Magnetic field sensors for pneumatic cylinders

Magnetic field sensors are activated by magnetic fields and are especially suited for the detection of pistons in pneumatic cylinders. Based on the fact that magnetic fields can permeate non-magnetizable metals, sensors of this type detect a permanent magnet mounted on a piston through the aluminium wall of a cylinder. Magnetic-inductive sensors from TURCK operate on a patented functional principle. The sensing range is adjusted to a core width to rule out multiple switch-points. Permanent magnets of different field strengths are thus reliably detected in all common cylinder types. The sensors operate wear-free, are rugged and short-circuit protected and feature protection class IP67.

The product range offers many solutions for standard applications, welding facilities as well as Ex-areas. TURCK also offers magnetic field sensors for analog detection tasks. They are easy to operate and even fulfill higher demands equally reliably.

To monitor the piston position on all standard pneumatic cylinders, you only need one sensors series, BIM-UNT, BIM-UNTK and BIM-UNR. NAMUR sensors for explosion hazardous areas are also available. Measuring only 18 mm (UNR), 19.7 mm (UNTK) and 28 mm (UNT), the sensors are very small and can be mounted on C-groove and T-groove cylinders. Matching accessories are also available for mounting on tie-rod and dovetail cylinders. Special versions with fine adjustment or external adjustment of switchpoint are no longer needed.

The series of universal magnetic field sensors for pneumatic cylinders is completed by the WIM45-UNTL with analog current and voltage output. Solutions using indirect analog detection can be easily retrofitted with this new type. Magnetic-inductive sensors are typically applied in pig trap systems or used for gate monitoring. Even the very small versions achieve large switching distances. In combination with the actuation magnet DMR31-15-5, the M12 sensors attain a nominal switching distance of 90 mm.
Magnetic field sensors for pneumatic cylinders

Our strengths – Your advantages

Universal magnetic field sensors

Monitoring the piston position on standard pneumatic cylinders is easy with the universal magnetic field sensors. But what’s more, with the new magnetic field sensors from TURCK automation processes can be optimized and standardized, from construction over purchase and production, up to system support for operators and service personnel. Use the unique performance spectrum of these sensors to reduce your cost effectively!

High system availability

The universally applicable magnetic field sensors operate extremely reliable, even in rough production environments. This is guaranteed through excellent EMC properties, protection class IP67 as well as the safe method of installation of the devices. We placed great emphasis on practical functionality of the housings and solid mounting accessories. Magnetic field sensors thus withstand the rough ambient conditions of machine building without any problems. Use these benefits to optimize your production processes.

Maximum planning freedom

Numerous connection possibilities, simple mounting and flexible accessories guarantee maximum freedom in planning with minimal mounting effort. From single switchpoint monitoring, over twin-sets, analog position detection up to combined binary/analog monitoring: Profit from the extensive standard product range of TURCK magnetic field sensors bringing more flexibility to your application.
Magnetic field sensors for pneumatic cylinders

**Our advantages**

**Safe installation**

A pre-fixation lip enables one-handed mounting in the groove. Once inserted in the groove, the sensor is moved in its final position and then screwed tight near the cable exit. This prevents an uplift of the sensor when pulling the cable. The screw is a new type of wing screw designed for T-grooves mounting. The wing screw is made of tool steel alloy and is extremely stable. For vibration-resistant mounting it is simply enough to tighten the screw with a quarter revolution, using a standard screwdriver or a 1.5 mm Allen key.

**Compact design**

Measuring only 28 mm (UNT), 19.7 mm (UNTK) and 18 mm (UNR), the standard sensors are the most compact devices on the market. The active face is located directly at the sensor end. This enables the piston position to be detected up to the end of compact short-stroke cylinders. Thanks to the bright and all-round visible LED, the current switching state is perfectly visible from any perspective and proves helpful when sensors are mounted and adjusted. The best mounting position is thus obtained.

