

ONLINE DATA SHEET
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Ultrasonic sensors
UM18, UM18-2 Core

UM18-212161102



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UM18, UM18-2 Core

Model Name > UM18-212161102
Part No. > 6048417

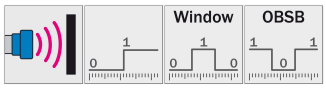


At a glance

- Reliable measurement independent of material color, transparency, gloss and ambient light
- Four ranges up to 1,300 mm
- Short plastic M18 housing with a length of 41 mm
- Straight or right-angle version
- High immunity to dirt, dust, humidity and fog
- PNP/NPN switching output

Your benefits

- Four sensing ranges up to 1,300 mm provide a range of flexible mounting options
- Easy machine integration due to short M18 housing available in straight or right-angle versions
- Solid, one-piece metal housing secures highest machine availability
- Unintentional adjustments to sensor settings are eliminated since teach-in process is done with an external wire
- Variety of application solutions due to insensitivity and reliability of ultrasound technology



Performance

Resolution:	0.2 mm
Working range, limiting range:	65 mm ... 350 mm, 600 mm
Repeatability [1]:	± 0.15 %
Accuracy [2]:	0.17 %/K
Response time:	64 ms
Switching frequency:	12 Hz
Ultrasonic frequency (typical):	400 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 Invertible switching output Reset to factory default
Output time:	16 ms

[1] [2] Referring to current measurement value

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Interfaces

Output type [1]:	1 x PNP (200 mA)
Hysteresis:	5 mm

[1] PNP: HIGH = V_S - (< 2 V)/LOW = 0 V

Mechanics/electronics

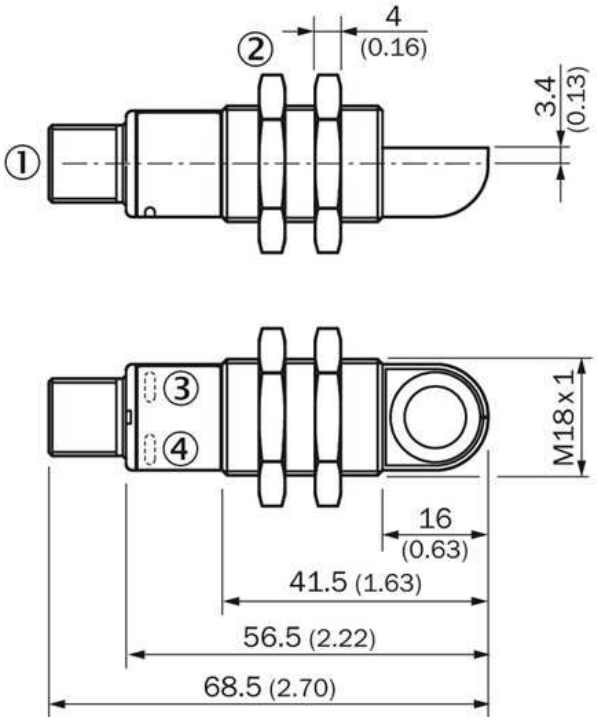
Sending axis:	Angled
Supply voltage Vs [1]:	DC 10 V ... 30 V
Power consumption [2]:	≤ 1.2 W
Initialization time:	< 300 ms
Design:	Cylindrical
Housing material:	PBT ultrasonic transducer: polyurethane foam, glass epoxy resin
Electrical connection:	Male connector, M12, 4-pin
Indication:	2 x LED
Weight:	20 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
Protection class:	III
Ambient temperature:	Operation: -25 ... +70 °C Storage: -40 ... +85 °C

