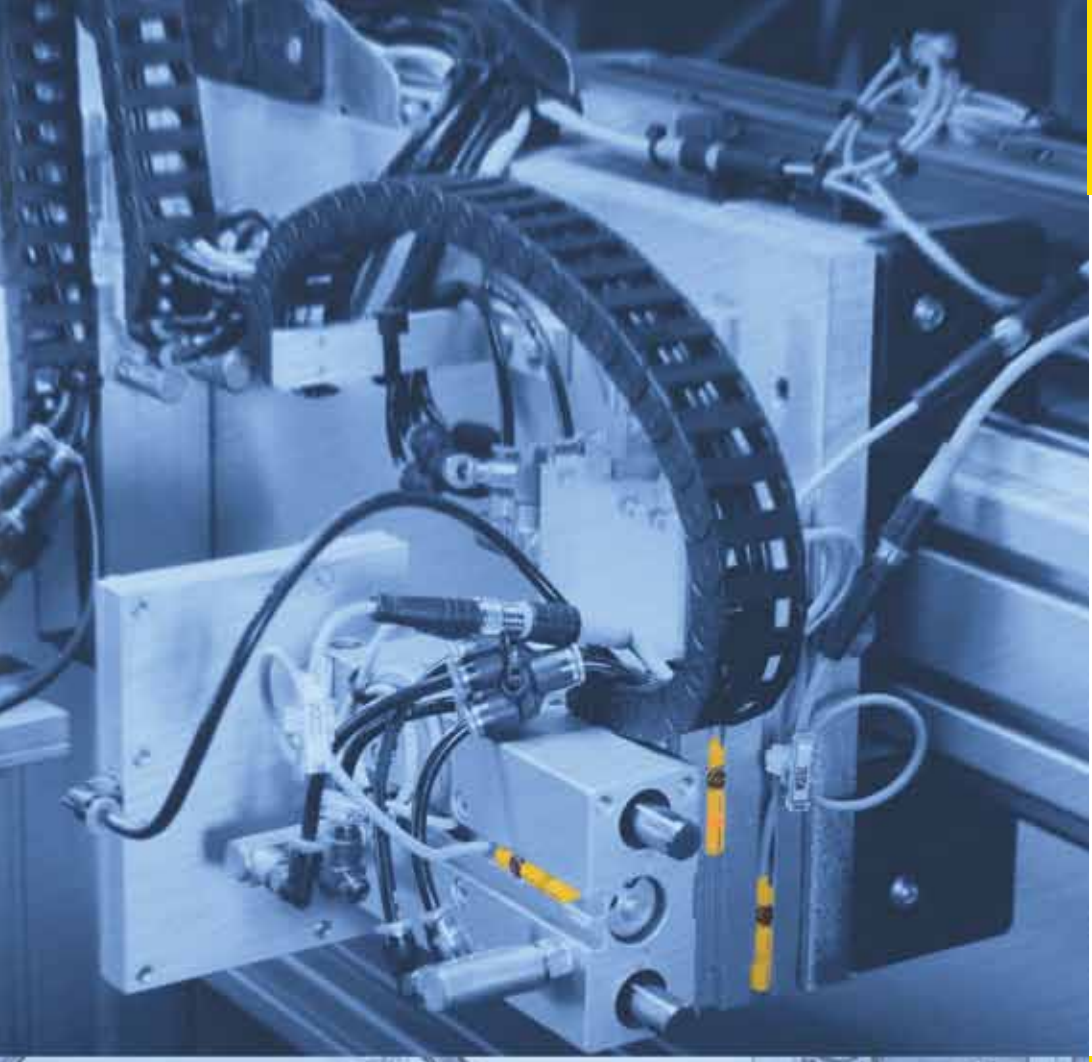

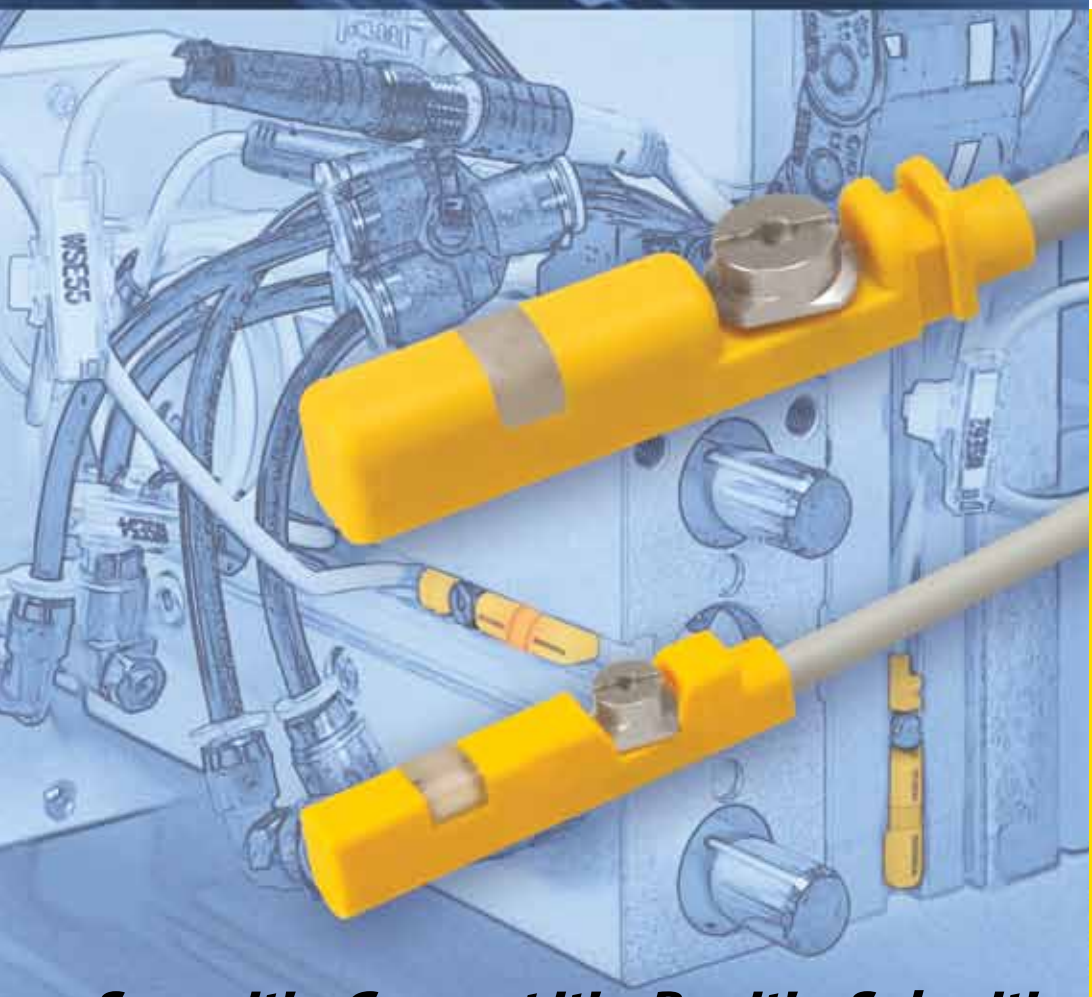

TURCK works

CYLINDER POSITION SENSORS

····Sense It!····Connect It!····Bus It!····Solve It!

www.turck.us

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CYLINDER POSITI

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. These sensors are manufactured using a polypropylene over-molding technology, which allows the sensor 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.

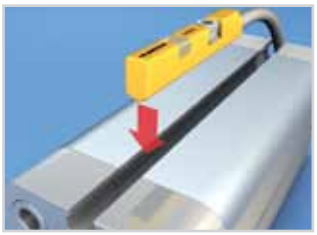
TURCK has taken the approach of using two sensor styles, along with various adapter brackets, to fit individual cylinder's for the majority of applications. The "UNT" and "UNR" housings were designed to fit into specific grooves found in extruded profile type cylinders, as well as standalone devices 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?

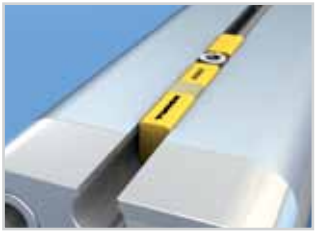
Reliable mounting
The sensor is mounted in the cylinder's groove and tightened with a screw. Located near the cable outlet, the screw helps make sure the sensor doesn't move during vibration or if the cable is pulled.



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



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 sensor's end, the piston can be detected up to the end—even on compact short stroke cylinders.



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



Standards
Magneto-resistive technology enables the sensor to detect the exact position of the magnet, while avoiding multiple switching points. It also exceeds the IEC standard, EN60947-5-2 and EN 61000-4-6, making it immune to high levels of EMC.



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



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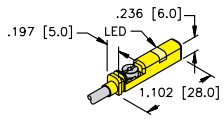
ON SENSORS