**Optional accessories**

An extensive range of accessories round off the performance spectrum of the new, universally applicable magnetic field sensors. We offer mounting aids for all standard cylinders, adjustment and fixation tools, as well as the fixation clips for save cable routing. With the new MR sensor element, all magnets in standard pneumatic cylinders can be detected safely and without multiple switching points. Thus piston positions are precisely detected, allowing you to benefit from the high level of flexibility.
**Type code**

**BIM** – **UNT** . – **A P 6 X** – **H1141/S1160**

**BIM** Functional principle – **UNT** . Housing – **A P 6 X** Electrical version –

- **Functional principle**
  - BIM magnetic-inductive/magnetostrictive
  - WIM45 analog, position detection, magnetically actuated, 45 mm measuring range

- **Housing**
  - KIT for tie-rod and profile cylinders mounted with fixing clamp, active face centered
  - NST for groove cylinders, mounted with fixing clamp, incl. accessories adaptable to dovetail and tie-rod cylinders active face centered
  - UNR for C-groove cylinders without accessories, adaptable to other cylinder types with accessories
  - UNT for T-groove cylinders without accessories, adaptable to other cylinder types without accessories
  - UNTK short type, for T-groove cylinders, mounted without accessories, accessories for mounting on other cylinder types
  - UNTL long size, with analog output, for T-groove cylinders without accessories, adaptable to other cylinder types with accessories

- **Indication**
  - X 1 x LED
  - X... number of LEDs or multicolor LED

- **Voltage range**
  - 6 10...30 VDC, ☐
  - 4 10...65 VDC, ☐

- **Output mode**
  - N NPN
  - P PNP

- **Output function**
  - A working current NO
  - LIU analog output (voltage and current), $U_a = 15...30$ VDC
  - AY1 digital (NAMUR acc. to EN 60947-5-6)
  - Y1 analog (NAMUR acc. to EN 60947-5-6)

- **EG, EM** threaded barrel, stainless steel, Ø in [mm]
- **M** threaded barrel, metal, Ø in [mm]
Magnetic field sensors for pneumatic cylinders

**Electrical connection:**

- **Connector type:**
  - H1 connector M12 x 1
  - V1 connector M8 x 1 / Ø 8 mm

- **Number of contacts:**
  - … … contacts

- **Assignment:**
  - 1 standard assignment or customized

**Special version:**

- **Features:**
  - 3GD approval ATEX II 3 G and II 3 D
  - S34 magnetic-field resistant
  - S97 extended temperature range: -40 °C
  - S100 extended temperature range: +100 °C
  - S1139 extended travel path
  - S1160 irradiated cable, for welding facilities
  - S1165 PP cable, chemical and temperature resistant

**Cable connection:**

- **Connector type:**
  - PSG connector M8 x 1, straight
  - RS4 connector M12 x 1, straight

- **Number of contacts:**
  - … … contacts

- **Assignment:**
  - M rotatable nut
  - S fixed thread

- **Cable length:**
  - … [m]
# Magnetic field sensors for pneumatic cylinders

## Designs and variants

<table>
<thead>
<tr>
<th>Design</th>
<th>Measuring range</th>
<th>Electrical connection</th>
<th>Output</th>
<th>Accessories for cylindrical design</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNTK – 3-wire DC</td>
<td>rectangular 5 x 6 x 19.7 mm</td>
<td>–</td>
<td>2 m cable 0.3 m cable with connector, M8 x 1 0.3 m cable with connector, M12 x 1</td>
<td>NPN</td>
<td>KLR1.../KLT... KLZ... INT</td>
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<tr>
<td>UNT – cable connection and cable with male end</td>
<td>rectangular UNT 5 x 6 x 28 mm</td>
<td>–</td>
<td>2 m cable 0.3 m cable with connector, M12 x 1 7 m cable 0.3 m cable with connector, M8 x 1 0.3 m cable with connector, Ø8 mm 0.3 m cable with connector</td>
<td>NAMUR, PNP, NPN, 2-wire</td>
<td>KLR1.../KLT... KLZ... INT</td>
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<tr>
<td>UNT – M12 x 1 or male M8 x 1</td>
<td>rectangular UNT 5 x 22 x 30 mm</td>
<td>–</td>
<td>connector, M8 x 1 connector, M12 x 1</td>
<td>NPN</td>
<td>KLR1.../KLT... KLZ... INT</td>
</tr>
<tr>
<td>UNT – Twin Set</td>
<td>rectangular UNT 5 x 22 x 30 mm</td>
<td>–</td>
<td>connector, M8 x 1 connector, M12 x 1</td>
<td>NPN</td>
<td>KLR1.../KLT... KLZ... INT</td>
</tr>
<tr>
<td>UNR – 3-wire DC</td>
<td>rectangular UNR 2.9 x 4.6 x 18 mm</td>
<td>–</td>
<td>2 m cable 7 m cable 0.3 m cable with connector, M8 x 1 0.3 m cable with connector, Ø8 mm 0.3 m cable with connector, M12 x 1</td>
<td>NPN</td>
<td>M-203</td>
</tr>
<tr>
<td>UNTL – Current and voltage output</td>
<td>rectangular UNTL 5 x 14.5 x 73 mm</td>
<td>45 mm</td>
<td>0.3 m cable with connector, M8 x 1 0.3 m cable with connector, M12 x 1</td>
<td>Analog output, 4...20 mA, 0...10 V</td>
<td>KLDT...</td>
</tr>
<tr>
<td>UNTL – Twin Set</td>
<td>rectangular UNTL 45 mm</td>
<td>cable with connector, M12 x 1</td>
<td>–</td>
<td>PNP/ Analog output, 0...10 V</td>
<td>205</td>
</tr>
</tbody>
</table>
### Magnetic field sensors for pneumatic cylinders

