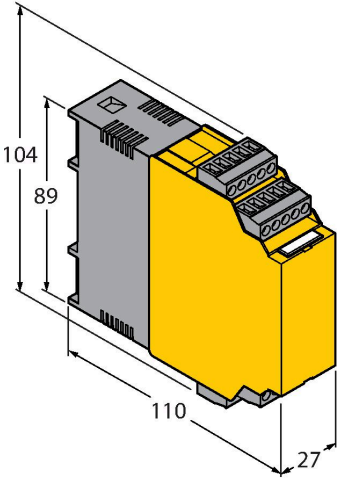
The image contains three technical diagrams illustrating the mounting of a sensor. The top diagram shows a side view of the sensor with a dimension line labeled 'T' indicating the thickness of the mounting plate. The middle diagram shows two sensors with a dimension line labeled 'G' indicating the distance between them. The bottom diagram shows a sensor mounted on a plate with two holes, with dimension lines labeled 'W' (width), 'D' (distance between holes), and 'S' (distance from hole to edge).

Distance D	2 x B
Distance W	12 mm
Distance T	3 x B
Distance S	1.5 x B
Distance G	24 mm
Diameter active area B	Ø 18 mm

Accessories

BST-18B	6947214	Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6	QM-18	6945102	Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M24 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.
					
MW18	6945004	Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)	BSS-18	6901320	Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene
					

Accessories

Dimension drawing	Type	ID	
	IM43-13-SR	7540041	Trip amplifier; 1-channel; input 0/4... 20 mA or 0/2...10 V; supply of 2- or 3-wire transmitters/sensors; limit value adjustment via teach button; three relay outputs with one NO contact each; removable terminal blocks; 27 mm wide; universal voltage supply 20...250 VUC; further Limit value indicators are described in our "Interface Technology" catalog.