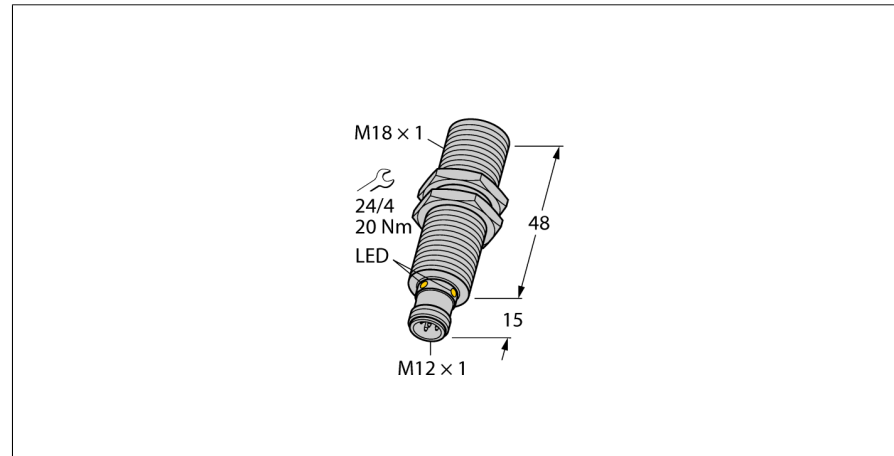
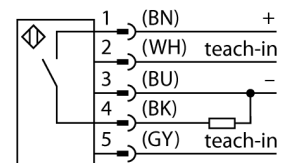


**Ultrasonic sensor
diffuse mode sensor
RU100U-M18M-UP8X2-H1151**



- Smooth sonic transducer face
- Cylindrical housing M18, potted
- Connection via M12 x 1 male
- Temperature compensation
- Blind zone: 15 cm
- Range: 100 cm
- Resolution: 1 mm
- Sonic cone angle: 16°
- 1xSchaltausgang, PNP
- Einstellbar über Teach-In
- Parametrierbar Schließer/Öffner

Wiring Diagram



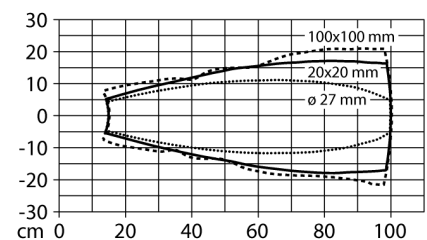
Functional principle

Ultrasonic sensors capture a multitude of objects in a contactless and wear-free process using ultrasonic waves. It does not matter whether the object is transparent or opaque, metallic or non-metallic, firm, liquid or powdery. Environmental conditions such as spray, dust or rain also hardly affect the functioning of the sensors.

The sonic cone diagram indicates the detection range of the sensor. In accordance with standard EN 60947-5-2, quadratic targets in a range of sizes (20 x 20 mm, 100 x 100 mm) and a round rod with a diameter of 27 mm are used.

Important: The detection ranges for other targets may differ from those for standard targets due to the different reflection properties and geometries.

