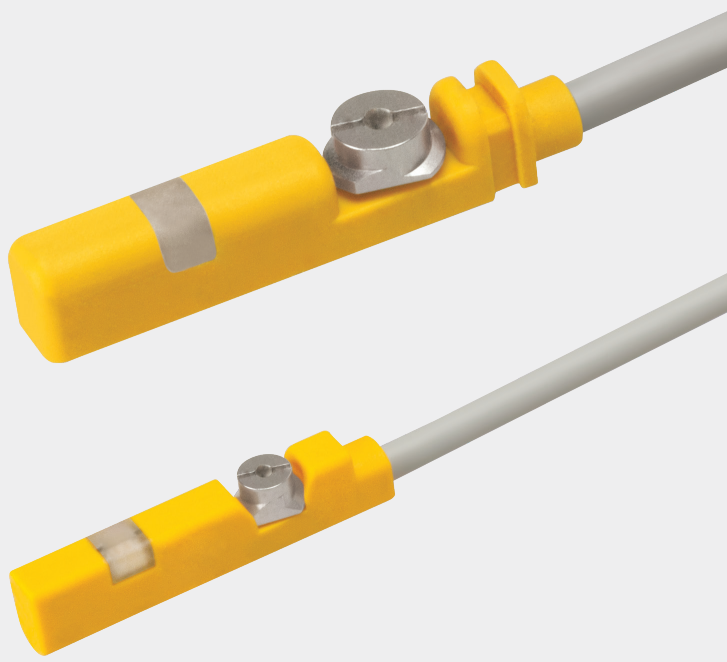
TURCK

Your Global Automation Partner

Cylinder Positions Sensors



Cylinder Position Sensors

What is a magneto-resistive sensor?

Turck cylinder position sensors are used for the detection of magnet equipped pistons on pneumatic cylinders through a nonmagnetic wall. A patented, state of the art electronic magnetic circuit is the basis of operation for these sensors. The sensors are manufactured using a polypropylene over-molding technology, which allows the product to be completely sealed into small sizes without compromising durability. The small size also allows for very low profiles that reduce the chance of damage when mounted to the outside of the cylinder.

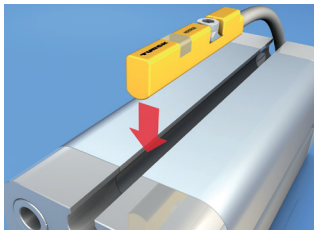
Turck has taken the approach of using two sensor styles, along with various adapter brackets, to fit individual cylinders for the majority of applications. The "UNT" and "UNR" housings were designed to fit into specific grooves found in extruded profile type cylinders, as well as standalone devices without the need for any additional brackets. The UNT style was made to fit into a standard "T" groove and the UNR was made for the "C" groove, neither requiring additional hardware for standard mounting. Both of these designs allow the sensor to be dropped in from above anywhere along the span of the cylinder.

Where can I use a magneto-resistive sensor?

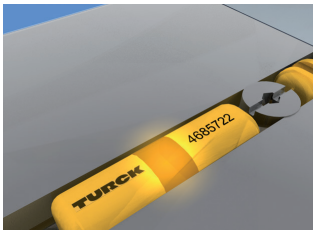
- Material handling
- Automated assembly
- Stamping
- Conveying
- Sorting
- Product positioning
- Industrial robots

Why Choose Turck magneto-resistive sensors?

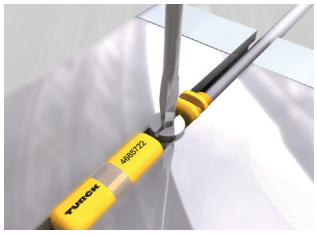
Reliable mounting
The sensor is mounted in the cylinder's groove and tightened with a screw. Located near the cable outlet, the screw helps make sure the sensor doesn't move during vibration or if the cable is pulled.



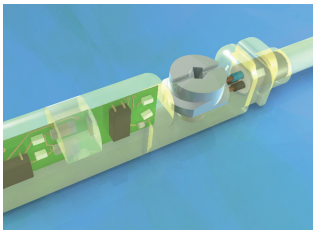
Visible LED
A bright LED indicates the current switching status, and is visible from any position.



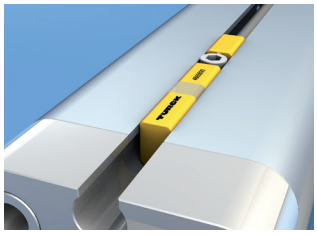
Secure installation
A wing screw made of tool steel requires only a quarter-turn to tighten securely.