Part Number	ID Number	Drawing
BIM-UNT, Potted-in cable, 2M and 7M PUR cable		
BIM-UNT-AP6X	S4685720	1
BIM-UNT-AN6X	S4685702	1
BIM-UNT-AP6X 7M	S4685721	1
BIM-UNT-AN6X 7M	S4685701	1
BIM-UNT, M8 *picofast*® quick-disconnect pigtail, 0.3M PUR cable		
BIM-UNT-AP6X-0.3M-PSG 3S	S4685722	2
BIM-UNT-AN6X-0.3M-PSG 3S	S4685705	2
BIM-UNT, M8 *picofast*® threaded pigtail, 0.3M PUR cable		
BIM-UNT-AP6X-0.3M-PSG 3M	S4685723	3
BIM-UNT-AN6X-0.3M-PSG 3M	S4685706	3
BIM-UNT, M12 *eurofast*® quick-disconnect pigtail, 0.3M PUR cable		
BIM-UNT-AP6X-0.3M-RS 4T	S46857260	4
BIM-UNT Dually, M12 *eurofast*® threaded pigtail, 0.2M PUR cable		
BIM-UNT-2AP6X-0.2M-RSC 4.4T	S4685891	5
BIM-UNR, Potted-in cable, 2M and 7M PUR cable		
BIM-UNR-AP6X W/M	S4685842	6
BIM-UNR-AN6X W/M	S4685847	6
BIM-UNR-AN6X 7M W/M	S4685851	6
BIM-UNR-AP6X 7M W/M	S4685846	6
BIM-UNR, M8 *picofast*® quick-disconnect pigtail, 0.3M PUR cable		
BIM-UNR-AP6X-0.3M-PSG 3S W/M	S4685843	7
BIM-UNR-AN6X-0.3M-PSG 3S W/M	S4685848	7
BIM-UNR, M8 *picofast*® threaded pigtail, 0.3M PUR cable		
BIM-UNR-AP6X-0.3M-PSG 3M W/M	S4685844	8
BIM-UNR-AN6X-0.3M-PSG 3M W/M	S4685849	8
BIM-UNR, M12 *eurofast*® threaded pigtail, 0.3M PUR cable		
BIM-UNR-AP6X-0.3M-RS 4T W/M	S4685845	9
BIM-UNR-AN6X-0.3M-RS 4T W/M	S4685850	9
BIM-UNR Dually, M12 *eurofast*® quick-disconnect pigtail, 0.2M PUR cable		
BIM-UNR-2AP6X-0.2M-RSC 4.4T	S4685899	10

Dimensional Drawings

1



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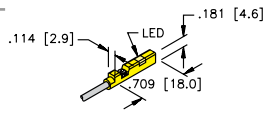

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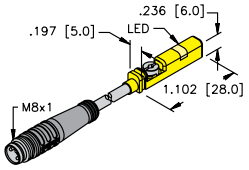

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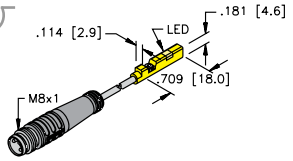

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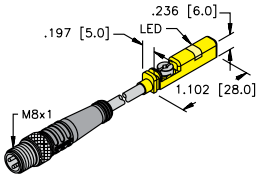

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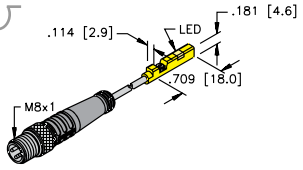

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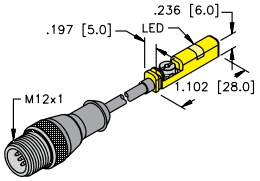

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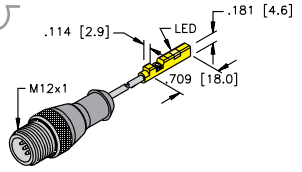

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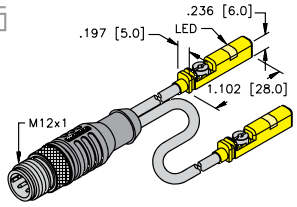

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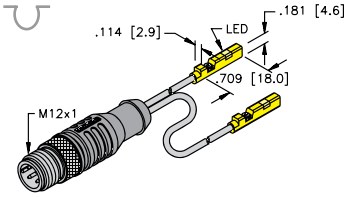

Technical Specifications:

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_o:	≤ 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
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
weldguard Protection:	Yes, add "/S1589" to part number

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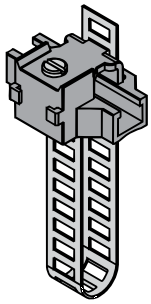
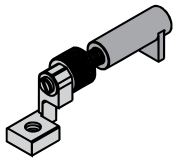
Mounting Accessories

KLRC-UNT*

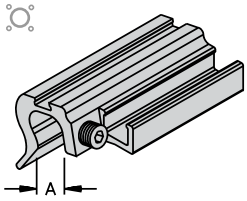


Part Number	Cylinder Diameter
KLRC-UNT1	.315-0.984 in [8-25 mm]
KLRC-UNT2	.984-2.480 in [25-63 mm]
KLRC-UNT3	2.480-5.118 in [63-130 mm]

UNT-Adjusting Bracket

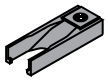


KLZ*-INT

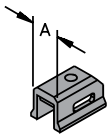


Part Number	Tie Rod Diameter 'A'
KLZ1-INT	.295 in [7.5 mm]
KLZ2-INT	.374 in [9.5 mm]
KLZ3-INT	.433 in [11.0 mm]

UNT-Stopper



KLDT-UNT*



Part Number	Groove Width 'A'
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]

UNT (INT) Cable Clip

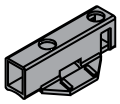


ASB-*



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

KLR-2UNR



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