

UD18-22DC221

UD18

ULTRASONIC SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
UD18-22DC221	6058914

Other models and accessories → www.sick.com/UD18



Detailed technical data

Mechanics/electronics

Supply voltage V_s	DC 20 V ... 30 V ¹⁾
Power consumption	≤ 1.5 W ²⁾
Initialization time	< 300 ms
Design	Cylindrical
Housing material	Metal (Nickel-plated brass, PBT/PA, ultrasonic transducer: polyurethane foam, glass epoxy resin)
Thread size	M18 x 1
Connection type	Connection cable with open end: 7 x 0,25 mm ² , 2 m, PUR Sender: connection cable to receiver with M8 male connector, 3-pin, 1 m, PUR Receiver: connection cable to sender with M8 female connector, 3-pin, 1.2 m, PUR
Indication	2 x LED
Weight	160 g
Sending axis	Straight
Dimensions (W x H x D)	18 mm x 18 mm x 64 mm
Enclosure rating	IP65
Protection class	III

¹⁾ Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

²⁾ Without load.

Performance

Installation distance	30 mm ... 70 mm, 50 mm ± 3 mm (default setting)
Target	Natural objects
Resolution	1 material layer
Response time	5.5 ms ¹⁾
Switching frequency	100 Hz
Output time	5 ms, trigger mode: < 0.5 ms ¹⁾
Ultrasonic frequency (typical)	200 kHz
Additional function	3 selectable sensitivity levels Teach-in of up to 4 individual sensitivity level Sensitivity level changeover during operation Set parameters via Connect+ Software ²⁾

¹⁾ Set parameters via Connect+ Software.

²⁾ Functions may vary depending on sensor type.

Blind zone	7 mm ... 7 mm (from sender and receiver)
Permissible angle deviation	± 45° perpendicular to material layer
Detectable material	Paper with grammages: 100 g/m ² ... 2,000 g/m ² Metal-laminated sheets and films: ≤ 5 mm Self-adhesive films, metal sheets: ≤ 2 mm Corrugated cardboard: single wall F, N and G flute sizes Washi Wafer PCB

¹⁾ Set parameters via Connect+ Software.

²⁾ Functions may vary depending on sensor type.

Interfaces

Digital output	Number	2 ^{1) 2)}
	Type	PNP
	Function	Q ₁ : switching output double layer, Q ₂ : switching output single / no layer, normally closed
	Maximum output current I _A	≤ 200 mA
Control input		3 x

¹⁾ Outputs Q₁ and Q₂ short-circuit protected.

²⁾ PNP: Active = V_s - (< 2 V) / Inactive = 0 V;
NPN: Active ≤ 2 V / Inactive = V_s.

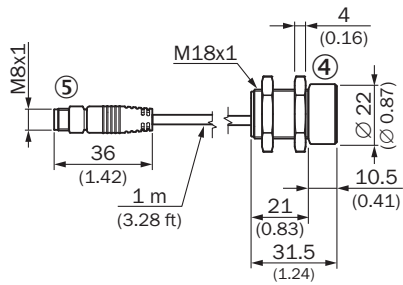
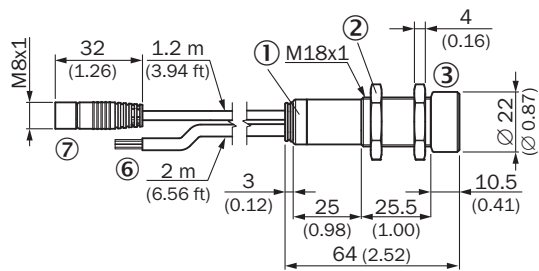
Ambient data

Ambient temperature, operation	+5 °C ... +60 °C
Ambient temperature, storage	-40 °C ... +85 °C

Classifications

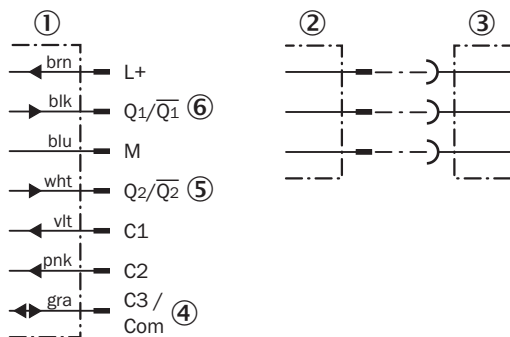
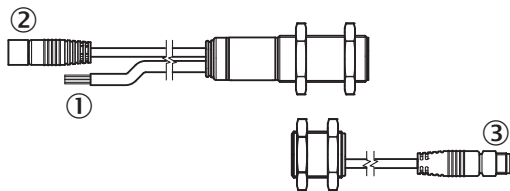
ECLASS 5.0	27270804
ECLASS 5.1.4	27270804
ECLASS 6.0	27270804
ECLASS 6.2	27270804
ECLASS 7.0	27270804
ECLASS 8.0	27270804
ECLASS 8.1	27270804
ECLASS 9.0	27270804
ECLASS 10.0	27270804
ECLASS 11.0	27270804
ECLASS 12.0	27272806
ETIM 5.0	EC001846
ETIM 6.0	EC001846
ETIM 7.0	EC001846
ETIM 8.0	EC001846
UNSPSC 16.0901	41111960

Dimensional drawing (Dimensions in mm (inch))



- ① LED status indicator
- ② Fixing nuts, width 24 mm
- ③ Receiver with evaluation unit
- ④ Sender
- ⑤ Plug M8x1, 3-pin, for connection with the receiver
- ⑥ Supply voltage and controls connection cable
- ⑦ Female connector M8x1, 3-pin, for connection with the sender



Connection diagram



- ① Connection cable for supply voltage and controls, with control inputs C1, C2, C3 and digital output Q1, Q2
- ② Female connector M8x1, 3-pin, for connection with the sender
- ③ Plug M8x1, 3-pin, for connection with the receiver
- ④ Communication via Connect+ adapter (CPA)
- ⑤ No material/single layer
- ⑥ Double layer

Recommended accessories

Other models and accessories → www.sick.com/UD18

	Brief description	Type	Part no.
Cloning modules			
	Tool for visualization, configuration and cloning, 3-digit LED display, supply voltage: DV 9 V ... 30 V	Connect+ adapter (CPA)	6037782
Mounting brackets and plates			
	Mounting plate for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WG-M18	5321870

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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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