TURCK

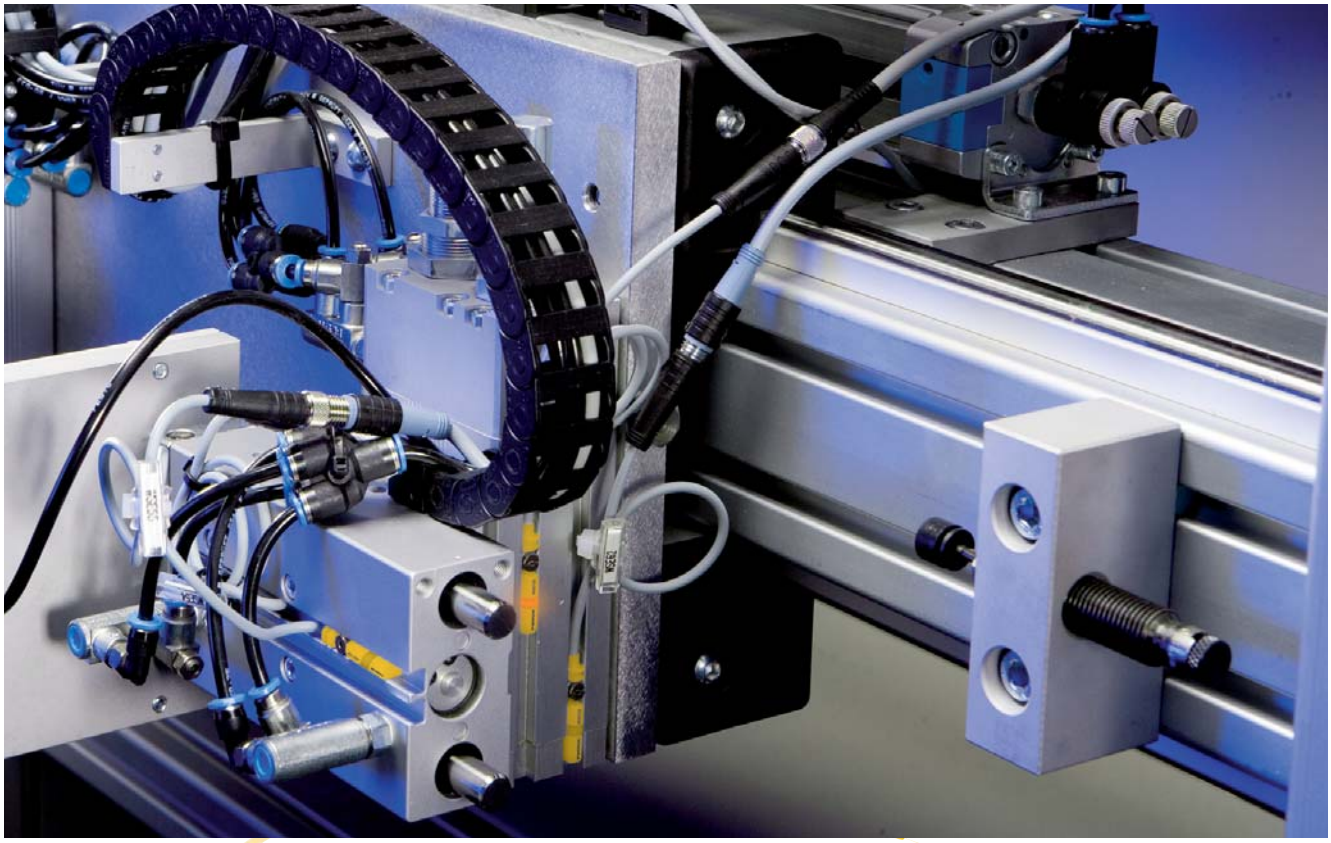
Industrial Automation

UNIVERSAL MAGNETIC FIELD SENSORS

FOR PNEUMATIC CYLINDERS

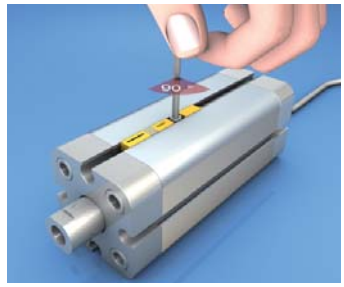
Sense it! Connect it! Bus it! Solve it!

Universal magnetic field sensors for pneumatic cylinders



The universal magnetic field sensors BIM-UNT and BIM-UNR by TURCK not only enable efficient standardization but also provide enormous potential to optimize construction, purchase, production and maintenance processes. Use the unique performance spectrum of these sensors to reduce application costs!

Secure mounting
The sensor is fitted in the groove, then adjusted and tightened with a screw. Located near the cable outlet, the screw ensures vibration resistant mounting and prevents an uplift of the sensor when pulling the cable.



Stable fastening
The new type of wing screw is made of tool steel and is thus extremely stable. For vibration-resistant mounting of the sensor, it is simply enough to tighten the screw with a quarter turn, using a standard screw driver or a 1.5 mm Allen key.

