

ONLINE DATA SHEET
www.mysick.com

Ultrasonic sensors
UM18, UM18-2 Pro

UM18-21812A211



SICK
Sensor Intelligence.

SICK
Sensor Intelligence.

Ultrasonic sensors
UM18, UM18-2 Pro

Model Name > UM18-21812A211
Part No. > 6048402

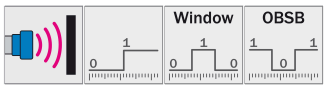


At a glance

- Reliable measurement independent of material color, transparency, gloss and ambient light
- Four ranges up to 1,300 mm
- Short M18 metal housing with a length of 41 mm
- Straight or right-angle versions
- Analog voltage, analog current or push-pull (PNP/NPN in one) switching output with IO-Link available
- Set-up via IO-Link and/or teach-in via multifunction input
- High immunity to dirt, dust, humidity and fog

Your benefits

- Ranges up to 1,300 mm offer plenty of options for flexible use
- Easy machine integration due to short M18 housing available in straight or right-angle versions
- Intelligent measurement filters ensure reliable measurement results for highest process stability
- Integrated temperature compensation ensures high measurement accuracy at any time for best process quality
- Solid, one-piece metal housing secures highest machine availability
- Synchronization or multiplexing allow simultaneous use of up to 10 sensors, which improves application flexibility and process stability
- Unintentional adjustments to sensor settings are eliminated since teach-in process is done with an external wire
- Devices with switching output and IO-Link allow highest machine flexibility while offering easy machine operation



Performance

Resolution:	≥ 0.069 mm
Working range, limiting range:	120 mm ... 1,000 mm, 1,300 mm
Repeatability [1]:	± 0.15 %
Accuracy [2], [3]:	± 1 %
Response time:	80 ms
Switching frequency:	10 Hz
Ultrasonic frequency (typical):	200 kHz
Detection area (typical):	See diagrams
Temperature compensation:	✓

© SICK AG. Subject to change without notice.

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 IO-Link Temperature compensation Synchronization of up to 10 sensors Multiplexing: no cross talk of up to 10 sensors Reset to factory default Multifunctional input: external teach/synchronization/multiplexing Functions may vary depending on sensor type
Output time:	20 ms

[1] [2] Referring to current measurement value [3] Temperature compensation can be switched off, without temperature compensation: 0.17 %/K

Interfaces

Output type [1]. [2]:	1 x push-pull: PNP/NPN (100 mA)
Hysteresis:	20 mm
Multifunctional input (MF):	1 x MF
Data interface:	IO-Link

[1] Output Q short-circuit protected [2] Push-Pull: PNP/NPN HIGH = U_V - (< 4 V)/LOW < 2 V

Mechanics/electronics

Sending axis:	Straight
Supply voltage Vs [1]. [2]:	DC 10 V ... 30 V
Power consumption [3]:	≤ 1.2 W
Initialization time:	< 300 ms
Design:	Cylindrical
Housing material:	Nickel-plated brass ultrasonic transducer: polyurethane foam, glass epoxy resin
Electrical connection:	Male connector, M12, 5-pin
Indication:	2 x LED
Weight:	25 g

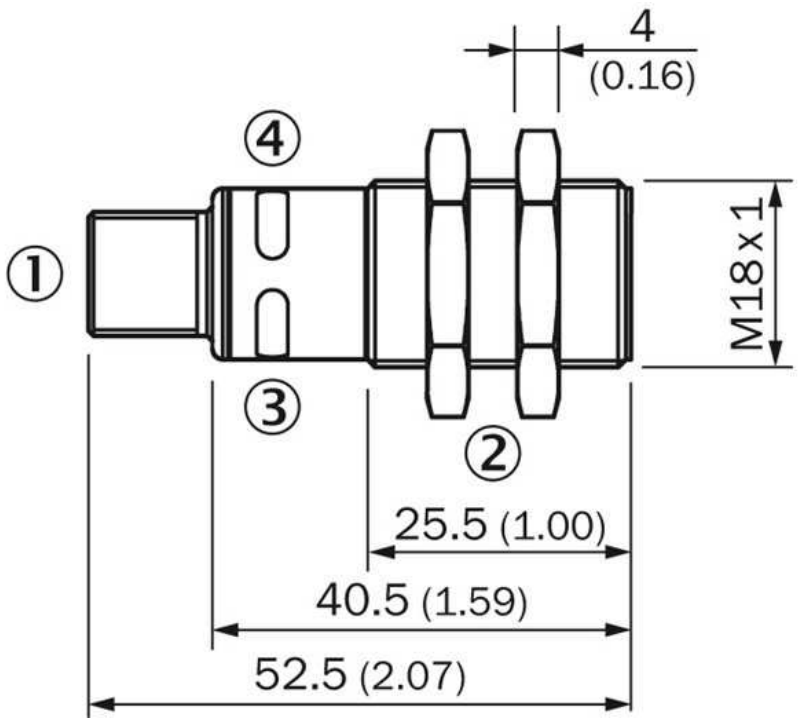
[1] Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A [2] 15 V ... 30 V when using analog voltage output [3] Without load

Ambient data

Enclosure rating:	IP 67
Protection class:	III
Ambient temperature:	Operation: -25 ... +70 °C Storage: -40 ... +85 °C

© SICK AG. Subject to change without notice.

