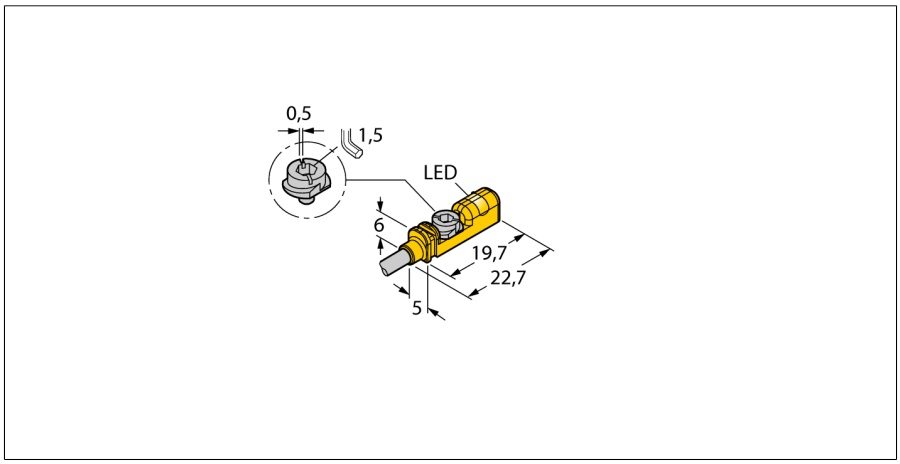
Magnetic field sensor
Compact design for small hydraulic cylinders
BIM-UNTK-AP6X

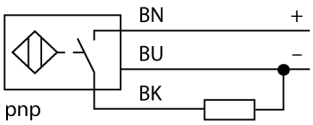
Industrial Automation



- **For T-groove cylinders without mounting accessories**
- **Optionally available accessories for mounting on other cylindrical housings.**
- **Single-hand mounting**
- **Tool for fine adjustments and stopper directly mountable on the sensor**
- **Stable mounting**
- **Magneto-resistive sensor**
- **DC 3-wire, 10…30 VDC**
- **NO contact, PNP output**
- **Cable connection**

Type code	BIM-UNTK-AP6X
Ident no.	4686005
Pass speed	≤ 3 m/s
Repeatability	≥ ± 0.1 mm
Temperature drift	≤ 0.1 mm
Hysteresis	≤ 1 mm
Ambient temperature	-25…+70 °C
Operating voltage	10…30VDC
Residual ripple	≤ 10 % U_{ss}
DC rated operational current	≤ 150 mA
No-load current I_0	≤ 15 mA
Residual current	≤ 0.1 mA
Rated insulation voltage	≤ 0.5 kV
Short-circuit protection	yes/ cyclic
Voltage drop at I_e	≤ 1.8 V
Wire breakage / Reverse polarity protection	yes/ complete
Output function	3-wire, NO contact, PNP
Switching frequency	0.3 kHz
Design	rectangular
Dimensions	19.7 x 5 x 6 mm
Housing material	plastic, PP
Material active area	Plastic, PP
Tightening torque fixing screw	0.4 Nm
Connection	cable
Cable quality	3 mm, grey, Lif9Y-11Y, PUR, 2 m Suited for E-ChainSystems® acc. to manufacturers declaration H1063M
Cable cross section	3 x 0.14 mm²
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
Mounting on the following profiles	.
Cylindrical design	○ ▭ ▭ ○
Switching state	LED yellow

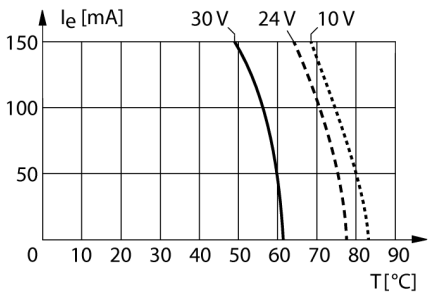
Wiring diagram



Functional principle

Magnetic field sensors are actuated by magnetic fields through which they detect the position of pistons in pneumatic cylinders. As Magnetic fields can permeate non-magnetizable metals, they detect a permanent magnet attached to the piston through the aluminium wall of a cylinder.

The derating curve is valid for devices installed in metal. For air installation with 150 mA power supply: 10 V 50 °C, 24 V 40 °C, 30 V 19 °C.



