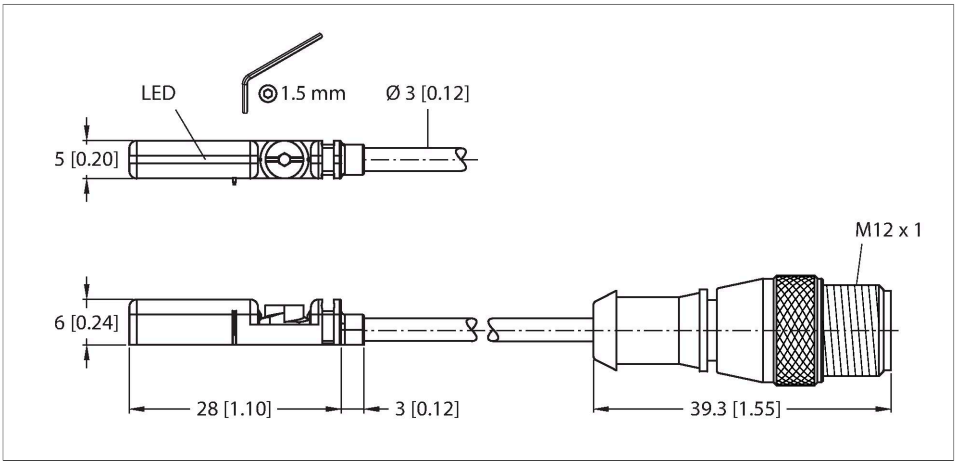
# BIM-UNT-AP6X-0.3-RS4
# Magnetic Field Sensor – For Pneumatic Cylinders



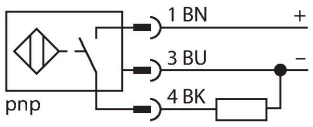

## Features

- For T-groove cylinders without mounting accessories
- Optional accessories for mounting on other cylindrical housings.
- One-hand mounting possible
- Fine adjustment tool and stopper directly mountable on the sensor
- Stable mounting
- Magneto-resistive sensor
- DC 3-wire, 10…30 VDC
- NO contact, PNP output
- Pigtail with male end, M12 x 1

## Technical data

| | |
|---|---|
| Type | BIM-UNT-AP6X-0.3-RS4 |
| Ident. no. | 4685725 |
| Pass speed | ≤ 10 m/s |
| Repeatability | ≤ ± 0.1 mm |
| Temperature drift | ≤ 0.1 mm |
| Hysteresis | ≤ 1 mm |
| Ambient temperature | -25…+70 °C |
| Operating voltage | 10…30 VDC |
| Residual ripple | ≤ 10 % $U_{ss}$ |
| DC rated operational current | ≤ 150 mA |
| No-load current | ≤ 15 mA |
| Residual current | ≤ 0.1 mA |
| Isolation test 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 | 1 kHz |
| Design | Rectangular, UNT |
| Dimensions | 28 x 5 x 6 mm |
| Housing material | Plastic, PP |
| Active area material | Plastic, PP |
| Tightening torque fixing screw | 0.4 Nm |
| Electrical connection | Cable with connector, M12 × 1 |

## Wiring diagram




## 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, they detect a permanent magnet attached to the piston through the aluminium cylinder wall.

