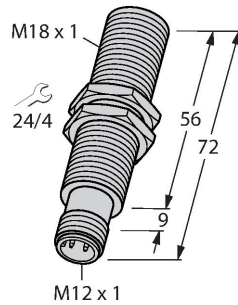


BI8-M18E-LIU-H1141

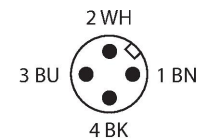
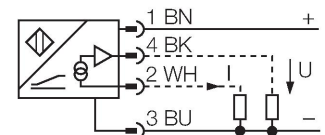
Inductive Sensor – With Analog Output



Features

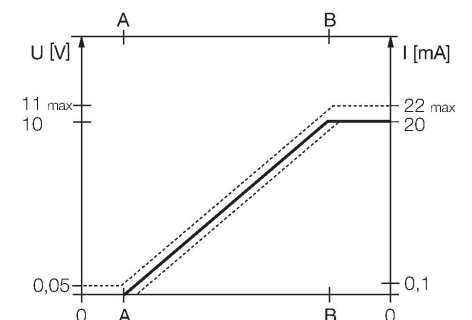
- Threaded barrel, M18 x 1
- Chrome-plated brass
- 4-wire, 15...30 VDC
- Analog output
- 0...10 V and 0...20 mA
- M12 x 1 male connector

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	BI8-M18E-LIU-H1141
ID	1535561
General data	
Measuring range	1...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	$\leq 1 \%$ of measuring range A - B
	0.5 %, after warm-up 0.5 h
Reproducibility	$\leq 40 \mu\text{m}$
	$\leq 20 \mu\text{m}$, after a warm-up time of 0.5 h
Linearity deviation	$\leq 5 \%$
Temperature drift	$\leq \pm 0.06 \%/K$
Electrical data	
Operating voltage U_B	15...30 VDC
Ripple U_{ss}	$\leq 10 \%$ U_{Bmax}
No-load current	$\leq 8 \text{ mA}$
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	$\geq 4.7 \text{ k}\Omega$
Load resistance current output	$\leq 0.4 \text{ k}\Omega$
Measuring sequence frequency	200 Hz

Technical data

Mechanical data	
Design	Threaded barrel, M18 x 1
Dimensions	72 mm
Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, PA12-GF30
Max. tightening torque of housing nut	25 Nm
Electrical connection	Connector, M12 x 1
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

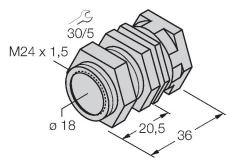
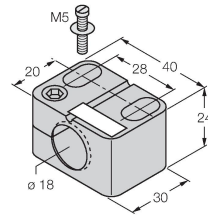
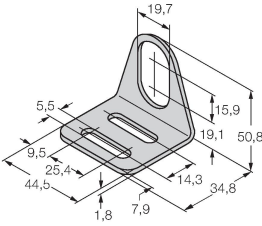
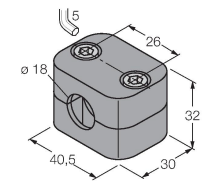
Mounting instructions

Mounting instructions/Description

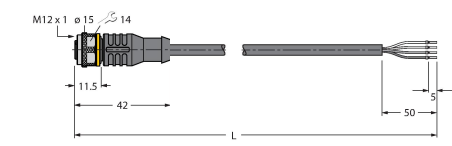
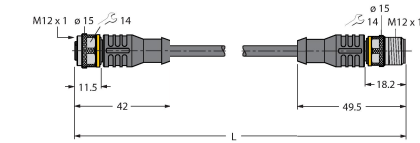
The image contains three technical diagrams illustrating the mounting of a sensor. The top diagram is a side view of a square sensor with a central circular active area (highlighted in yellow) and a threaded mounting post. Dimension 'T' indicates the thickness of the sensor. The middle diagram shows two such sensors being mounted onto a rectangular plate. Dimension 'G' indicates the distance between the centers of the two sensors. The bottom diagram is a top view of two sensors mounted on a plate. Dimension 'W' is the width of the mounting plate, 'D' is the distance between the centers of the two sensors, and 'S' is the distance from the edge of the plate to the center of a sensor.

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

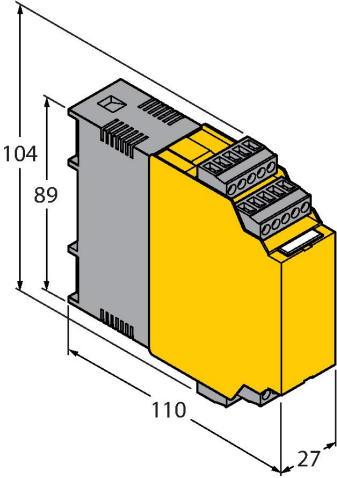
Accessories

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.	BST-18B	6947214	Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6
					
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	
	RKC4.4T-2/TEL	6625013	Connection cable, M12 female connector, straight, 4-pin, cable length: 2 m, jacket material: PVC, black; cULus approval
	RKC4.301T-0.15-RSC4.334T/TXL	6631382	Extension cable, M12 female/male, straight, 4-pin, cable length: 0.15m, jacket material: PUR, black; cULus approval; Adapter cable for sensors with analog output on pin 2, for connection to analog inputs of fieldbus modules with 4-wire technology

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.