#### Design NST
- **Design**: NST
- **Measuring range**: 17 x 14 x 28 mm
- **Electrical connection**: 2 m cable connector, M12 x 1, connector, M8 x 1
- **Output**: NAMUR, PNP, NPN
- **Accessories for cylindrical design**: KLN3, KLN-SMC, KLF1, KLF2, KLI...

#### Design IKT
- **Design**: IKT
- **Measuring range**: 14.6 x 17 x 30 mm, 14.6 x 28 x 30 mm
- **Electrical connection**: 2 m cable connector, M12 x 1, connector, M8 x 1
- **Output**: NAMUR, PNP, NPN
- **Accessories for cylindrical design**: KLN3, KLN-SMC, KLF1, KLF2, KLI...

#### M8
- **Design**: M8
- **Measuring range**: M8 x 1, Ø 8 x 41.6 mm, Ø 8 x 57 mm, Ø 8 x 49 mm
- **Electrical connection**: 2 m cable connector, M12 x 1, connector, M8 x 1
- **Output**: NAMUR, PNP, NPN

#### M12
- **Design**: M12
- **Measuring range**: M12 x 1, Ø 12 x 62 mm, Ø 12 x 64 mm
- **Electrical connection**: connector, M12 x 1, 2 m cable
- **Output**: NAMUR, PNP, NPN

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**Page references:**
- Design NST: Page 207
- Design IKT: Page 207
- M8: Page 209
- M12: Page 209
Magnetic field sensors for pneumatic cylinders
UNT and UNTK design

UNT and UNTK design

UNT and UNTKs are mounted quickly and firmly. The devices of the UNTK series are extremely compact and feature a very small switching distance. A pre-fixation lip enables one-handed mounting, even overhead. With the extended range of accessories, the sensors can be mounted on nearly all standard pneumatic cylinders. All standard connection types are available.

Features
▪ Compact design
▪ Quickly and firmly mounted
▪ Excellent EMC properties
▪ For T-groove cylinders without accessories
▪ Mounting accessories for all standard cylinders.
▪ Clearly visible LED
▪ Twin set for monitoring of two switchpoints

Properties
Designs
Universal design (28 mm) and very compact design (19.7 mm)

Measuring ranges
Reliable position detection on all standard pneumatic cylinders

Materials
Rugged PP housing for a wide range of applications

Electrical version
NAMUR, 2, 3 and 4-wire DC

Electrical connections
Cable, male M8 and M12, pigtail

Internet link
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Materials
Rugged PP housing for a wide range of applications
Magnetic field sensors for pneumatic cylinders
UNT and UNTK design

### UNTK

![Magnetic field sensor](image)

**General data**
- **Protection class**: IP67
- **Operating voltage**: 10...30 V DC
- **Output**: PNP
- **Ambient temperature**: -25...+70 °C
- **Housing material**: PP
- **Dimensions**: 5 x 6 x 19.7 mm

### Types and data – selection table

<table>
<thead>
<tr>
<th>Type</th>
<th>Connection</th>
<th>Operating voltage</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIM-UNT-AP7X</td>
<td>2 m cable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIM-UNT-AP7X-0,3-PSG3M</td>
<td>0.3 m Cable with connector, M8 x 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIM-UNT-AP7X-0,3-RS4</td>
<td>0.3 m Cable with connector, M12 x 1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**S1139**: long overtravel range; **S1160**: irradiated, weld-resistant cable; **S1165**: highly resistant cable for the food industry

### UNT – cable connection and cable with male end

![Magnetic field sensor](image)