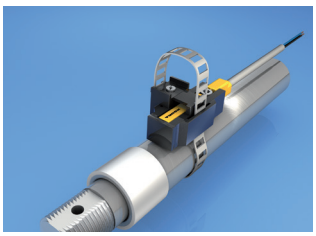
Standards
Magneto-resistive technology enables the sensor to detect the exact position of the magnet, while avoiding multiple switching points. It also exceeds IEC standards EN60947-5-2 and EN61000-4-6, making it immune to high levels of EMC.



Compact housing style
UNT models measure only 28 mm, while UNR models measure only 18 mm, making them the most compact sensors available on the market. Since the active sensing face is located at the end of the sensor, the piston can be detected up to the end, even on compact short stroke cylinders.



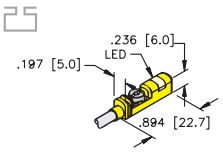
Optional accessories
A large range of accessories, such as clips for cable routing, are available for mounting, adjustment and installation.



Part Number	ID Number	Drawing
BIM-UNTK, Potted-in cable, 2 M PUR cable		
BIM-UNTK-AP6X	4686005	1
BIM-UNTK-AP7X	4686001	1
BIM-UNTK, M8 *picofast*® quick-disconnect pigtail, 0.3 M PUR cable		
BIM-UNTK-AP6X-0.3.PSG3M	4686015	2
BIM-UNTK-AP7X-0.3-PSG3M	4686011	2
BIM-UNT, Potted-in cable, 2 M and 7 M PUR cable		
BIM-UNT-AP6X	4685720	3
BIM-UNT-AN6X	4685702	3
BIM-UNT-AP6X 7M	4685721	3
BIM-UNT-AN6X 7M	4685701	3
BIM-UNT, M8 *picofast* quick-disconnect pigtail, 0.3 M PUR cable		
BIM-UNT-AP6X-0.3-PSG3S	4685722	4
BIM-UNT-AN6X-0.3-PSG3S	4685705	4
BIM-UNT, M8 *picofast* threaded pigtail, 0.3 M PUR cable		
BIM-UNT-AP6X-0.3-PSG3M	4685723	5
BIM-UNT-AN6X-0.3-PSG3M	4685706	5
BIM-UNT Dually, M12 *eurofast*® threaded pigtail, 0.2 M PUR cable		
BIM-UNT-AP6X-0.3-RS4T	46857260	6
BIM-UNT-2AP6X-0.2-RSC4.4T	4685891	7
BIM-UNR, Potted-in cable, 2 M and 7 M PUR cable		
BIM-UNR-AP6X W/M	4685842	8
BIM-UNR-AN6X W/M	4685847	8
BIM-UNR-AN6X 7M W/M	4685851	8
BIM-UNR-AP6X 7M W/M	4685846	8
BIM-UNR, M8 *picofast* quick-disconnect pigtail, 0.3 M PUR cable		
BIM-UNR-AP6X-0.3-PSG3S W/M	4685843	9
BIM-UNR-AN6X-0.3-PSG3S W/M	4685848	9
BIM-UNR, M8 *picofast* threaded pigtail, 0.3 M PUR cable		
BIM-UNR-AP6X-0.3-PSG3M W/M	4685844	10
BIM-UNR-AN6X-0.3-PSG3M W/M	4685849	10
BIM-UNR, M12 *eurofast* threaded pigtail, 0.3 M PUR cable		
BIM-UNR-AP6X-0.3-RS4 W/M	4685845	11
BIM-UNR-AN6X-0.3-RS4 W/M	4685850	11
BIM-UNR Dually, M12 *eurofast* quick-disconnect pigtail, 0.2 M PUR cable		
BIM-UNR-2AP6X-0.2-RSC4.4T	4685899	12

Dimensional Drawings

1



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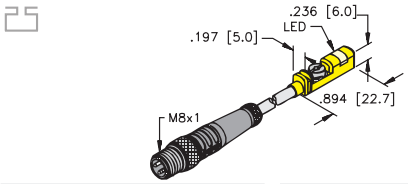

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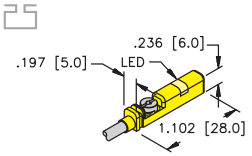

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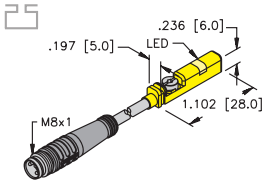

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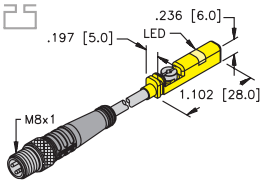

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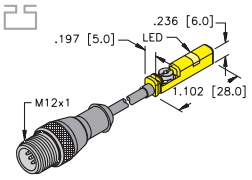

