



## Ultrasonic sensors UM18, UM18-1

UM18-51111



**Model Name** > [UM18-51111](#)  
**Part No.** > [6028965](#)



**At a glance**

- Object detection independent of material color and ambient lighting even transparent foils, glass, liquids and bottles are detected
- Immune to dirt, dust, and fog
- Available with one or two PNP/NPN switching outputs or an analog output (voltage or current)
- Teach-in via Multi-Function input

**Your benefits**

- Easy machine integration with standard M18 housing
- Reliable operation in rough conditions ensures high machine availability
- Synchronization mode enables area detection, which improves application flexibility and increases productivity
- Unintentional adjustments to sensor settings are eliminated since teach-in process is done with an external wire
- Integrated temperature compensation ensures high measurement accuracy



**Performance**

Resolution:	≥ 0.08 mm
Working range, limiting range:	30 mm ... 250 mm, 350 mm
Repeatability <sup>1)</sup> :	± 0.15 %
Accuracy <sup>2)</sup> :	0.17 %/K
Response time:	32 ms
Switching frequency:	± 15 Hz
Ultrasonic frequency (typical):	320 kHz
Detection area (typical):	See diagrams
Additional function:	Set switching mode: Distance to object (DtO)/switching window (Wnd)/ Object Between Sensor and Background (ObSB) Teach-in of switching output Reset to factory default Multi functional input: external teach
Output time:	8 ms

<sup>1) 2)</sup> Referring to current measurement value

**Interfaces**

Output type <sup>1), 2)</sup> :	1 x PNP (500 mA)
Hysteresis:	2 mm

Multifunctional input (MF): 1 x

<sup>1)</sup> Output Q short-circuit protected <sup>2)</sup> PNP: HIGH =  $V_S - (< 2 V)$ /LOW = 0 V

### Mechanics/electronics

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Supply voltage $V_S$ <sup>1)</sup> :	DC 10 V ... 30 V
Power consumption <sup>2)</sup> :	$\leq 1.2$ W
Initialization time:	< 300 ms
Design:	Cylindrical
Housing material:	Nickel-plated brass, PBT ultrasonic transducer: polyurethane foam, glass epoxy resin
Electrical connection:	Male connector, M12, 5-pin
Weight:	55 g

<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A <sup>2)</sup> Without load

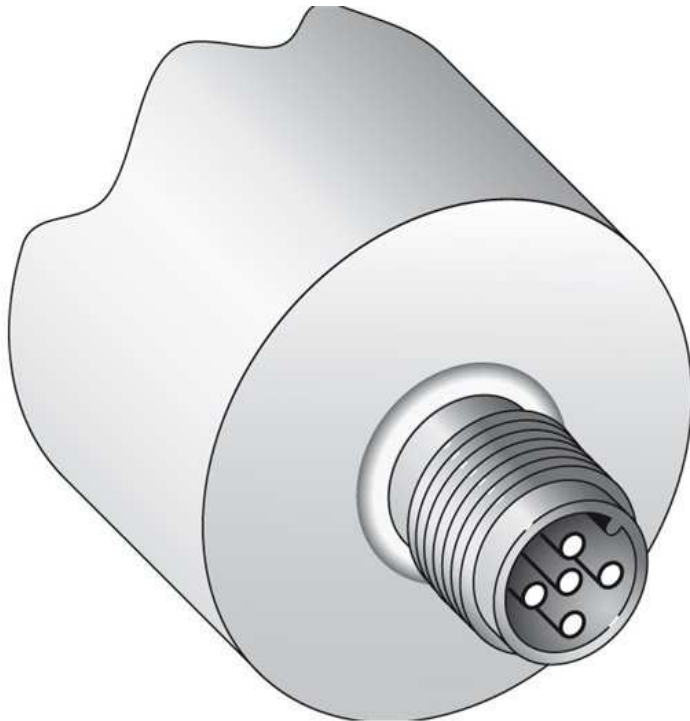
### Ambient data

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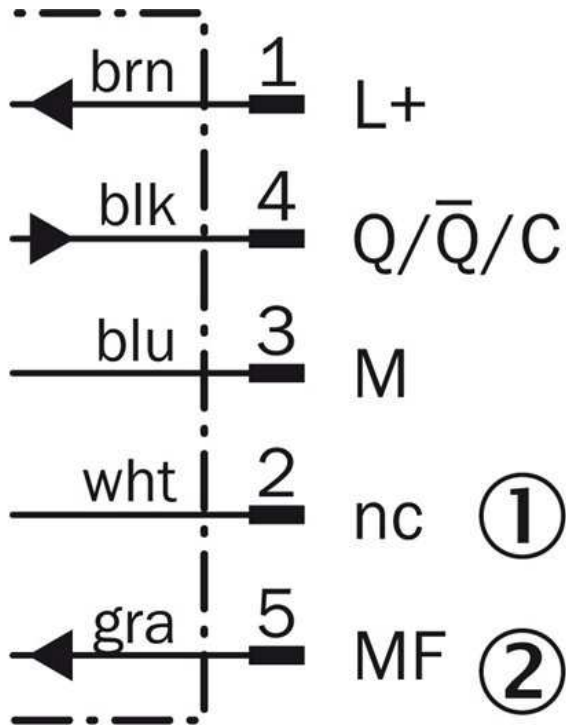
Enclosure rating:	IP 67
Ambient temperature:	Operation: -25 ... +70 °C Storage: -40 ... +85 °C

### Connection type

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Connection diagram



[1] not connected  
[2] multifunctional input/synchronization  
and multiplex operation/communication Connect+

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