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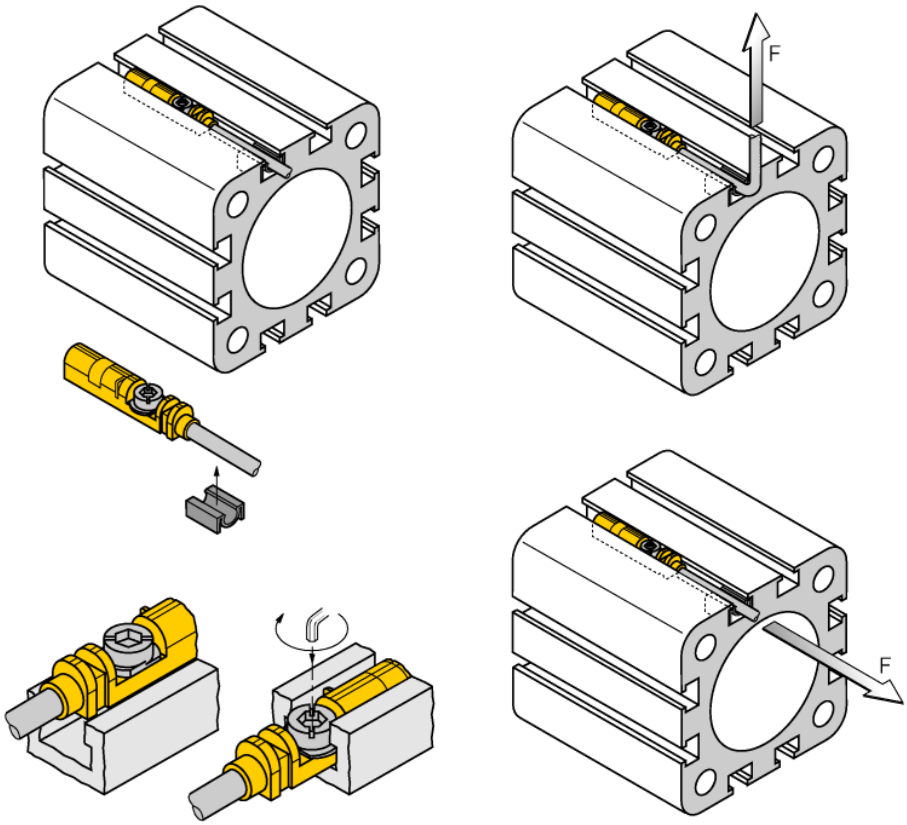

Insert the sensor in the groove from above. Mount the sensors as follows using the patented wing screw: The wing screw features a left-hand female thread. Two small plastic lips keep the screw in position, ready-to-install. Turn the screw clockwise. The screw moves out of the thread and hits the upper grooves with the wings. The sensor is thus pressed down and locked. Use a standard screw driver or a 1.5 mm Allen key to fasten the screw with a quarter turn. A tightening torque of 0.4 Nm is sufficient for safe mounting without damaging the cylinder. The sensor now withstands axial and radial tensile load of F=100N applied on the cable. Cable clips are included in the scope of delivery. They enable smooth cable routing in the groove. Mounting accessories for other cylinder sizes have to be ordered separately.

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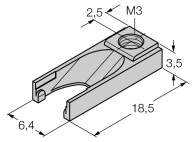
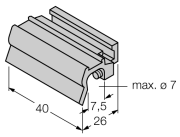
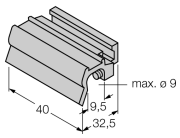
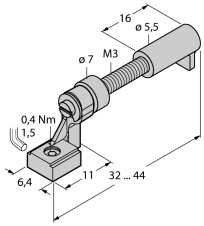
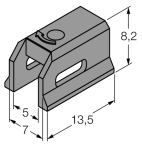
Accessories

Type code	Ident no.	Description	Dimension drawing
UNT-Stopper	4685751	Accessories for finetuning the switchpoint on T-groove cylinders; snap-locked in the BIM-UNT fixture; suited for multiple use; material: plastic	
KLZ1-INT	6970410	Accessories for mounting the BIM-UNT sensor on round cylinders; diameter: 32…40 mm; material: Aluminium; further mounting accessories for other cylinder diameters on request	
KLZ2-INT	6970411	Accessories for mounting the BIM-UNT sensor on tie-rod cylinders; diameter: 50…63 mm; material: Aluminium; further mounting accessories for other cylinder diameters on request	
UNT-Justage	4685750	Accessories for finetuning the switchpoint on T-groove cylinders; snap-locked in the BIM-UNT fixture; suited for multiple use; material: metal/plastic	
KLDT-UNT2	6913351	Accessories for mounting the BIM-UNT sensor on dovetail cylinders; groove width: 7 mm; material: PPS	

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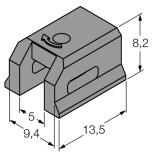
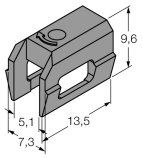
Accessories

Type code	Ident no.	Description	Dimension drawing
KLDT-UNT3	6913352	Accessories for mounting the BIM-UNT sensor on ⊡ dovetail groove cylinders; groove width: 9.4 mm; material: PPS	
KLDT-UNT6	6913355	Accessories for mounting on ⊡ dovetail groove cylinders; groove width: 7.35 mm; material: PPS	

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