



Ultrasonic sensors UM18, UM18-2 Core

UM18-218161101



Model Name > [UM18-218161101](#)
Part No. > [6048420](#)

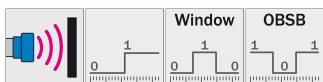


At a glance

- 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:	120 mm ... 1,000 mm, 1,300 mm
Repeatability ¹⁾ :	± 0.15 %
Accuracy ²⁾ :	0.17 %/K
Response time:	80 ms
Output rate:	20 ms
Switching frequency:	10 Hz
Ultrasonic frequency (typical):	200 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 Inverted switching output Reset to factory default

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

Interfaces

Output type ¹⁾ :	1 x PNP (200 mA)
Hysteresis:	20 mm
BETRIEBSREICHWEITE-GR.COLL:	120 mm 1,000 mm 1,300 mm

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

Mechanics/electronics

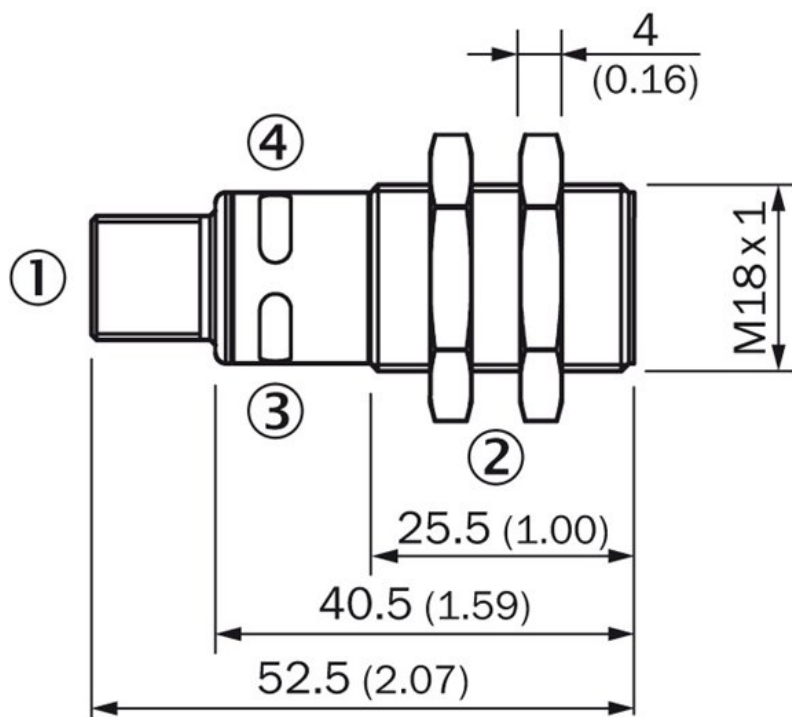
Sending axis:	Straight
Supply voltage V_S ¹⁾ :	DC 10 V ... 30 V
Power consumption ²⁾ :	$\leq 1.2 \text{ W}$
Initialization time:	$< 300 \text{ ms}$
Housing material:	PBT ultrasonic transducer: polyurethane foam, glass epoxy resin
Connection type:	Connector, M12, 4-pin
Indication:	2 x LED
Weight:	15 g

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

Ambient data

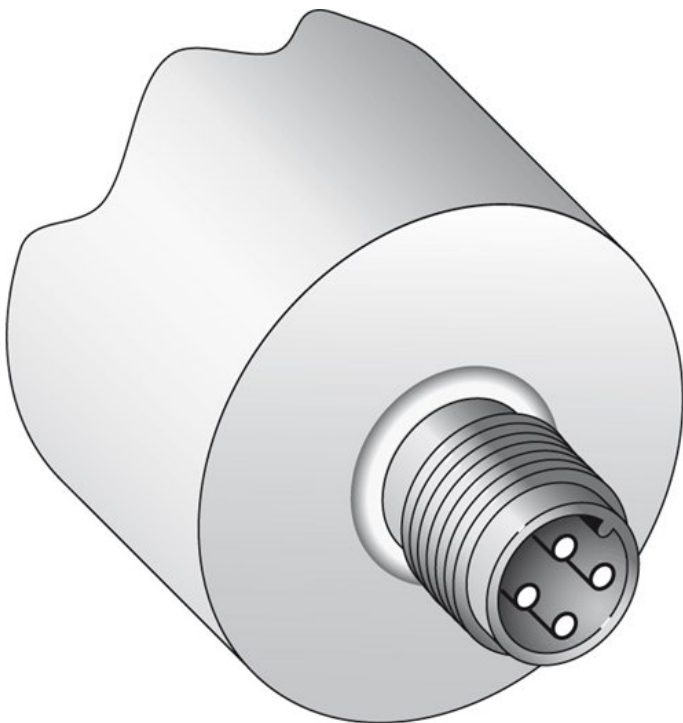
Enclosure rating:	IP 67
Protection class:	III
Ambient temperature:	Operation: $-25 \dots 70 \text{ }^\circ\text{C}$ Storage: $-40 \dots 85 \text{ }^\circ\text{C}$