High system availability

The universal magnetic field sensors ensure high operational safety even in rough production environments. This is guaranteed through excellent EMC properties, protection class IP67 and secure mounting of the sensors. The prior aim was to design a housing with robust mounting elements which perfectly suits all conditions of application. The universal magnetic field sensors thus withstand the roughest conditions of machine building without any problems. Take advantage of these benefits to optimize your production processes:

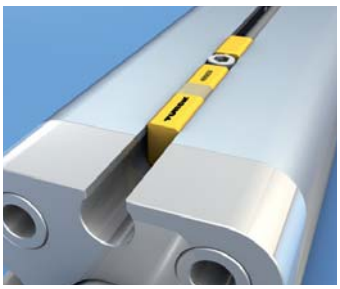
- Less downtimes :
  A robust fixing screw made of tool steel ensures stable mounting.
- Low risk of damages:
  An optimized cable outlet and an optimally placed screw avoid damages when pulling the cable.
- Short down-times:
  Spare parts are available on short notice and at low costs.
- High interference immunity due to excellent EMC properties: The BIM-UNT and BIM-UNR already fulfill the strict provisions of future standards.

Efficient standardization

The universal magnetic field sensors BIM-UNT and BIM-UNR detect pistons on all standard pneumatic cylinders. An intelligently streamlined product port-folio quickly pays off for you.

The new advantages:

- Two sensor types for all cylinders. The sensors are directly mounted on T and C-groove cylinders; accessories are available for round, tie-rod or dovetail cylinders.
- Special accessories for fine adjustment or external fixation of the switching point are no longer needed.
  Our accessories are mounted cost-efficiently on all standard sensors.
- We offer low average prices because special devices are not required.



Compact housing style
The UNT measures only 28 mm and the UNR only 18 mm. They are the most compact sensors available on the market. The active face is located directly at the sensor end, enabling a reliable detection of the piston up to the end, even on compact short stroke cylinders.

Perfectly visible LED
Thanks to a bright and all-round visible LED, the current switching status is perfectly seen from any position. This is of advantage in cases where sensors are aligned while mounted and helps to determine the best position.

Extremely service-friendly

The universal magnetic field sensors are highly flexible and user-friendly in terms of mounting and adjustment. These are valuable features offering the system operator considerable advantages.

Advantages that pay off for you:

- Simple mounting, optimal adjustment and fine tuning.
- Quick replacement due to easy recovery of the original switching point.
- Minimum maintenance effort due to a reduced variety of sensor types

Maximum freedom

Owing to versatile connection possibilities, simple mounting and flexibly deployable accessories, the new sensors provide maximum planning freedom while minimizing the mounting efforts.

All advantages for you at a glance:

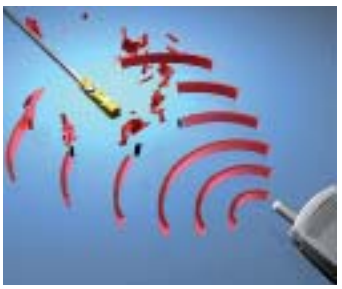
- Versatile solutions are implemented with only a few device types
- Maximum freedom for construction
- Reduced mounting effort due to flexibly applicable mounting accessories
- Easily connected thanks to an intelligent connection technology concept
- Quickly mounted with a pre-fixing lip and a screw tightened with only a quarter turn.

Technical data

Ambient temperature	-25...+70 °C
Operating voltage	10... 30 VDC
Residual ripple Vpp	≤ 10 % Upp
Rated operating current DC	≤ 150 mA (UNT), 100 mA (UNR)
No-load current Io	≤ 15 mA
Off-state current	≤ 0.1 mA
Switching frequency	≤ 1 kHz
Output function	3-wire, normally open, PNP
Short-circuit protection	yes/cyclic
Voltage drop 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
Overtravel speed	10 m/s (UNT), 3 m/s (UNR)

MR sensor element

Due to a novel MR sensor element all magnets in standard pneumatic cylinders are detected reliably and without multiple switching points. The position is thus detected precisely up to the end, allowing you to benefit from a high degree of flexibility.

