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DATA SHEET

UM18-217165101

UM18
Ultrasonic distance sensors

SICK Sensor Intelligence



ULTRASONIC DISTANCE SENSORS

UM18-217165101

ORDERING INFORMATION

Type	part no.
UM18-217165101	6048410

Further device versions and accessories at www.sick.com/UM18

DETAILED TECHNICAL DATA

FEATURES

Operating range, limiting range	20 mm ... 150 mm, 250 mm
Resolution	≥ 0.2 mm
Repeatability	± 0.15 % [1]
Measurement accuracy	± 1 % [2]
Response time	32 ms
Switching frequency	25 Hz
Output time	8 ms
Ultrasonic frequency (typical)	380 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 digital output Invertible digital output Reset to factory default
Safety-related parameters	
$MTTF_D$	101 years
DC_{avg}	0%

[1] In relation to the current measured value, minimum value ≥ resolution.

[2] Referring to current measurement value.

INTERFACES

Digital output	
Number	1 [1]
Type	NPN
Maximum output current I_A	≤ 200 mA
Hysteresis	2 mm

[1] NPN: HIGH = ≤ 2 V / LOW = U_V.

ELECTRONICS

Supply voltage U_B	DC 10 V ... 30 V [1]
Power consumption	≤ 1.2 W [2]
Initialization time	< 300 ms
Display	2 x LED
Enclosure rating	IP65 / IP67
Protection class	III

[1] Limit values, reverse-polarity protected Operation in short-circuit protected network: max. 8 A, class 2.

[2] Without load.

MECHANICS

Dimensions (W x H x D)	18 mm x 18 mm x 53 mm
Design	Cylindrical
Sending axis	Straight
Housing material	Plastic (PBT, ultrasonic transducer: polyurethane foam, glass epoxy resin)
Weight	15 g
Thread size	M18 x 1
Connection type	Male connector, M12, 4-pin

AMBIENT DATA

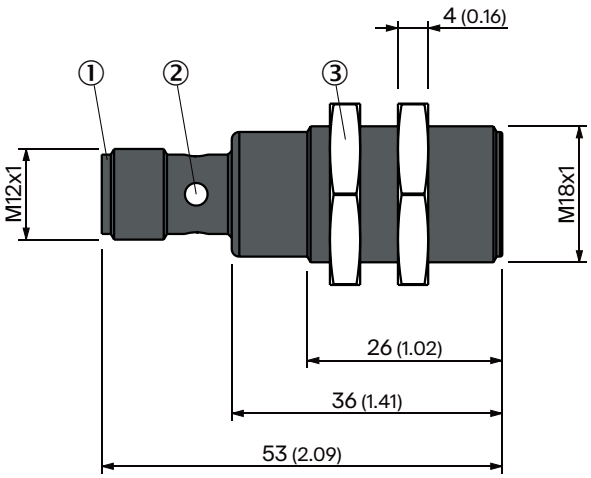
Ambient temperature, operation	–25 °C ... +70 °C
Ambient temperature, storage	–40 °C ... +85 °C
Temperature drift	0.17 % / K [1]

[1] Referring to current measurement value.

CERTIFICATES

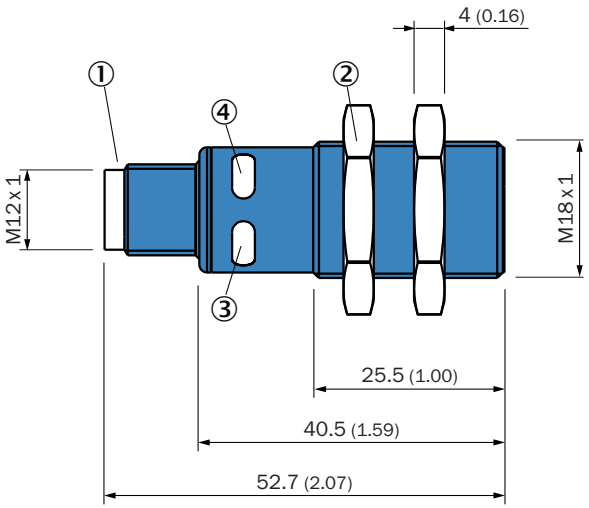
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
cULus certificate	✓

DIMENSIONAL DRAWING, GRAY HOUSING COLOR



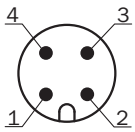
Dimensions in mm (inch)
① Connection
② Status display
③ Fixing nuts, width 24 mm

DIMENSIONAL DRAWING, BLUE HOUSING COLOR

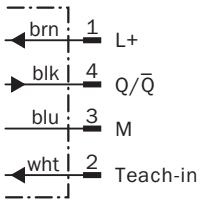


Dimensions in mm (inch)
① Connection
② Fixing nuts, width 24 mm
③ Status display for supply voltage active (green)
④ Status indicator switching/analog output (orange)

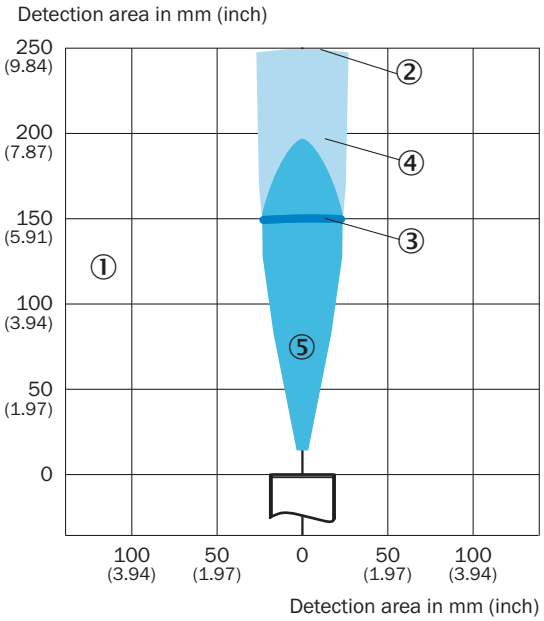
CONNECTION TYPE



CONNECTION DIAGRAM



DETECTION AREA UM1X-X17



① Detection range dependent on reflection properties, size, and alignment of the object
② Limiting range
③ operating range
④ example object: aligned plate 500 mm x 500 mm
⑤ Example object: cylindrical bar with a diameter of 10 mm

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/6048410

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SICK AT A GLANCE

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SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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