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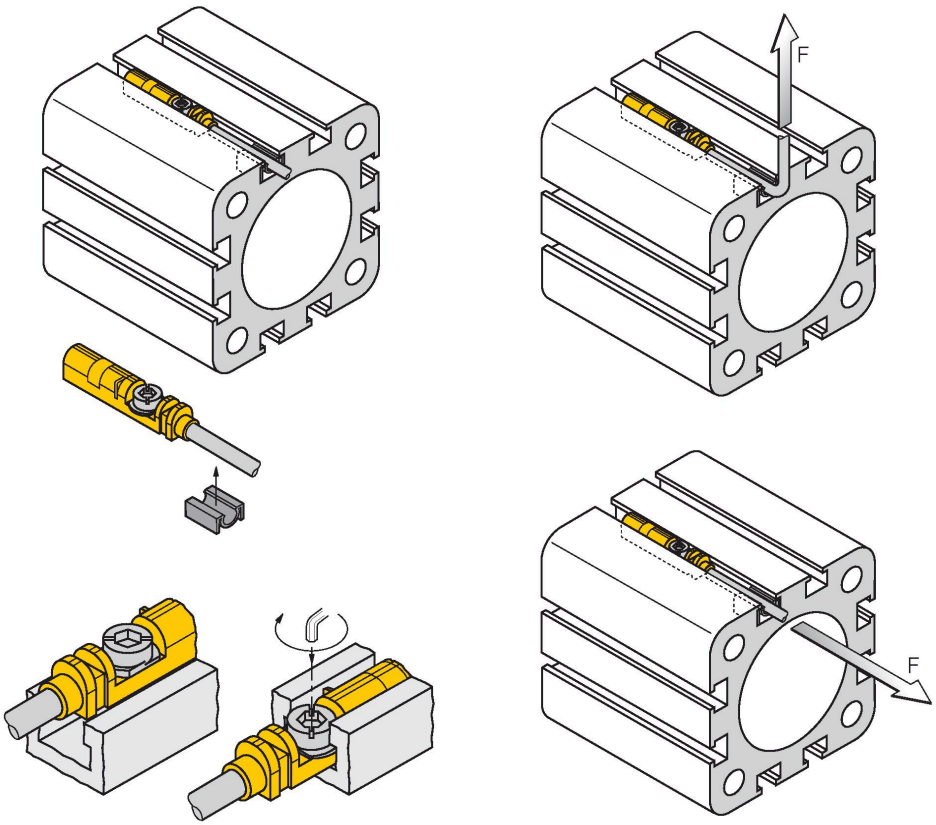
## Technical data

| | |
|---|---|
| Cable quality | Ø 3 mm, Gray, Lif9Y-11Y, PUR, 0.3 m |
| | Suited for E-ChainSystems® acc. to manufacturers declaration H1063M |
| Core cross-section | 3 x 0.14 mm² |
| Vibration resistance | 55 Hz (1 mm) |
| Shock resistance | 30 g (11 ms) |
| Protection class | IP68 |
| MTTF | 2283 years acc. to SN 29500 (Ed. 99) 40 °C |
| **Mounting on the following profiles** | |
| Cylindrical design | |
| Switching state | LED, Yellow |
| Included in delivery | cable clip |

## Mounting instructions

Mounting instructions/Description




Thanks to the mounting lip, the sensor can be inserted into the groove from above with one hand. Mount the sensors as follows using the patented wing screw: The wing screw and the female thread feature a left-hand 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 in position. A few degrees up to approximately 1.5 turns of the screw with a slotted screwdriver (blade width 0.5 mm) or a 1.5 mm Allen key are sufficient to ensure vibration-proof fastening, depending on the shape of the slot. A tightening torque of 0.4 Nm is sufficient for safe mounting without damaging the cylinder. The sensor can now withstand an axial and radial tensile load of F=100N applied on the cable. A cable clip is included in the scope of delivery. It enables smooth cable routing in the groove and ensures that the cable is fastened as securely as possible. The corresponding accessories for mounting on other cylindrical housings must be ordered separately.

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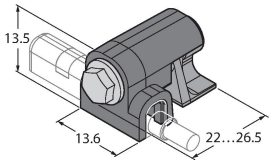
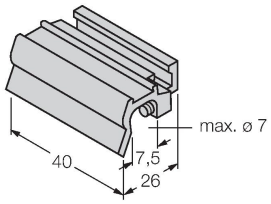
## Accessories

### KLZCD2-UNT 6970418



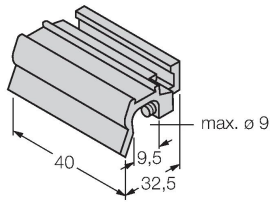

Mounting bracket for mounting magnetic field sensors for T-grooves on a CleanDesign cylinder with mounting rail.

