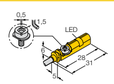
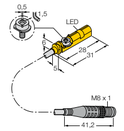
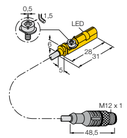
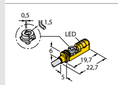
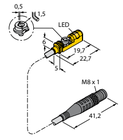
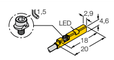
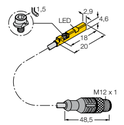
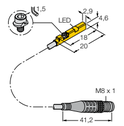
Universal magnetic field sensors for pneumatic cylinders

Types and features

	Dimensions	Type	Connectivity	Wiring diagram
T-Groove		BIM-UNT-AP6X	PUR cable, 2 m	
		BIM-UNT-AP6X/S1160	TPU cable, irradiation crosslinked, 2 m	
		BIM-UNT-AP6X/S97/S1165	TPE cable, 2 m	
		BIM-UNT-AP6X-0,3-PSG3M	Pigtail M8 x 1 screw connection, swivel thread, 0.3 m PUR cable	
		BIM-UNT-AP6X-0,3-RS4	Pigtail M12 x 1 screw connection, swivel thread, 0.3 m PUR cable	
		BIM UNTK-AP6X	PUR cable, 2 m	
		BIM UNTK-AP6X-0,3-PSG3M	Pigtail M8 x 1 screw connection, swivel thread, 0.3 m PUR cable	
C-Groove		BIM-UNR-AP6X	PUR cable, 2 m	
		BIM-UNR-AP6X-0,3-PSG3M	Pigtail M8 x 1 screw connection, swivel thread, 0.3 m PUR cable	
		BIM-UNR-AP6X-0,3-RS4	Pigtail M12 x 1 screw connection, swivel thread, 0.3 m PUR cable	

Sense it! Connect it! Bus it! Solve it!

TURCK

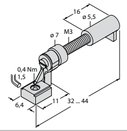
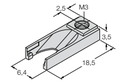
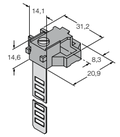
Industrial Automation

UNIVERSAL MAGNETIC FIELD SENSORS

FOR PNEUMATIC CYLINDERS

Universal magnetic field sensors for pneumatic cylinders

Assembly and fixing accessories

Dimensions	Type	Short description
	UNT adjustment	Accessories for fine-tuning the switchpoint of BIM-UNT or BIM-UNTK, snap-lock into the sensor's accessories groove, for multiple use
	UNT stopper	Accessories for setting the switchpoint of BIM-UNT or BIM-UNTK on T-groove cylinders, snap-lock into the sensor's accessories groove
	KLRC-UNT1	Accessories for mounting BIM-UNT on round cylinders, Ø 8…25 mm
	KLRC-UNT2	Accessories for mounting BIM-UNT on round cylinders, Ø 25…63 mm
	KLRC-UNT3	Accessories for mounting BIM-UNT on round cylinders, Ø 63…130 mm
	KLRC-UNT4	Accessories for mounting BIM-UNT on round cylinders, Ø 130…250 mm
	KLDT-UNT2	Accessories for mounting BIM-UNT or BIM-UNTK on dovetail cylinders, groove width 7 mm
	KLDT-UNT3,5	Accessories for mounting BIM-UNT or BIM-UNTK on dovetail cylinders, groove width 9.5 mm
	KLDT-UNT4	Accessories for mounting BIM-UNT or BIM-UNTK on dovetail cylinders, groove width 11.5 mm
	KLDT-UNT6	Accessories for mounting BIM-UNT or BIM-UNTK on SMC cylinders type CP95
	KLZ1-INT	Accessories for mounting BIM-UNT or BIM-UNTK on tie-rod cylinders, Ø 32…40 mm
	KLZ2-INT	Accessories for mounting BIM-UNT or BIM-UNTK on tie-rod cylinders, Ø 50…63 mm
	KLZ3-INT	Accessories for mounting BIM-UNT or BIM-UNTK on tie-rod cylinders, Ø 80…100 mm

For more accessories go to www.turck.com

Optional Accessories

A diverse selection of accessories makes the range of services for the universal magnetic field sensors complete. This includes, for example, the accessories for installation and fitting on all commercial cylinders, as well as clips to ensure secure cable routing.

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www.turck.com

To get all product information, just scan the QR code with a smartphone or webcam

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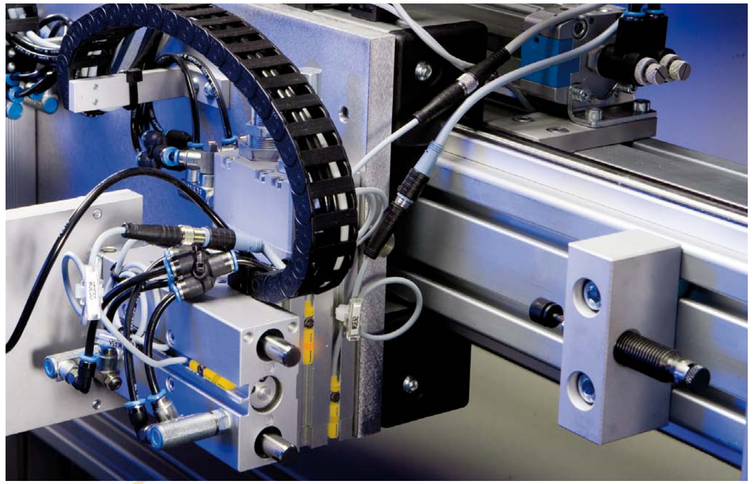


You can now query the piston position on standard pneumatic cylinders very comfortable with a single sensor type. The new magnetic field sensors BIM-UNT, BIM-UNTK and BIM-UNR by TURCK not only support efficient standardization, they also offer more leeway for optimization in terms of construction, purchase, production, operation and service. Use the unique performance spectrum of these sensors and reduce your application costs effectively!

