Product data sheet

UM18-21812C212

UM18

ULTRASONIC DISTANCE SENSORS

SICK
Sensor Intelligence.

Ordering information

Type	Part no.
UM18-21812C212	6066183

Other models and accessories ➜ www.sick.com/UM18

Detailed technical data

Features

Operating range, limiting range	120 mm ... 1,000 mm, 1,300 mm
Target	Natural objects
Resolution	≥ 0.069 mm
Repeatability	± 0.15 % [1]
Measurement accuracy	± 1 % [2] [3]
Temperature compensation	✓
Response time	80 ms [4]
Switching frequency	10 Hz
Output time	20 ms
Ultrasonic frequency (typical)	200 kHz
Additional function	Adjustable operating modes: Switching point (DtO) / Switching window/Background (ObSB), teach-in of digital output, invertible digital output, teach-in of analog output, Invertable analog output, multifunctional input: external teach / synchronization / multiplexing, synchronization of up to 20 sensors, multiplexing: no cross talk of up to 20 sensors, 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.
[3] Temperature compensation can be switched off, without temperature compensation: 0.17 % / K.
[4] Subsequent smoothing of the analog output, depending on the application, may increase the response time by up to 200 %.

Interfaces

IO-Link	✓, IO-Link V1.1
Function	Process data, parameterization, diagnosis, data storage

[1] Push-pull: PNP/NPN HIGH = U_V - (< 3 V) / LOW < 3 V.
[2] For 4 mA ... 20 mA and V_S ≤ 20 V max. load ≤ 100 Ω.

Digital output	
Number	1 [1]
Type	Push-pull: PNP/NPN
Maximum output current I_A	≤ 100 mA
Analog output	
Number	1
Type	Current output
Current	4 mA ... 20 mA, ≤ 500 Ω [2]
Resolution	12 bit
Multifunctional input (MF)	1 x MF
Hysteresis	20 mm

[1] Push-pull: PNP/NPN HIGH = U_V - (< 3 V) / LOW < 3 V.

[2] For 4 mA ... 20 mA and V_S ≤ 20 V max. load ≤ 100 Ω.

Electronics

Supply voltage U_B	DC 10 V ... 30 V [1]
Power consumption	≤ 1.2 W [2]
Initialization time	< 300 ms
Indication	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 68.7 mm
Design	Cylindrical
Sending axis	Angled
Housing material	Metal (nickel-plated brass, ultrasonic transducer: polyurethane foam, glass epoxy resin)
Weight	30 g
Thread size	M18 x 1
Connection type	Male connector, M12, 5-pin

Ambient data

Ambient temperature, operation	–25 °C ... +70 °C
Ambient temperature, storage	–40 °C ... +85 °C

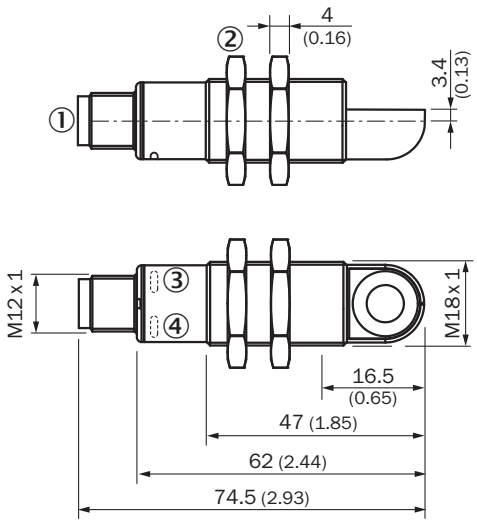
Classifications

ECLASS 5.0	27270804
ECLASS 5.1.4	27270804
ECLASS 6.0	27270804
ECLASS 6.2	27270804
ECLASS 7.0	27270804
ECLASS 8.0	27270804

ECLASS 8.1	27270804
ECLASS 9.0	27270804
ECLASS 10.0	27270804
ECLASS 11.0	27270804
ECLASS 12.0	27272806
ETIM 5.0	EC001846
ETIM 6.0	EC001846
ETIM 7.0	EC001846
ETIM 8.0	EC001846
UNSPSC 16.0901	41111960

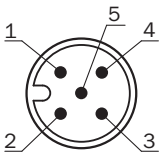
Dimensional drawing (Dimensions in mm (inch))

UM18-2xxxxxx2



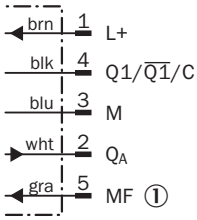
① Connection
② Fixing nuts, width 24 mm
③ Status display for supply voltage active (green)
④ Status indicator switching/analog output (orange)

Connection type



Connection diagram

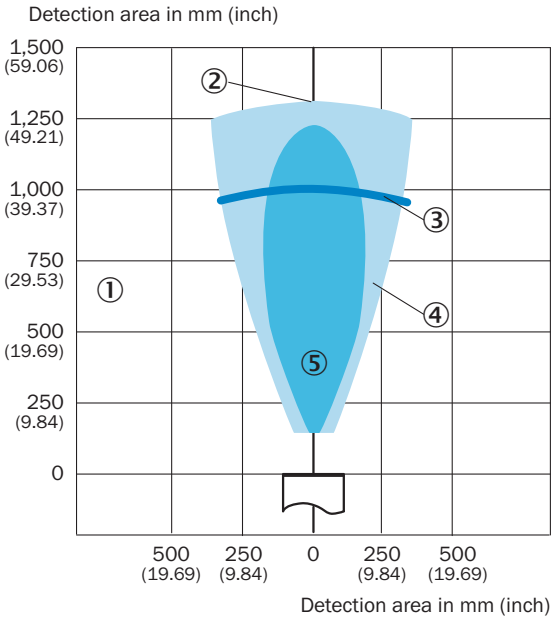
UM18-21xxxCxxx_Dxxx, male connector M12, 5-pin



① Multifunctional input/synchronization and multiplex operation/communication Connect+

Detection area

UM18-218



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: pipe with 27 mm diameter

Recommended accessories

Other models and accessories ➜ www.sick.com/UM18

	Brief description	Type	Part no.
Connection modules			
	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	IOLA2US-01101 (SiLink2 Master)	1061790

	Brief description	Type	Part no.
Deflector mirrors			
	90° sound deflection plate for UM18-1xxxx and UM18-2xxxx, stainless steel, for straight versions	USP-UM18	5323658
Mounting brackets and plates			
	Mounting plate for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WG-M18	5321870
	• **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 5-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals	YF2A15-020VB5XLEAX	2096239

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SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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