### KLZ1-INT 6970410



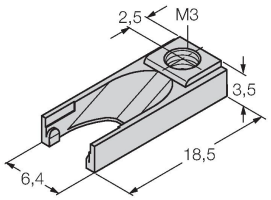

Accessories for mounting the sensors BIM-INT and BIM-UNT on tie-rod cylinders; Cylinder diameter: 32…40 mm; material: Aluminium; Further mounting accessories for other cylinder diameters on request

### KLZ2-INT 6970411



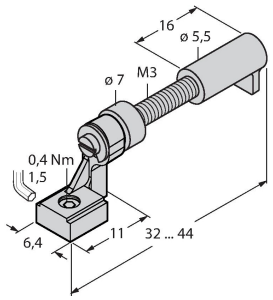

Accessories for mounting the sensors BIM-INT and BIM-UNT on tie-rod cylinders; Cylinder diameter: 50…63 mm; material: Aluminium; Further mounting accessories for other cylinder diameters on request

### UNT-STOPPER 4685751



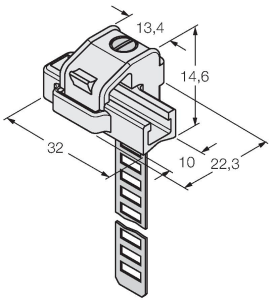

Accessories for finetuning the switchpoint on T-groove cylinders; snap-locked in the BIM-UNT fixture; suited for multiple use; material: plastic

### UNT-JUSTAGE 4685750



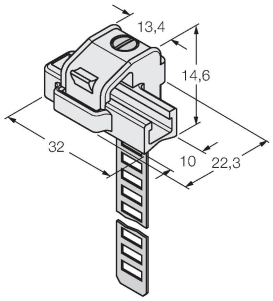

Accessories for fine-tuning of the switching point on T-groove cylinders; snap-lock mounting in the BIM-UNT sensor fixture; suited for multiple use; material: Metal/plastic

### KLRC-UNT1 6970626



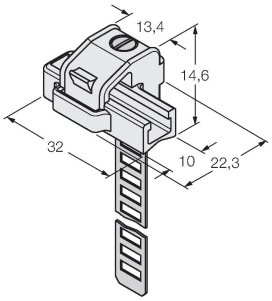

Mounting bracket for mounting magnetic field sensors on round cylinders; cylinder diameter: 8…25 mm; material: PA 6I/6T / nickel silver; fire-hazard classification acc. to UL94 - V2

### KLRC-UNT2 6970627



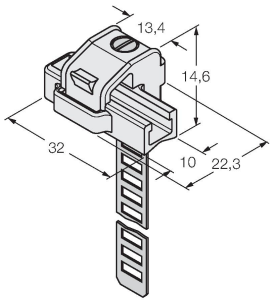

Mounting bracket for mounting magnetic field sensors on round cylinders; cylinder diameter: 25…63 mm; material: PA 6I/6T / nickel silver; fire-hazard classification acc. to UL94 - V2

### KLRC-UNT3 6970628



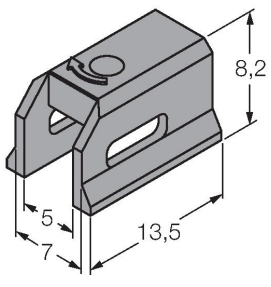

Mounting bracket for mounting magnetic field sensors on round cylinders; cylinder diameter: 63…130 mm; material: PA 6I/6T / nickel silver; fire-hazard classification acc. to UL94 - V2

### KLRC-UNT4 6970629



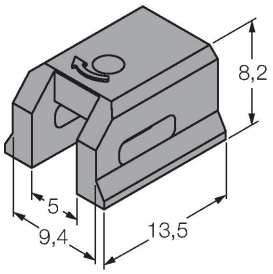

Mounting bracket for mounting magnetic field sensors on round cylinders; cylinder diameter: 130…250 mm; material: PA 6I/6T / nickel silver; fire-hazard classification acc. to UL94 - V2

### KLDT-UNT2 6913351



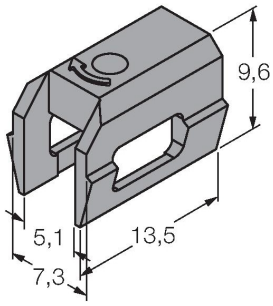

Mounting bracket for mounting magnetic field sensors on dovetail groove cylinders; groove width: 7 mm; material: PPS

| KLDT-UNT3 | 6913352 |
|---|---|




Mounting bracket for mounting magnetic field sensors on dovetail groove cylinders; groove width: 9.4 mm; material: PPS

| KLDT-UNT6 | 6913355 |
|---|---|




Mounting bracket for mounting magnetic field sensors on dovetail groove cylinders; groove width: 7.35 mm; material: PPS

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