High system availability

The universal magnetic field sensors offer enormous operational safety even in harsh production environments. This is owed to excellent EMI shielding properties, protection class IP67 as well as to the absolutely firm installation of the sensors. With regard to the housing, much attention has been paid to a practice-oriented design and solid fastenings. The universal magnetic field sensors thus withstand the particularly harsh conditions of mechanical engineering. Use these advantages to optimize your production processes:

- Less downtimes:
  Robust mounting bolt of tool steel ensures stable fitting.
- Lower risk of damage:
  Optimized cable outlet, well-positioned screw avoid damage to the cable.
- Short downtimes:
  Spare parts are available at short notice and at the lowest cost.
- Highly immune to EMI thanks to excellent shielding properties:
  BIM-UNT, BIM-UNTK and BIM-UNR exceed the strict standard regulations.

Efficient standardization

The universal magnetic field sensors BIM-UNT, BIM-UNTK and BIM-UNR the query the piston position on all commercial pneumatic cylinders. This allows you to streamline your assortment of products and pays off for you.

Flexible cable concept

The portfolio of the universal magnetic field sensors offers three different cable types. With our drag-chain capable, food-safe and weld-resistant cables you cover all industry demands.

Universal applicability

- There are two basic designs for all cylinders. The sensors can be mounted directly on T and C-groove cylinders; for mounting on round, tie-rod or dovetail cylinders, we offer matching accessories.
- Special types with fine adjustment or external adjustment of switchpoint are no longer necessary - these accessories can optionally be mounted at an affordable cost on the standard sensor.
- Low average prices thanks to the elimination of special devices.

High serviceability

The universal magnetic field sensors fit almost anywhere and are easy to handle. This brings also significant benefits to the plant operator.

High ease of installation

- Easiest installation for optimal fitting and fine tuning
- Quick replacement through easy recovery of switchpoint
- Minimal maintenance due to a reduced variety of types

Maximum freedom

Thanks to the many connection options, easy installation and flexible accessories, the new sensor ensures maximum design freedom through minimal installation effort.

Your advantages at a glance:

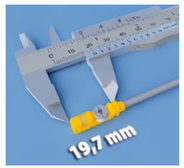
- A wide variety of solutions realized with only a few device types
- Maximum freedom in design and construction
- Reduced installation costs through flexible mounting accessories
- Easily connected thanks to a flexible connectivity concept
- Quickly installed via a pre-fixation lip and a quarter turn of the screw
- Shortest magnetic field sensor – for compact grippers and small hydraulic cylinders

Technical data

Ambient temperature	-25…+70 °C (-40…+70 °C, S97)
Operating voltage	10…30 VDC
Ripple	≤ 10 % U_{SS}
DC-rated operational current	≤ 150 mA (UNT, UNTK), 100 mA (UNR)
No-load current Io	≤ 15 mA
Residual current	≤ 0.1 mA
Switching frequency	≤ 1 kHz
Output function	3-wire, NO, PNP
Short-circuit protection	yes, cyclic
Voltage drop at Ie	≤ 1.8 V
Wire breakage / Reverse polarity protection	yes, completely
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
Pass speed	10 m/s (UNT, UNTK), 3 m/s (UNR)

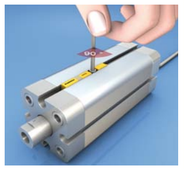
Compact design

The 19.7 mm long BIM-UNTK is one of the most compact magnetic field sensors on the market. The active face is located at the sensor's end. This allows you to query the piston in the end position, even of small hydraulic cylinders and grippers.



Stable fitting

The sensor is inserted in the groove and then tightened by a quarter turn with flat-tip screwdriver or a 1.5 mm Allen wrench. The screw is made of tool steel alloy to ensure stable fitting.



Single-handed mounting

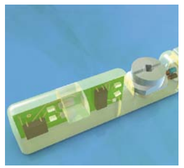
To simplify installation in the field, the BIM-UNT and the BIM-UNTK are equipped with a pre-fixation lip. You simply click the sensor in the groove with just one hand and then screw it tight with the special screw. Overhead mounting is also possible. You don't need any further mounting aids.

Good visible LED

Thanks to the bright and all-round visible LED, you can see the switching state from any position. This is also very helpful when optimizing the sensor's position.

MR sensor element

Due to a new MR sensor element all magnets in standard pneumatic cylinders are reliably detected without multiple switchpoints. This allows accurate position detection, even in end positions and you benefit from a high degree of flexibility.



EMI shielding properties

The BIM-UNT and the BIM-UNR not only fulfill the presently valid standard EN 60947-5-2, but also comply with the stricter provisions of the new amendment (for tests according to EN 61000-4-6 „conducted interferences").