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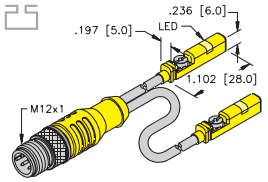

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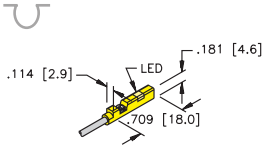

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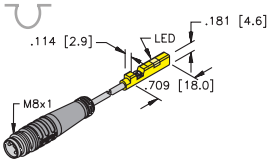

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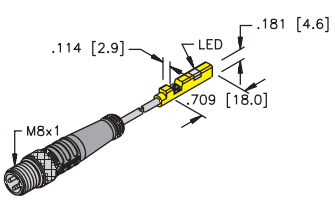

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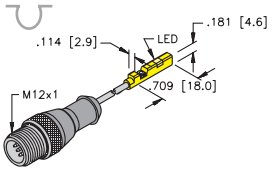

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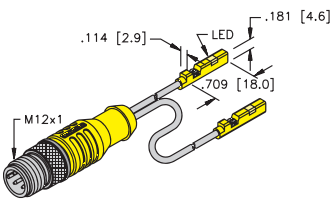


Technical Specifications:

Ambient Temperature:	-25° to +70 °C (-13° to 158 °F)
Operating Voltage:	10-30 VDC
Ripple V_{pp}:	≤ 10% U_{ss}
No-load Current I_0:	≤ 15 mA
Off-state Current:	≤ 0.1 mA
Switching Frequency:	UNT: ≤ 1 kHz; UNR: ≤ 0.3 kHz
Rated Operating Current:	UNT: DC ≤ 150 mA; UNR: DC ≤ 100 mA
Output Function:	3-wire, N.O., PNP/NPN
Short-circuit Protection:	Yes / Cyclic (AP6/AN6 only)
Voltage Drop I_e:	≤ 1.8 V

Vibration Resistance:	55 Hz (1mm)
Shock Resistance:	30 g (11 ms)
Degree of Protection:	IP67
Overtravel Speed:	UNT: 10 m/s; UNR: 3 m/s
Wire-break/Reverse Polarity Protection:	Yes

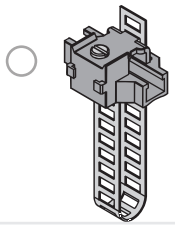
Note:

PTFE Tubing:	Add S1144 to part number
weldguard® & PTFE:	Add S1154 to part number
weldguard Protection:	Add S1589 to part number

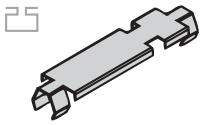
Mounting Accessories

KLRC-UNT*

Part Number	Cylinder Diameter
KLRC-UNT1	.315-0.984 in [8-25 mm]
KLRC-UNT2	.984-2.480 in [25-63 mm]
KLRC-UNT3	2.480-5.118 in [63-130 mm]

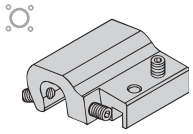


SG-UNT

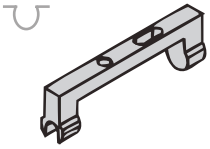


KLZ*M-UNT

Part Number	Tie Rod Diameter 'A'
KLZ1M-UNT	.295 in [7.5 mm]
KLZ2M-UNT	.350 in [8.9 mm]
KLZ3M-UNT	.480 in [12.2 mm]



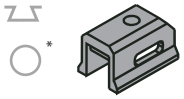
KLTR-2UNR



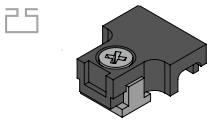
KLDT-UNT*

Part Number	Groove Width
KLDT-UNT2	.276 in [7.0 mm]
KLDT-UNT3	.370 in [9.4 mm]
KLDT-UNT4	.453 in [11.5 mm]
KLDT-UNT5	.496 in [12.6 mm]

* To be used with ASB strap on round cylinders

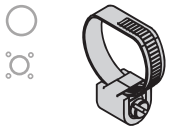


KLT-UNT1

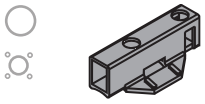


ASB-* STRAP

Part Number	Cylinder Diameter
ASB-1	.276-.433 in [7-11 mm]
ASB-2	.433-.748 in [11-19 mm]
ASB-3	.709-1.142 in [18-29 mm]
ASB-4	1.102-1.535 in [28-39 mm]
ASB-5	1.496-1.929 in [38-49 mm]
ASB-6	1.890-2.323 in [48-59 mm]
ASB-7	2.283-2.717 in [58-69 mm]
ASB-8	2.677-3.110 in [68-79 mm]
ASB-9	3.071-3.504 in [78-89 mm]



KLR-2UNR



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