**General data**
- **Protection class**: IP67
- **Housing material**: PP
- **Ambient temperature**: -25...+70 °C
- **Dimensions**: 5 x 6 x 28 mm

### Types and data – selection table

<table>
<thead>
<tr>
<th>Type</th>
<th>Connection</th>
<th>Operating voltage</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIM-UNT-AY1X/S1139</td>
<td>2 m cable</td>
<td>8.2 VDC</td>
<td>NAMUR</td>
</tr>
<tr>
<td>BIM-UNT-AY1X-0,3-RS4,27/S1139</td>
<td>0.3 m Cable with connector, M12 x 1</td>
<td>8.2 VDC</td>
<td>NAMUR</td>
</tr>
<tr>
<td>BIM-UNT-AP6X</td>
<td>2 m cable</td>
<td>10...30 VDC</td>
<td>PNP</td>
</tr>
<tr>
<td>BIM-UNT-AP6X 7M</td>
<td>7 m cable</td>
<td>10...30 VDC</td>
<td>PNP</td>
</tr>
<tr>
<td>BIM-UNT-AP6X/S1139</td>
<td>2 m cable</td>
<td>10...30 VDC</td>
<td>PNP</td>
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<tr>
<td>BIM-UNT-AP6X/S1160</td>
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<td>10...30 VDC</td>
<td>PNP</td>
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<tr>
<td>BIM-UNT-AP6X/3GD</td>
<td>2 m cable</td>
<td>10...30 VDC</td>
<td>PNP</td>
</tr>
<tr>
<td>BIM-UNT-AP6X-0,3-PSG3S</td>
<td>0.3 m Cable with connector, M8 x 1</td>
<td>10...30 VDC</td>
<td>PNP</td>
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<tr>
<td>BIM-UNT-AP6X-0,3-PSG3M/S1139</td>
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<td>10...30 VDC</td>
<td>PNP</td>
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<tr>
<td>BIM-UNT-AP6X-0,3-PSG3M/S1160</td>
<td>0.3 m Cable with connector, M8 x 1</td>
<td>10...30 VDC</td>
<td>PNP</td>
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<tr>
<td>BIM-UNT-AP6X-0,3-RS4</td>
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<td>10...30 VDC</td>
<td>PNP</td>
</tr>
<tr>
<td>BIM-UNT-AP6X-0,3-RS4/S1139</td>
<td>0.3 m Cable with connector, M12 x 1</td>
<td>10...30 VDC</td>
<td>PNP</td>
</tr>
<tr>
<td>BIM-UNT-AP6X-0,3-RS4/S1160</td>
<td>0.3 m Cable with connector, M12 x 1</td>
<td>10...30 VDC</td>
<td>PNP</td>
</tr>
<tr>
<td>BIM-UNT-AP6X-0,3-RS4/3GD</td>
<td>0.3 m Cable with connector, M12 x 1</td>
<td>10...30 VDC</td>
<td>PNP</td>
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<tr>
<td>BIM-UNT-AP6X-0,3-RS4/3GD</td>
<td>0.3 m Cable with connector, M12 x 1</td>
<td>10...30 VDC</td>
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<tr>
<td>BIM-UNT-AP6X-0,3-RS4/3GD</td>
<td>0.3 m Cable with connector, M12 x 1</td>
<td>10...30 VDC</td>
<td>PNP</td>
</tr>
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<td>BIM-UNT-AP6X-0,3-RS4/3GD</td>
<td>0.3 m Cable with connector, M12 x 1</td>
<td>10...30 VDC</td>
<td>PNP</td>
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</table>

**Table continues on the next page…**
Magnetic field sensors for pneumatic cylinders
UNT and UNTK design

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<table>
<thead>
<tr>
<th>Type</th>
<th>Connection</th>
<th>Operating voltage</th>
<th>Output</th>
<th>Housing material</th>
<th>Dimensions</th>
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<tbody>
<tr>
<td>BIM-UNT-AG41X-0,3-RS4.23/S1139/S1160</td>
<td>0.3 m Cable with connector</td>
<td>10…55 VDC</td>
<td>2-wire</td>
<td>PP</td>
<td>5 x 22 x 30 mm</td>
</tr>
</tbody>
</table>

Many different types available, also as NPN version, see type code

UNT – M12 x 1 or male M8 x 1

![UNT M12 x 1 or male M8 x 1](image)