Dimensional drawing



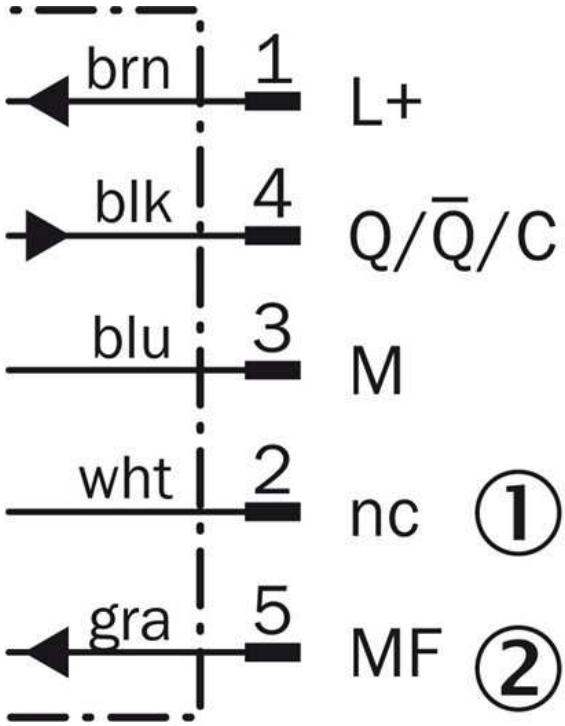
|1| Connection
|2| Mounting nuts, SW 24 mm
|3| Status indicator power on (green)
|4| Status indicator switching/analog output (orange)

Connection type



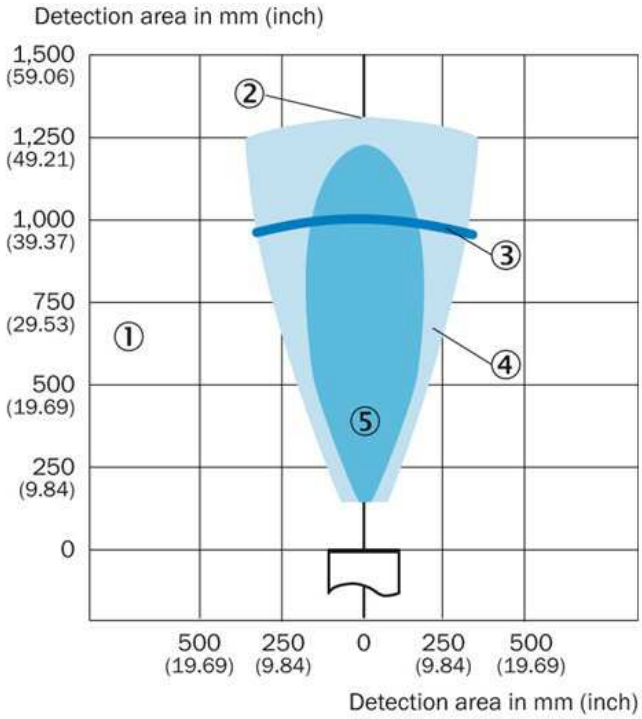
© SICK AG. Subject to change without notice.

Connection diagram



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

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

© SICK AG. Subject to change without notice.

A4 4c int43

Australia
Phone +61 3 9457 0600
1800 33 48 02 – tollfree
E-Mail sales@sick.com.au

Belgium/Luxembourg
Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil
Phone +55 11 3215-4900
E-Mail marketing@sick.com.br

Canada
Phone +1 905 771 14 44
E-Mail information@sick.com

Česká republika
Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China
Phone +86 4000 121 000
E-Mail info.china@sick.net.cn
Phone +852-2153 6300
E-Mail ghk@sick.com.hk

Danmark
Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland
Phone +49 211 5301-301
E-Mail info@sick.de

España
Phone +34 93 480 31 00
E-Mail info@sick.es

France
Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain
Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

India
Phone +91–22–4033 8333
E-Mail info@sick-india.com

Israel
Phone +972-4-6881000
E-Mail info@sick-sensors.com

Italia
Phone +39 02 27 43 41
E-Mail info@sick.it

Japan
Phone +81 (0)3 5309 2112
E-Mail support@sick.jp

Magyarország
Phone +36 1 371 2680
E-Mail office@sick.hu

Nederland
Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge
Phone +47 67 81 50 00
E-Mail sick@sick.no

Österreich
Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska
Phone +48 22 837 40 50
E-Mail info@sick.pl

România
Phone +40 356 171 120
E-Mail office@sick.ro

Russia
Phone +7-495-775-05-30
E-Mail info@sick.ru

Schweiz
Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore
Phone +65 6744 3732
E-Mail sales.gsg@sick.com

Slovenija
Phone +386 (0)1-47 69 990
E-Mail office@sick.si

South Africa
Phone +27 11 472 3733
E-Mail info@sickautomation.co.za

South Korea
Phone +82 2 786 6321/4
E-Mail info@sickkorea.net

Suomi
Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige
Phone +46 10 110 10 00
E-Mail info@sick.se

Taiwan
Phone +886 2 2375-6288
E-Mail sales@sick.com.tw

Türkiye
Phone +90 (216) 528 50 00
E-Mail info@sick.com.tr

United Arab Emirates
Phone +971 (0) 4 88 65 878
E-Mail info@sick.ae

USA/México
Phone +1(952) 941-6780
1 (800) 325-7425 – tollfree
E-Mail info@sickusa.com

More representatives and agencies
at **www.sick.com**

SICK
Sensor Intelligence.