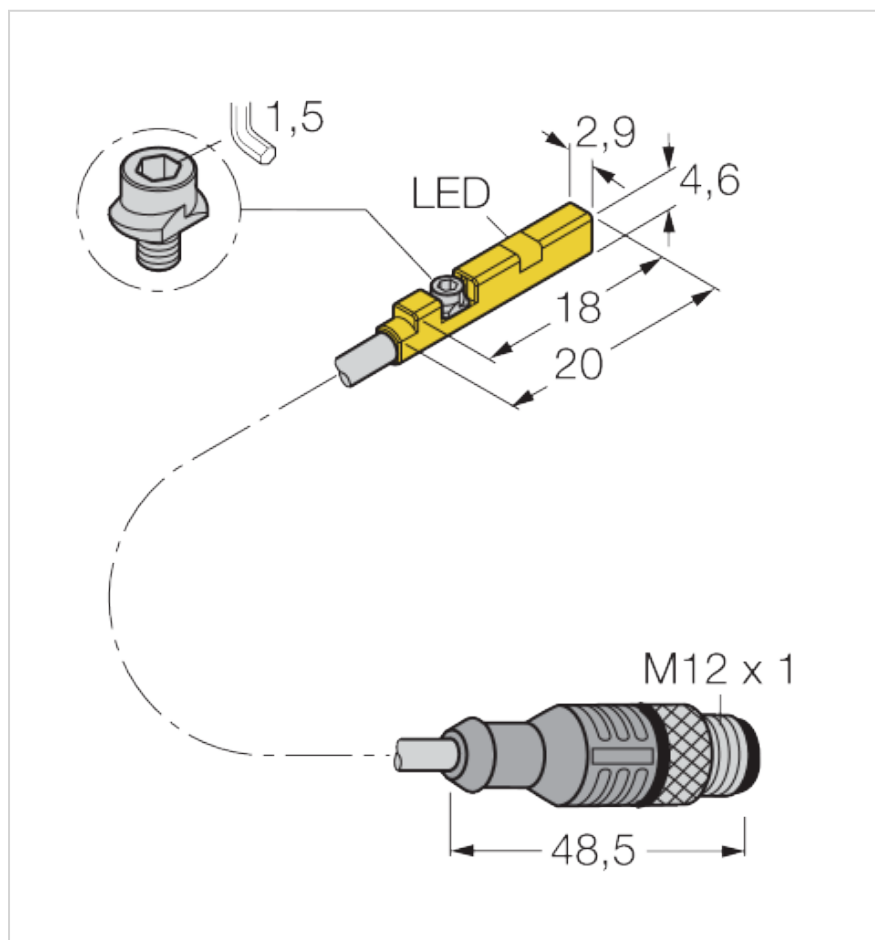


BIM-UNR-AP6X-0.3-RS4

Magnetic Field Sensor For Pneumatic Cylinders



Type designation	BIM-UNR-AP6X-0.3-RS4
Ident-No.	4685833

Technical data

General data	
Pass speed	≤ 0,3 m/s
Sensor shape fitting to cylindrical housing	profile cylinder (round groove [e.g. Festo])
Power supply	
Operating voltage U_B	11...30 VDC
Voltage drop at I_e	≤ 1,8 V
Electrical data	

Features

- For C-groove cylinders without mounting accessories
- Optionally available accessories for mounting on other cylinder types
- One-hand mounting possible
- Stable mounting
- Magneto-resistive sensor
- DC 3-wire, 11...30 VDC
- NO, PNP output
- Pigtail with male end M12 × 1

Technical data

No-load current	15 mA
Output function	3-wire, normally open NO, PNP
Short-circuit protection	yes/Cyclic
Wire break/reverse polarity protection	yes/Complete
DC rated operational current	≤ 100 mA
Isolation test voltage	$\leq 0,5$ kV
Residual current	$\leq 0,1$ mA
Residual ripple	$\leq 10\%$ U_{SS}
Switching frequency	0,02 kHz

Accuracy/deviation

Hysteresis	≤ 1 mm
Repeatability	$\leq \pm 0,1$ mm
Temperature drift	$\leq 0,3$ mm

Mechanical data

Design	Rectangular, UNR
Construction type designation	UNR
Dimensions	18 mm x 2,9 mm x 4,6 mm
Housing material	Plastic, PP
Active area material	Plastic, PP
Electrical connection	Cable with connector, M12 x 1
Mounting on the following profiles	
Number of pins	4
Cylindrical design fixing clamp	☐ -
Cylindrical design	C-groove cylinder
Tightening torque fixing screw	0,2 Nm
Litz wire	40 x 0,05 mm ²

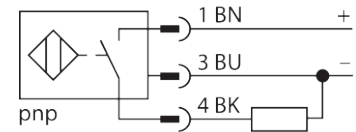
Cable

Cable length	0,3 m
Cable jacket	Gray
Core cross-section	3 x 0,08 mm ²
Cable type	Lif9Y-11Y
External Diameter of the Cable	Ø 2 mm
Cable Jacket Material	PUR

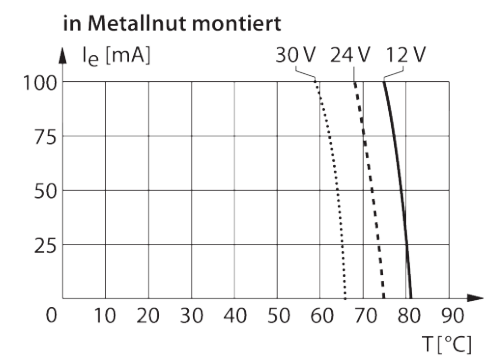
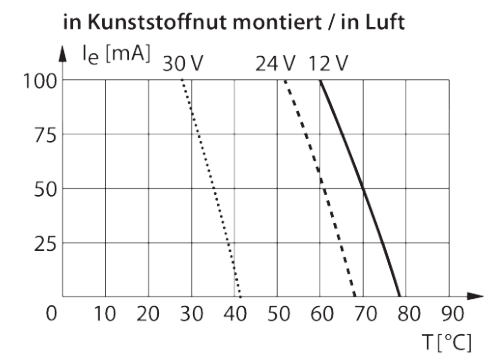
Ambient conditions

Ambient temperature	-25...+70 °C
Pollution degree	3
Shock resistance	30 g (11 ms)

Wiring Diagram



Derating Curve



Functional principle

Magnetic field sensors are activated by magnetic fields and are used, in particular, for the detection of the piston position in pneumatic cylinders. As magnetic fields can permeate non-magnetizable metals, the sensors can detect a permanent magnet attached to the piston through the aluminum cylinder wall.

Technical data

Vibration resistance	55 Hz (1 mm)
Protection class	IP67
Tests/approvals	
MTTF	2283 Years acc. to SN 29500 (Ed. 99) 40 °C
Displays/controls	
Switching state	LED, Yellow
Other properties	
RoHS compatibility	yes
Comments	
Included in delivery	cable clip

Assembly instructions

Installation information:

The sensor is mounted in the groove from above. Mount the sensors as follows using the patented wing screw: The wing screw features a left-hand female thread. Two small plastic lips keep the screw in position, ready-to-install. Turn the screw clockwise. The screw moves out of the thread and hits the upper grooves with the wings. The sensor is thus pressed down and locked. Use a 1.5 mm Allen key to fasten the screw with a quarter turn. A tightening torque of 0.2 Nm is sufficient for safe mounting without damaging the cylinder. Cable clips are included in the scope of delivery. They enable smooth cable routing in the groove. The correspondent accessories for mounting on other cylindrical housings has to be ordered separately.