Sonic Cone



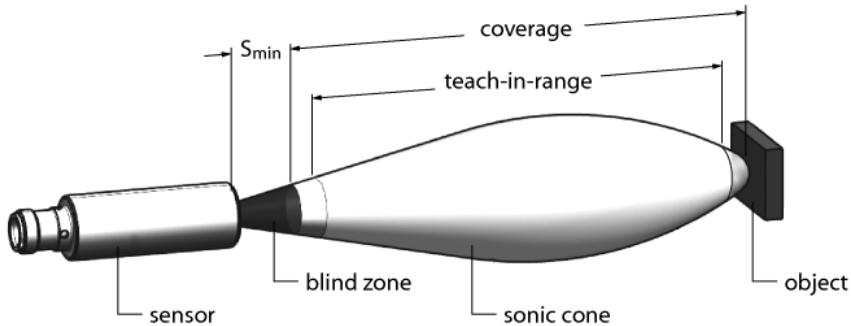
Type designation	RU100U-M18M-UP8X2-H1151
Ident no.	1610010
Operating mode	Ultrasonic diffuse mode sensor
Range	15...100cm
Resolution	1 mm
minimum switching range	10 mm
Ultrasound frequency	200 kHz
Repeat accuracy	0.15 % of full scale
Temperature drift	1.5% of full scale
Linearity error	≤ ± 0.5 %
Edge lengths of the nominal actuator	100 mm
Approach speed	≤ 8 m/s
Pass speed	≤ 1.5 m/s
Operating voltage	15...30 VDC
Residual ripple	10 % U _{ss}
DC rated operational current	≤ 150 mA
No-load current I ₀	≤ 50 mA
Residual current	≤ 0.1 mA
Response time typical	65 ms
Readiness delay	300 ms
Output function	NO/NC, PNP
Output 1	Switching output
Switching frequency	8 Hz
Hysteresis	≤ 10 mm
Voltage drop at I _L	≤ 2.5 V
Short-circuit protection	yes/ Cyclic
Reverse polarity protection	yes
Wire breakage protection	yes
Design	Threaded barrel, M18
Radiation direction	straight
Dimensions	63 x Ø18 mm
Housing material	Metal, CuZn, Nickel-plated
max. tightening torque right	20 Nm
Transducer material	Plastic, Epoxyd resin and PU foam
Electrical connection	Connector, M12 x 1, 5-wire
Protection class	IP67
Ambient temperature	-25...+70 °C
Storage temperature	-40...+80 °C
Declaration of conformity EN ISO/IEC	EN 60947-5-2
Vibration resistance	IEC 60068-2
MTTF	281 years
MTTF note	acc. to SN 29500 (Ed. 99) 40 °C
Switching state	LED yellow
Object detected	LED, green

**Ultrasonic sensor
diffuse mode sensor
RU100U-M18M-UP8X2-H1151**

TURCK

Industrial
Automation

Mounting instructions/Description



Setting the switchpoint

The ultrasonic sensor features a switching output with adjustable switchpoint. The green and yellow LEDs indicate whether the sensor has detected the object.

One switchpoint is taught. This must be within the sensing range. In this operating mode the background is suppressed.

Easy-Teach

- Connect the teach adapter TX1-Q20L60 between sensor and connection cable
- Place object at the end of the switching range
- Press and hold button for at least 2 s against Gnd

After successful teaching, the green LED flashes at 3 Hz and the sensor runs automatically in normal mode.

LED behavior

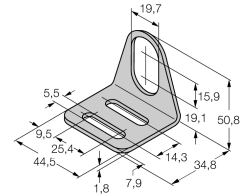
In standard operating mode both LEDs signal the switching state of the sensor.

- green: Object within detection range but not in switching range
- yellow: Object is in the switching range
- OFF: Object outside the detection range or signal loss

**Ultrasonic sensor
diffuse mode sensor
RU100U-M18M-UP8X2-H1151**

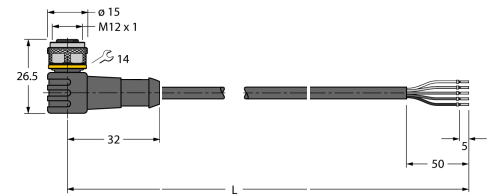
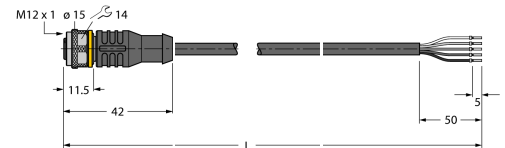
Accessories

Type code	Ident no.	Description
MW-18	6945004	Mounting bracket for threaded barrel devices; material: Stainless steel A2 1.4301 (AISI 304)



Wiring accessories

Type code	Ident no.	Description
RKC4.5T-2/TEL	6625016	Connection cable, female M12, straight, 5-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com
WKC4.5T-2/TEL	6625028	Connection cable, female M12, angled, 5-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com



Function accessories

Type code	Ident no.	Description
TX1-Q20L60	6967114	Teach adapter for inductive encoders, linear position, angle, ultrasonic and capacitive sensors

