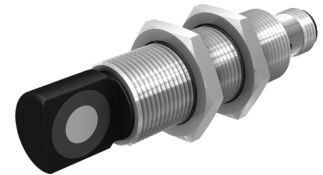
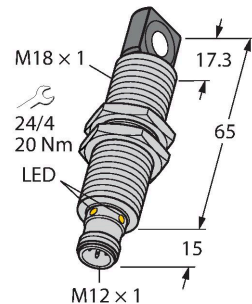


# RU40U-M18MS-LFX-H1151

## Ultrasonic Sensor – Diffuse Mode Sensor



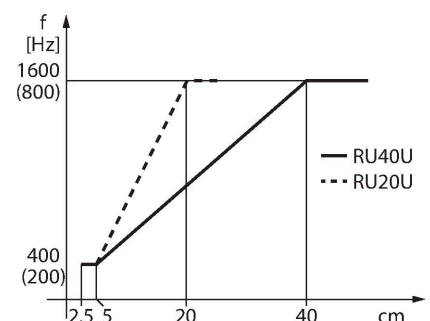
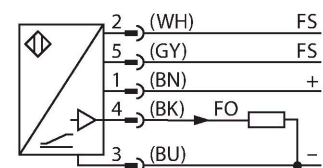
### Technical data

|                                      |                        |
|--------------------------------------|------------------------|
| Type                                 | RU40U-M18MS-LFX-H1151  |
| ID                                   | 1610019                |
| <b>Ultrasonic data</b>               |                        |
| Function                             | Proximity switch       |
| Range                                | 25...400 mm            |
| Resolution                           | 0.5 mm                 |
| Minimum measuring range              | 50 mm                  |
| Ultrasound frequency                 | 300 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 | 20 mm                  |
| Approach speed                       | ≤ 3 m/s                |
| Pass speed                           | ≤ 1.3 m/s              |
| <b>Electrical data</b>               |                        |
| Operating voltage                    | 15...30 VDC            |
| Residual ripple                      | 10 % U <sub>ss</sub>   |
| DC rated operational current         | ≤ 150 mA               |
| Residual current                     | ≤ 0.1 mA               |
| Response time typical                | < 60 ms                |
| Readiness delay                      | ≤ 300 ms               |
| Output function                      | Frequency              |
| Switching frequency                  | ≤ 10.4 Hz              |
| Short-circuit protection             | yes / Cyclic           |
| Reverse polarity protection          | yes                    |
| Wire breakage protection             | yes                    |
| Setting option                       | Remote Teach           |

### Features

- Rectangular transducer front
- 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: ±15 °
- Frequency output 240...1600 Hz (60...400 Hz)
- Frequency range selectable via FS control line (see functional principle)

### Wiring diagram



### Functional principle

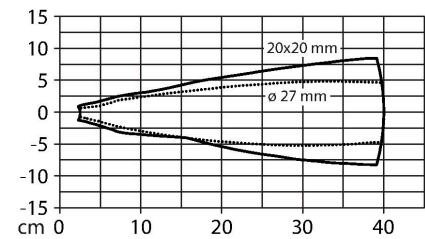
Ultrasonic sensors capture a multitude of objects contactless and wear-free with ultrasonic waves. It does not matter whether the object is transparent or opaque, metallic

Technical data

| Mechanical data                       |                                           |
|---------------------------------------|-------------------------------------------|
| Design                                | Threaded barrel, M18                      |
| Radiation direction                   | side                                      |
| Dimensions                            | Ø 18 x 80 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                                |
| Tests/approvals                       |                                           |
| 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<br>cULus                               |

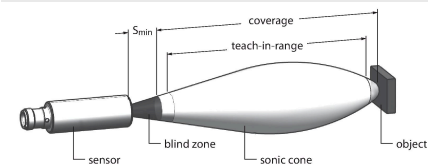
or non-metallic, firm, liquid or powdery. Even environmental conditions such as spray, dust or rain hardly affect their function. The frequency range can be selected via the control input. If this is connected to ground (-), the lower frequency range is selected. If it is not connected to ground or connected to the supply voltage, the output works in the higher frequency range.

Sonic Cone



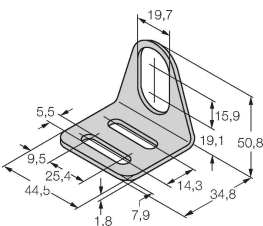
Mounting instructions

Mounting instructions/Description



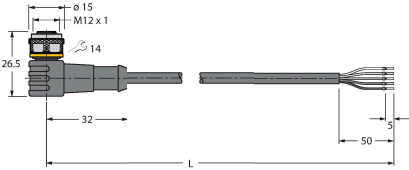
Accessories

|       |         |
|-------|---------|
| MW-18 | 6945004 |
|-------|---------|

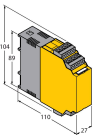
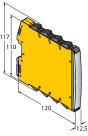
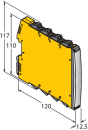


Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)

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 |
|  | IM12-FI01-2SF-2I-C0/24VDC   | 7580229 |                                                                                                                                                               |
|  | IM12-FI01-1SF-111R-C0/24VDC | 7580225 |                                                                                                                                                               |