



Ultrasonic sensors UM18, UM18-1

UM18-511111

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 ¹⁾ :	± 0.15 %
Accuracy ²⁾ :	0.17 %/K
Response time:	32 ms
Output rate:	8 ms
Switching frequency:	± 15 Hz
Ultrasonic frequency (typical):	320 kHz
Detection area (typical):	See diagrams
Additional function:	Set switching mode: Distance to object (DtO)/Window (Wnd)/Object between sensor and background (ObSB) Teach-in of switching output Reset to factory default Multi functional input: external teach

^{1) 2)} Referring to current measurement value

Interfaces

Output type ^{1), 2)} :	1 x PNP (500 mA)
Hysteresis:	2 mm

Multifunctional input (MF): 1 x
BETRIEBSREICHWEITE-GR.COLL: 30 mm 250 mm 350 mm

¹⁾ Output Q short-circuit protected ²⁾ PNP: HIGH = $V_S - (< 2 \text{ V})$ /LOW = 0 V

Mechanics/electronics

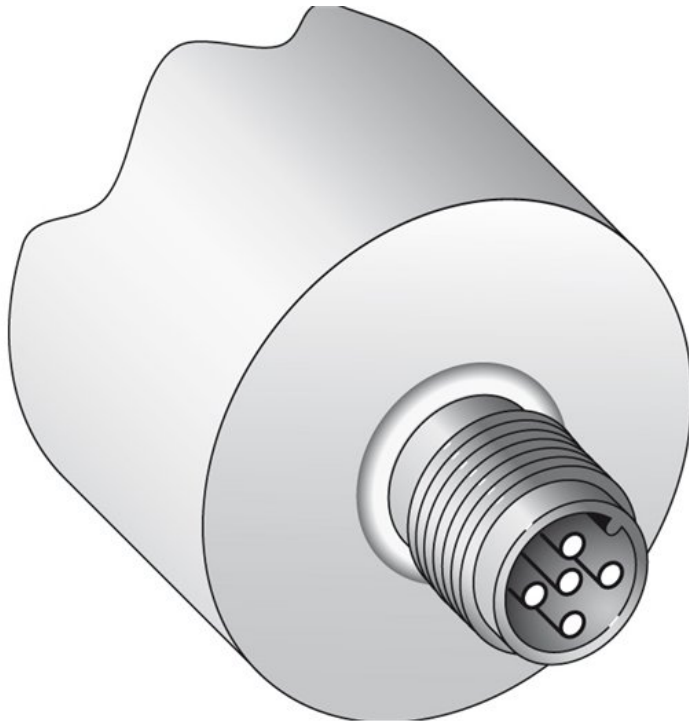
Supply voltage V_S ¹⁾: DC 10 V ... 30 V
Power consumption ²⁾: $\leq 1.2 \text{ W}$
Initialization time: $< 300 \text{ ms}$
Housing material: Nickel-plated brass, PBT
ultrasonic transducer: polyurethane foam, glass epoxy resin
Connection type: Connector, M12, 5-pin
Weight: 55 g

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

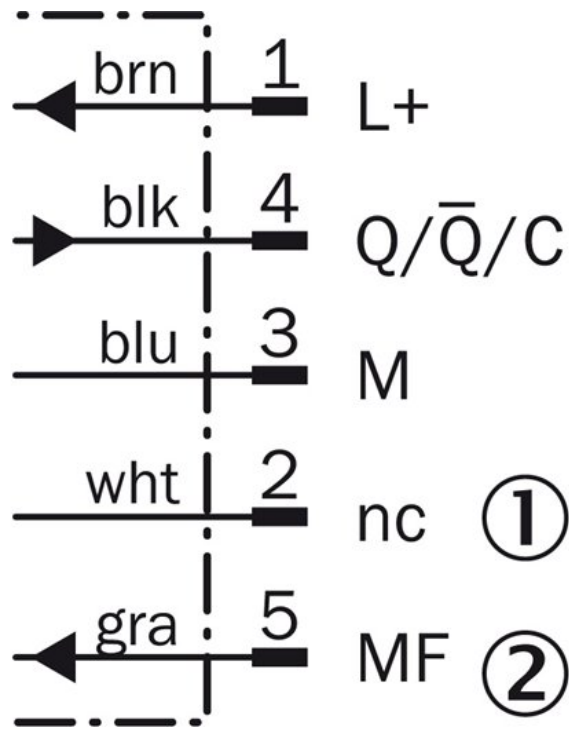
Ambient data

Enclosure rating: IP 67
Ambient temperature: Operation: $-25 \dots 70 \text{ }^\circ\text{C}$
Storage: $-40 \dots 85 \text{ }^\circ\text{C}$

Connection type



Connection diagram



- |1| not connected
- |2| multifunctional input/synchronization and multiplex operation/communication Connect+

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