



Ultrasonic sensors UM18, UM18-2 Core

UM18-211165101



Model Name > [UM18-211165101](#)
Part No. > [6048414](#)

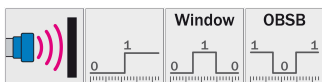


At a glance

- 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:	30 mm ... 250 mm, 350 mm
Repeatability ¹⁾ :	± 0.15 %
Accuracy ²⁾ :	0.17 %/K
Response time:	32 ms
Switching frequency:	25 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 Invertible switching output Reset to factory default
Output time:	8 ms

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

Interfaces

Output type ¹⁾ :	1 x NPN (200 mA)
Hysteresis:	3 mm

¹⁾ NPN: HIGH $\leq 2\text{ V}$ / LOW = V_S

Mechanics/electronics

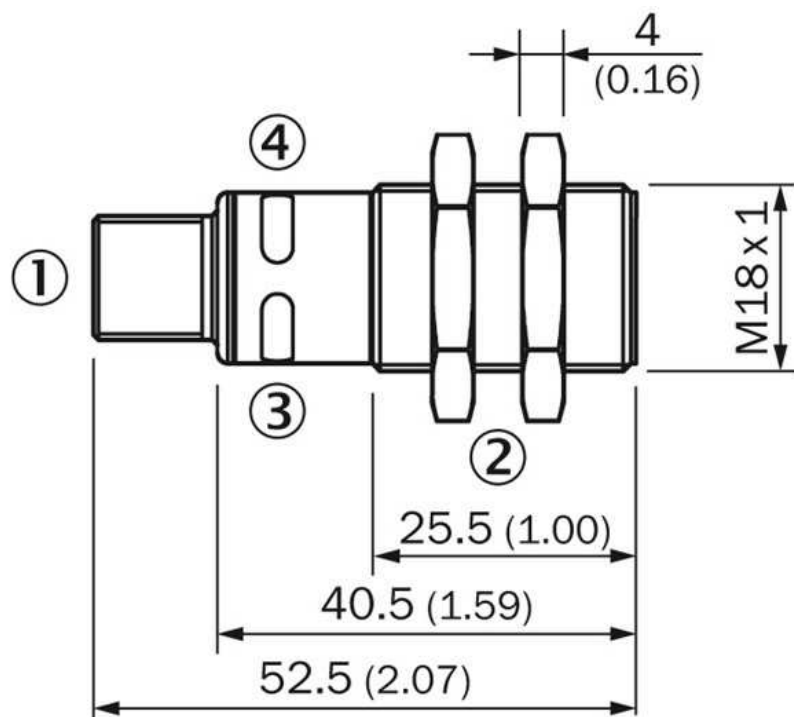
Sending axis:	Straight
Supply voltage V_S ¹⁾ :	DC 10 V ... 30 V
Power consumption ²⁾ :	$\leq 1.2\text{ W}$
Initialization time:	$< 300\text{ ms}$
Design:	Cylindrical
Housing material:	PBT ultrasonic transducer: polyurethane foam, glass epoxy resin
Electrical connection:	Male connector, M12, 4-pin
Indication:	2 x LED
Weight:	15 g

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

Ambient data

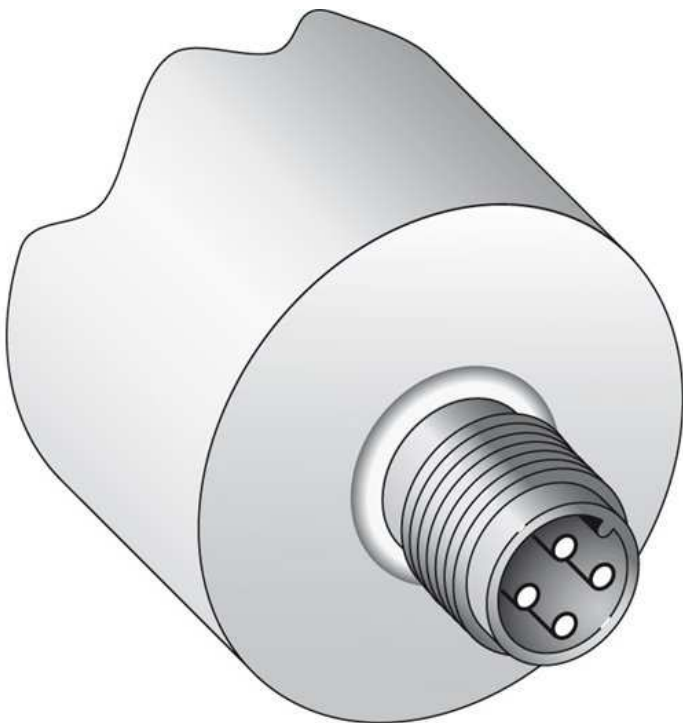
Enclosure rating:	IP 67
Protection class:	III
Ambient temperature:	Operation: $-25 \dots +70\text{ }^\circ\text{C}$ Storage: $-40 \dots +85\text{ }^\circ\text{C}$