General data
- Protection class: IP67
- Operating voltage: 10…30 VDC
- Output: PNP
- Housing material: PP
- Ambient temperature: -25…+70 °C
- Dimensions: 5 x 22 x 30 mm

Types and data – selection table

<table>
<thead>
<tr>
<th>Type</th>
<th>Connection</th>
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<tbody>
<tr>
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<td>male, M8 x 1</td>
<td>w064</td>
<td>d439</td>
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<td>BIM-UNT-AP6X2-H1141</td>
<td>male, M12 x 1</td>
<td>w064</td>
<td>d440</td>
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</tr>
</tbody>
</table>

Many different types available, also as NPN version, see type code

UNT – Twin set

![UNT Twin set](image)

General data
- Protection class: IP67
- Operating voltage: 10…30 VDC
- Output: PNP
- Housing material: PP
- Ambient temperature: -25…+70 °C
- Dimensions: 5 x 22 x 30 mm

Types and data – selection table

<table>
<thead>
<tr>
<th>Type</th>
<th>Connection</th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BIM-UNT-0,3-UNT-2AP6X3-V1141</td>
<td>male, M8 x 1</td>
<td>w084</td>
<td>d441</td>
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<tr>
<td>BIM-UNT-0,3-UNT-2AP6X3-H1141</td>
<td>male, M12 x 1</td>
<td>w084</td>
<td>d442</td>
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</tbody>
</table>
Magnetic field sensors for pneumatic cylinders
UNT and UNTK design

Wiring diagrams on page 658
Dimension drawing on page 670
Accessories on page 560
Magnetic field sensors for pneumatic cylinders

UNR design

Magnetic field sensors for short-stroke cylinders and parallel grippers are very compactly designed. The all-round visible LED allows the switching state to be observed from any position. All standard connection types are available.

**Properties**

- **Designs**
  Small size, length 18 mm

- **Measuring ranges**
  Reliable position detection on all standard pneumatic cylinders

- **Materials**
  Rugged PP housing for a wide range of applications

**Features**

- Compact design
- For C groove cylinders
- Quickly and firmly mounted
- Excellent EMC properties
- Clearly visible LED

**Electrical version**

3-wire DC outputs NPN/PNP

**Electrical connections**

Cable, cable with male end M8 x 1 and M12 x 1

**Materials**

Rugged PP housing for a wide range of applications

**Internet link**

Scan the QR code to access our products on the internet
Magnetic field sensors for pneumatic cylinders
UNR design

UNR

Types and data – selection table

<table>
<thead>
<tr>
<th>Type</th>
<th>Connection</th>
<th>w</th>
<th>d</th>
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</thead>
<tbody>
<tr>
<td>BIM-UNR-AP6X</td>
<td>2 m cable</td>
<td>w079</td>
<td>d443</td>
</tr>
<tr>
<td>BIM-UNR-AP6X 7M</td>
<td>7 m cable</td>
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<tr>
<td>BIM-UNR-AP6X-0,3-PSG3S</td>
<td>0.3 m Cable with connector, M8 x 1</td>
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<tr>
<td>BIM-UNR-AP6X-0,3-PSG3M</td>
<td>0.3 m Cable with connector, M8 x 1</td>
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<td>d445</td>
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<td>BIM-UNR-AP6X-0,3-RS4</td>
<td>0.3 m Cable with connector, M12 x 1</td>
<td>w064</td>
<td>d446</td>
</tr>
</tbody>
</table>

Many different types available, also as NPN version, see type code

General data
- Protection class: IP67
- Output: PNP
- Ambient temperature: -25…+70 °C

Dimensions
- 2.9 x 4.6 x 18 mm

Operating voltage: 10…30 VDC

Housing material: PP

Ambient temperature: -25…+70 °C
The universal magnetic field sensors for pneumatic cylinders are now also available with analog current and voltage output. The new analog sensor WIM45-UNTL by TURCK offers clear advantages, especially in situations where additional flexibility and monitoring properties are required.