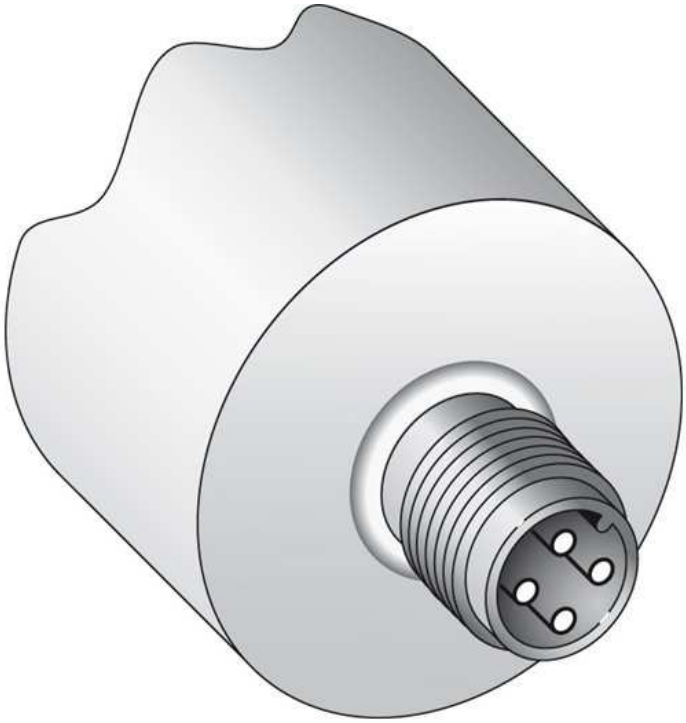
Dimensional drawing



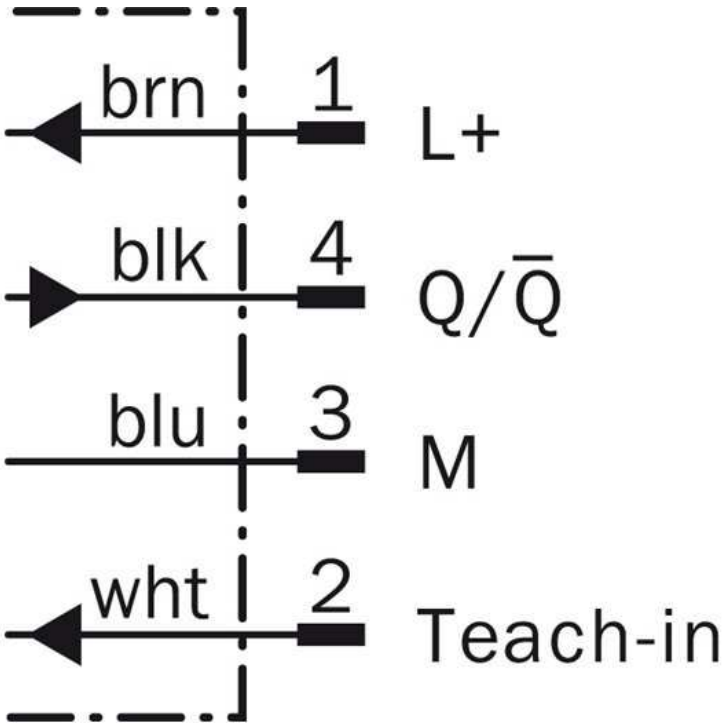
|1| Connection
|2| Mounting nuts, SW 24 mm
|3| Status indicator power on (green)
|4| Status indicator switching/analog output (orange)

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Connection type

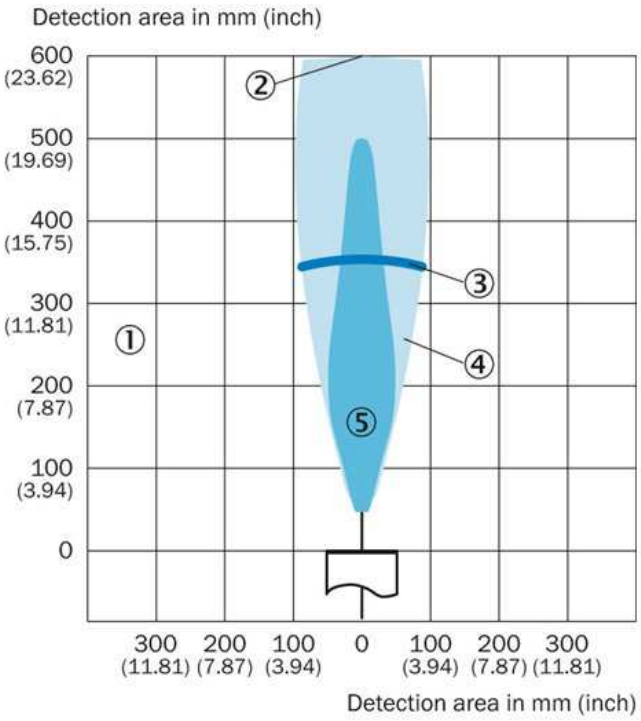


Connection diagram



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Detection area



|1| Sensing range dependent on reflection properties, size and orientation of the object
|2| Limiting range
|3| Working range
|4| example object: aligned plate 500 mm x 500 mm
|5| example object: pipe with 27 mm diameter

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