Dimensional drawing

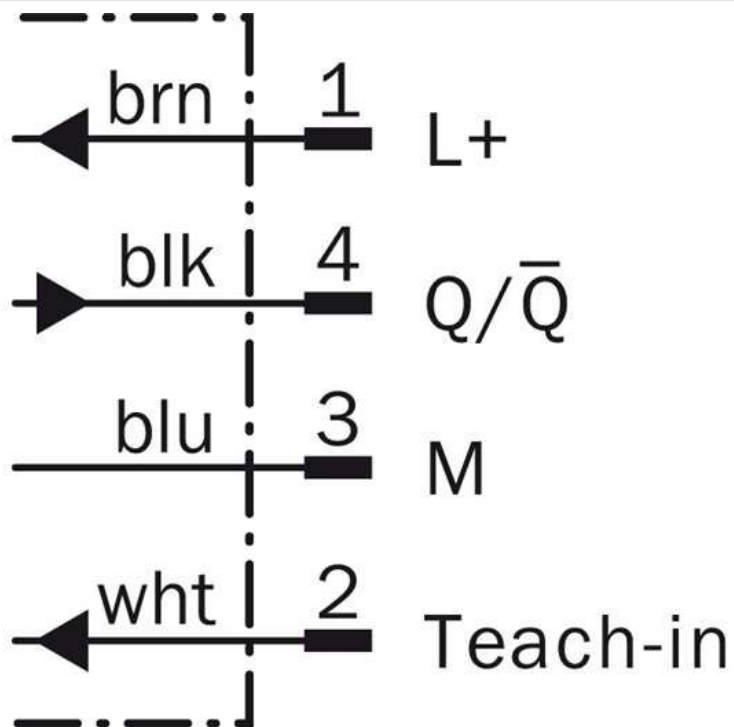


- |1| Connection
- |2| Mounting nuts, SW 24 mm
- |3| Status indicator power on (green)
- |4| Status indicator switching/analog output (orange)

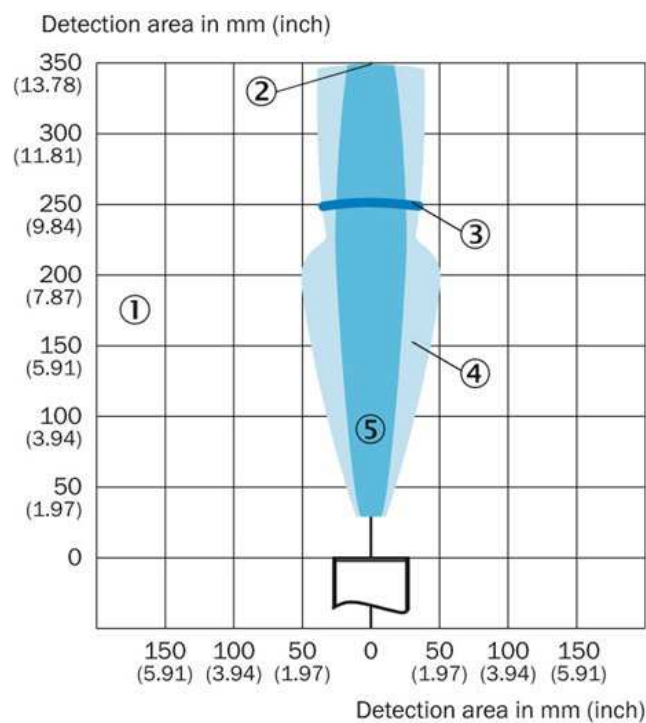
Connection type



Connection diagram



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 10 mm diameter

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