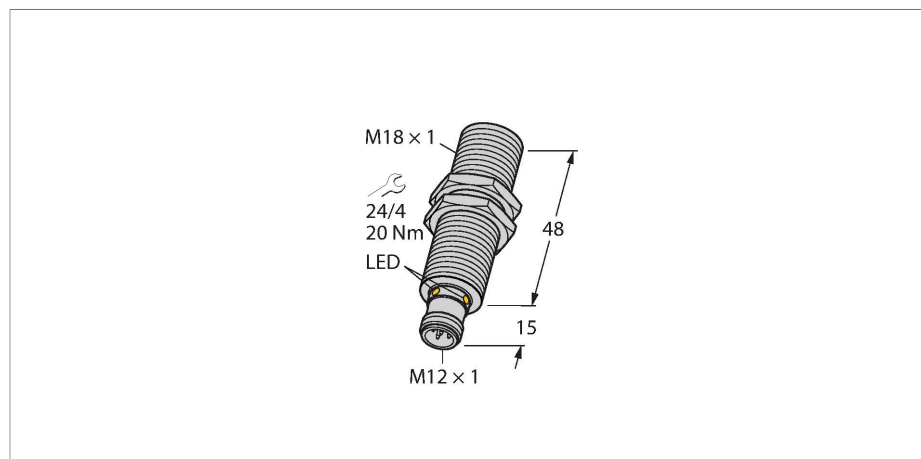


# RU40U-M18M-LFX-H1151

## Ultrasonic Sensor – Diffuse Mode Sensor



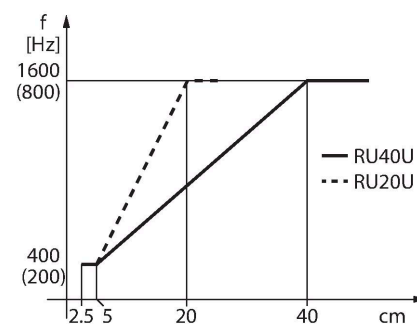
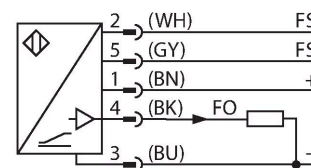
### Features

- Smooth sonic transducer face
- Cylindrical housing M18, potted
- Connection via M12 x 1 male
- Temperature compensation
- Blind zone: 2.5 cm
- Range: 40 cm
- Resolution: 0.5 mm
- Aperture angle of sonic cone:  $\pm 15^\circ$
- Frequency output 240...1600 Hz (60...400 Hz)
- Frequency range selectable via FS control line (see functional principle)

### Technical data

Type	RU40U-M18M-LFX-H1151
ID	1610021
<b>Ultrasonic data</b>	
Function	Proximity
Range	25...400 mm
Resolution	0.5 mm
Minimum measuring range	50 mm
Ultrasound frequency	300 kHz
Repeat accuracy	$\leq 0.15\%$ of full scale
Temperature drift	$\pm 1.5\%$ of full scale
Linearity error	$\leq \pm 0.5\%$
Edge lengths of the nominal actuator	20 mm
Approach speed	$\leq 3$ m/s
Pass speed	$\leq 1.3$ m/s
<b>Electrical data</b>	
Operating voltage	15...30 VDC
Residual ripple	10 % $U_{ss}$
DC rated operational current	$\leq 150$ mA
Residual current	$\leq 0.1$ mA
Response time typical	< 60 ms
Readiness delay	$\leq 300$ ms
Output function	Frequency
Switching frequency	$\leq 10.4$ Hz

### Wiring diagram



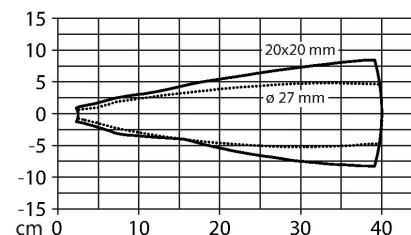
### Functional principle

Ultrasonic sensors capture a multitude of objects contactless and wear-free with ultrasonic waves. It does not matter whether the object is transparent or opaque, metallic or non-metallic, firm, liquid or powdery. Even environmental conditions such as spray, dust or rain hardly affect their function. The frequency range can be selected via the control input. If this is connected to ground (-), the lower frequency range is selected. If it is not connected to ground or connected to the supply voltage, the output works in the higher frequency range.

## Technical data

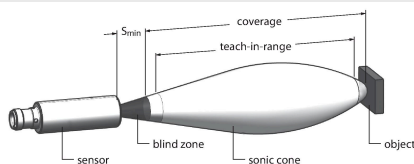
Short-circuit protection	yes / Cyclic
Reverse polarity protection	yes
Wire breakage protection	yes
Setting option	Remote Teach
<b>Mechanical data</b>	
Design	Threaded barrel, M18
Radiation direction	straight
Dimensions	Ø 18 x 63 mm
Housing material	Metal, CuZn, Nickel Plated
Max. tightening torque of housing nut	20 Nm
Transducer material	Plastic, Epoxyd resin and PU foam
Electrical connection	Connector, M12 × 1, 5-wire
Ambient temperature	-25...+70 °C
Storage temperature	-40...+80 °C
Pressure resistance	0.5...5 bar
Protection class	IP67
Switching state	LED, Yellow
Object detected	LED, Green
<b>Tests/approvals</b>	
MTTF	281 years acc. to SN 29500 (Ed. 99) 40 °C
Declaration of conformity EN ISO/IEC	EN 60947-5-7
Vibration resistance	IEC 60068-2
Approvals	CE cULus

## Sonic Cone



## Mounting instructions

### Mounting instructions/Description



**Accessories**

MW-18	6945004
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Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)

**Wiring accessories**

Dimension drawing	Type	ID	
	RKC4.5T-2/TEL	6625016	Connection cable, M12 female connector, straight, 5-pin, cable length: 2 m, jacket material: PVC, black; cULus approval
	WKC4.5T-2/TEL	6625028	Connection cable, M12 female connector, angled, 5-pin, cable length: 2 m, jacket material: PVC, black; cULus approval

**Accessories**

Dimension drawing	Type	ID	
	IM21-14-CDTRI	7505650	Rotation speed monitor with display indication, freely parametrizable monitoring functions, start-up bypass, interlock function, pulse output, current output

RU40U-M18M-LFX-H1151| 11/17/2023 11-28 | technical changes reserved

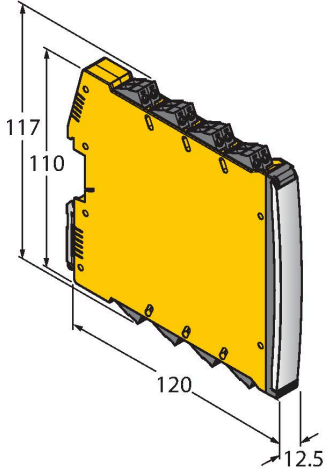
## Dimension drawing

## Type

## ID

IM12-FI01-2SF-2I-C0/24VDC

7580229



IM12-FI01-1SF-1I1R-C0/24VDC

7580225