Dimensional drawing

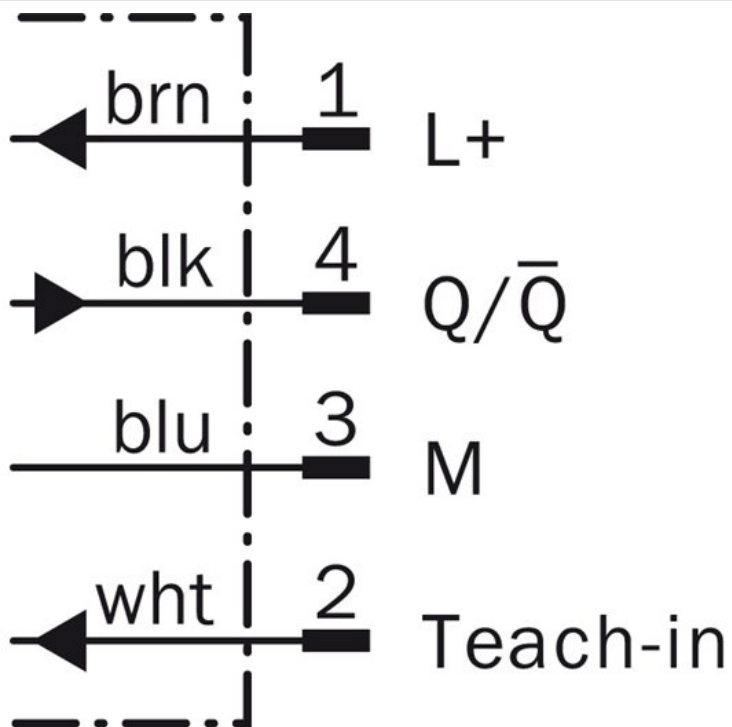


- |1| Connection
- |2| Mounting nuts, SW 24 mm
- |3| Status indicator power on (green)
- |4| Status indicator switching/analog output (orange)

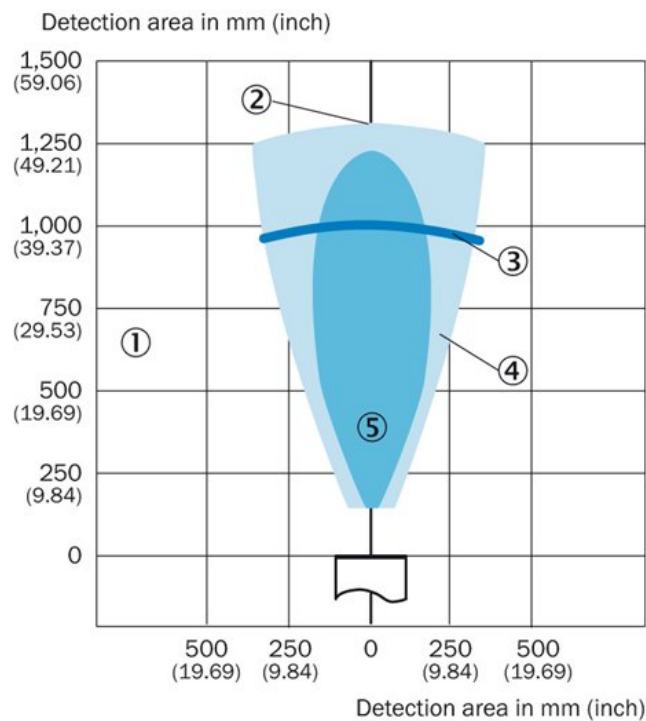
Connection type



Connection diagram



Characteristic curve



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

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