**Features**

- Compact design
- Quickly and firmly mounted
- Inserted in the groove from the top
- Hardly affected by external magnetic fields
- Status of magnetic field displayed via 2 LEDs
- Measured value memory

**Properties**

**Designs**
One type for all standard pneumatic cylinders

**Measuring ranges**
Analog position detection up to 45 mm on all standard pneumatic cylinders

**Materials**
Rugged PA housing for a wide range of applications

**Electrical version**
Analog outputs 4…20 mA and 0…10 VDC as well as 3-wire DC switching output

**Electrical connections**
Standard connection modes: Cable with male end M8 or M12

**Special features**
Also available with combined analog and switching output in one device

**Internet link**
Scan the QR code to access our products on the internet
**Magnetic field sensors for pneumatic cylinders**

**Analog position gauging systems**

---

**UNTL – Current and voltage output**

![Image of UNTL – Current and voltage output]

**Types and data – selection table**

<table>
<thead>
<tr>
<th>Type</th>
<th>Connection</th>
<th>Type</th>
<th>Connection</th>
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<tbody>
<tr>
<td>WIM45-UNTL-LIUSX2-0,3-P564M</td>
<td>0.3 m Cable with connector, M8 x 1</td>
<td>WIM45-UNTL-LIUSX2-0,3-R54</td>
<td>0.3 m Cable with connector, M12 x 1</td>
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<tr>
<td>WIM45-UNTL-LIUSX2-0,3-BIM-UNT-LUAP6X 4-H1141</td>
<td>0.3 m Cable with connector, M12 x 1</td>
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</tbody>
</table>

**UNTL – Twin set**

![Image of UNTL – Twin set]

**Types and data – selection table**

<table>
<thead>
<tr>
<th>Type</th>
<th>Connection</th>
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<tbody>
<tr>
<td>WIM45-UNTL-0,3-BIM-UNT-LUAP6X 4-H1141</td>
<td>0.3 m Cable with connector, M12 x 1</td>
</tr>
</tbody>
</table>

---

**General data**

- **Measuring range**: 45 mm
- **Operating voltage**: 15…30 VDC
- **Housing material**: PA12-GF30
- **Dimensions**: 5 x 14.5 x 73 mm

**Protection class**: IP67

**Output**: Analog output, 4…20 mA, 0…10 V

**Ambient temperature**: -25…+70 °C

**Repeatability**: 0.1% of measuring range IA - BI

---

**General data**

- **Measuring range**: 45 mm
- **Connection**: Cable with connector, M12 x 1
- **Output**: PNP/analog output, 0…10 V
- **Ambient temperature**: -25…+70 °C

**Protection class**: IP67

**Operating voltage**: 15…30 VDC

**Housing material**: PA

**Repeatability**: 0.1% of measuring range IA - BI

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**Wiring diagrams on page 658**  
**Dimension drawing on page 670**  
**Accessories on page 560**
The rugged magnetic field sensors are particularly suited for harsh environments. With the extended range of accessories the sensors can be mounted on nearly all standard pneumatic cylinders. All standard connection types are available.

**Features**

- Rugged designs
- Many different mounting options
- Optional weld field immunity
- Excellent EMC properties

**Properties**

- **Designs**
  - Standard design, for harsh environments

- **Measuring ranges**
  - Reliable position detection on all standard pneumatic cylinders

- **Materials**
  - Rugged PA12-GF30 resp. GD-ZN housing for a wide range of applications

**Electrical versions**

- NAMUR, 2/3-wire DC

**Electrical connections**

- Cable, male M8 x 1 and M12 x 1

**Internet link**

Scan the QR code to access our products on the internet.
Magnetic field sensors for pneumatic cylinders
For harsh environments

NST

S34: weld-resistant, for use in 50-Hz welding systems

Types and data – selection table

<table>
<thead>
<tr>
<th>Type</th>
<th>Connection</th>
<th>Operating voltage</th>
<th>Output</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIM-NST-Y1X</td>
<td>2 m cable</td>
<td>8.2 VDC</td>
<td>NAMUR</td>
<td>14.6 x 17 x 30 mm</td>
</tr>
<tr>
<td>BIM-NST-Y1X-H1141</td>
<td>male, M12 x 1</td>
<td>8.2 VDC</td>
<td>NAMUR</td>
<td>14.6 x 28 x 30 mm</td>
</tr>
<tr>
<td>BIM-NST-AP6X</td>
<td>2 m cable</td>
<td>10...30 VDC</td>
<td>NPN</td>
<td>14.6 x 17 x 30 mm</td>
</tr>
<tr>
<td>BIM-NST-AP6X-V1131</td>
<td>male, M8 x 1</td>
<td>10...30 VDC</td>
<td>NPN</td>
<td>14.6 x 17 x 30 mm</td>
</tr>
<tr>
<td>BIM-NST-AP6X-H1141</td>
<td>male, M12 x 1</td>
<td>10...30 VDC</td>
<td>NPN</td>
<td>14.6 x 28 x 30 mm</td>
</tr>
</tbody>
</table>

Many different types available, also as NPN version, see type code

IKT

Types and data – selection table

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Many different types available, also as NPN version, see type code
Magnetic-inductive sensors

Typical applications for magnetic-inductive sensors include "pig" detection and gate monitoring. Since magnetic-inductive sensors are actuated by external magnetic fields, they achieve large switching distances despite their small size. In combination with the actuation magnet DMR31-15-5, the M12 sensors attain a rated switching distance of 90 mm.