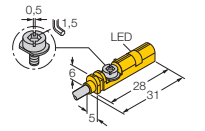
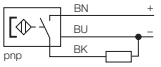
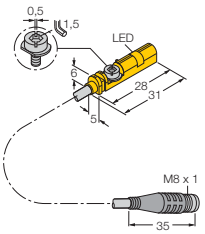
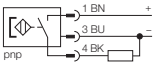
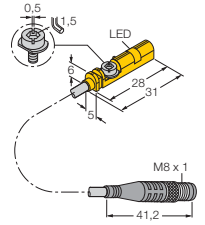
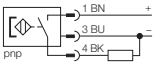
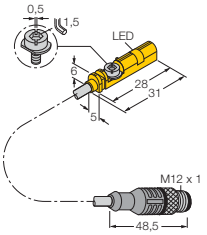
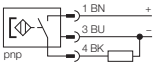
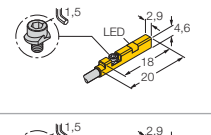
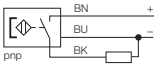
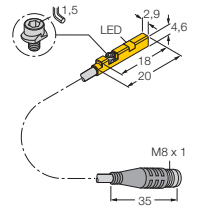
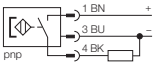
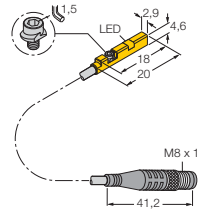
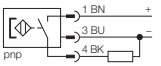
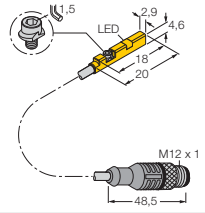
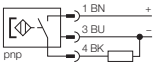


EMC immunity

The BIM-UNT and BIM UNR not only fulfill the currently valid standard EN 60947-5-2, but also exceed the strict provisions of the coming amendment (including tests according to EN 61000-4-6 „conducted interference").

Universal magnetic field sensors for pneumatic cylinders

Types and features

	Dimensions	Type/Ident no.	Connection/Wiring diagramm	
T-Groove		**BIM-UNT-AP6X** 4685720 **BIM-UNT-AP6X 7M** 4685721	PUR-cable, 2 m PUR-cable, 7 m	
		**BIM-UNT-AP6X-0,3-PSG3S** 4685722	Pigtail M8 x 1, snap-lock/screw terminal 0.3 m PUR-cable	
		**BIM-UNT-AP6X-0,3-PSG3M** 4685723 **BIM-UNT-AP6X-0,6-PSG3M** 4685724	Pigtail M8 x 1, screw terminal rotatable thread, 0.3 m PUR-cable Pigtail M8 x 1, screw terminal rotatable thread, 0.6 m PUR-cable	
		**BIM-UNT-AP6X-0,3-RS4** 4685725	Pigtail M12 x 1, screw terminal rotatable thread, 0.3 m PUR-cable	
C-Groove		**BIM-UNR-AP6X** 4685830 **BIM-UNR-AP6X 7M** 4685834	PUR-cable, 2 m PUR-cable, 7 m	
		**BIM-UNR-AP6X-0,3-PSG3S** 4685831	Pigtail M8 x 1, snap-lock/screw terminal, 0.3 m PUR-cable	
		**BIM-UNR-AP6X-0,3-PSG3M** 4685832	Pigtail M8 x 1, screw terminal rotatable thread, 0.3 m PUR-cable	
		**BIM-UNR-AP6X-0,3-RS4** 4685833	Pigtail M12 x 1, screw terminal rotatable thread, 0.3 m PUR-cable	

Universal magnetic field sensors for pneumatic cylinders

Accessories for mounting and adjustment

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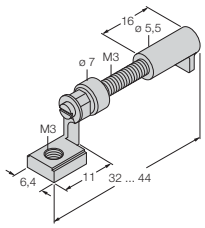
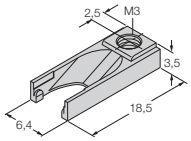
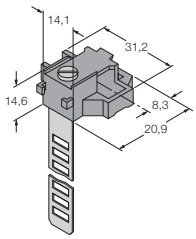
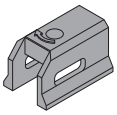
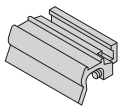
Dimensions	Type/Ident no.	Short description
	**UNT-Justage** 4685750	Tool for fine adjustment of the switching point; snap-fits in accessory groove; multiple use.
	**UNT-Stopper** 4685751	Stopper to secure the switching point on the T-groove cylinder; snap-fits in accessory groove.
	**KLR-UNT1** 6970623 **KLR-UNT2** 6970624	Tension strap for round cylinder, diameter 8...25 mm Tension strap for round cylinder, diameter 25...63 mm
	**KLDT-UNT2** 6913351 **KLDT-UNT3** 6913352 **KLDT-UNT4** 6913353 **KLDT-UNT5** 6913354	U-bracket for dovetail cylinder, groove width 7 mm U-bracket for dovetail cylinder, groove width 9.4 mm U-bracket for dovetail cylinder, groove width 11.5 mm U-bracket for dovetail cylinder, groove width 12.6 mm
	**KLZ1-INT** 6970410 **KLZ2-INT** 6970411 **KLZ3-INT** 6970412	Guide rail for tie-rod cylinder, diameter 32…40 mm Guide rail for tie-rod cylinder, diameter 50…63 mm Guide rail for tie-rod cylinder, diameter 80…100 mm

For more accessories please go to www.turck.com

Optional accessories

A multifaceted range of accessories completes the performance spectrum of the universal magnetic field sensors. Available are mounting, adjustment and fixation aids for the sensors, as well as clips for safe cable routing.

www.turck.com

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