Properties

- Achieves very long ranges
- Permeates non-magnetizable materials
- ATEX and SIL approved versions
- Rugged threaded barrels
- Broad selection of actuators

Features

- Designs
  - Threaded barrels M8 x 1 or M12 x 1

- Switching distances
  - M8 sensors up to 78 mm and M12 sensors up to 90 mm, depending on the actuating magnet

- Electrical version
  - NAMUR, 2 or 3-wire DC

- Electrical connections
  - Connection cable, male M8 x 1 and M12 x 1, 2 m

- Materials
  - Rugged threaded barrels, chrome-plated brass or stainless steel

- Internet link
  - Scan the QR code to access our products on the internet
Magnetic field sensors for pneumatic cylinders

Magnetic-inductive sensors

Types and data – selection table

<table>
<thead>
<tr>
<th>Type</th>
<th>Connection</th>
<th>Operating voltage</th>
<th>Output</th>
<th>Housing material</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIM-EG08-Y1X</td>
<td>2 m cable</td>
<td>8.2 VDC</td>
<td>NAMUR</td>
<td>Ø 8 x 41.6 mm</td>
<td>w080 d457</td>
</tr>
<tr>
<td>BIM-EG08-Y1X-H1341</td>
<td>male, M12 x 1</td>
<td>8.2 VDC</td>
<td>NAMUR</td>
<td>Ø 8 x 57 mm</td>
<td>w081 d458</td>
</tr>
<tr>
<td>BIM-EG08-AP6X-H1141</td>
<td>2 m cable</td>
<td>10…30 VDC</td>
<td>PNP</td>
<td>Ø 8 x 41.6 mm</td>
<td>w079 d457</td>
</tr>
<tr>
<td>BIM-EG08-AP6X-V1131</td>
<td>male, M8 x 1</td>
<td>10…30 VDC</td>
<td>PNP</td>
<td>Ø 8 x 49 mm</td>
<td>w064 d459</td>
</tr>
<tr>
<td>BIM-EG08-AP6X-H1341</td>
<td>male, M12 x 1</td>
<td>10…30 VDC</td>
<td>PNP</td>
<td>Ø 8 x 57 mm</td>
<td>w064 d458</td>
</tr>
</tbody>
</table>

Many different types available, also as NPN version, see type code

For more details on magnetic actuators see chapter „Accessories“
Operating distance 78 mm, in conjunction with magnet DMR31-15-5

M12

General data

Protection class       IP67
Switching distance     90 mm
Ambient temperature    -25…+70 °C

Types and data – selection table

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</thead>
<tbody>
<tr>
<td>BIM-M12E-Y1X-H1141</td>
<td>male, M12 x 1</td>
<td>8.2 VDC</td>
<td>NAMUR</td>
<td>CuZn, chrome-platedØ 12 x 62 mm</td>
<td>w081 d173</td>
</tr>
<tr>
<td>BIM-EM12E-Y1X</td>
<td>2 m cable</td>
<td>8.2 VDC</td>
<td>NAMUR</td>
<td>V2A (1.4301)</td>
<td>w080 d460</td>
</tr>
<tr>
<td>BIM-EM12E-AP4X-H1141</td>
<td>male, M12 x 1</td>
<td>10…65 VDC</td>
<td>PNP</td>
<td>V2A (1.4301)</td>
<td>w064 d173</td>
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<td>BIM-EM12E-AP4X</td>
<td>2 m cable</td>
<td>10…65 VDC</td>
<td>PNP</td>
<td>V2A (1.4301)</td>
<td>w079 d460</td>
</tr>
</tbody>
</table>

Many different types available, also as NPN version, see type code

For more details on magnetic actuators see chapter „Accessories“
Operating distance 90 mm, in conjunction with magnet DMR31-15-5