UD18-22CC221

UD18

FORK SENSORS

SICK
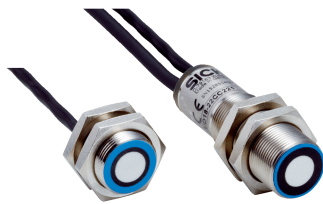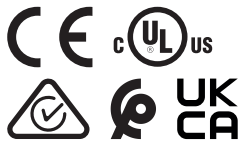Sensor Intelligence.

UD18-22CC221 | UD18

FORK SENSORS

Illustration may differ

Ordering information

Type	part no.
UD18-22CC221	6058910

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

Detailed technical data

Features

Functional principle	Ultrasonic detection principle
Housing design	Cylindrical
Dimensions (W x H x D)	18 mm x 18 mm x 63.2 mm
Installation distance	20 mm ... 60 mm, 40 mm ± 3 mm (default setting)
Blind zone	7 mm ... 7 mm (from sender and receiver)
Permissible angle deviation	± 45° perpendicular to material layer
Detectable material	Paper with grammages: 20 g/m² ... 2,000 g/m² Plastic sheets and foils: ≤ 0.4 mm Self-adhesive films, metal sheets: ≤ 0.3 mm Corrugated cardboard: single wall F, N and G flute sizes Washi Wafer PCB
Resolution	1 material layer
Display	2 x LED
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 [1]
Output time	2 ms, trigger mode: < 0.5 ms [2]

[1] Functions may vary depending on sensor type.

[2] Set parameters via Connect+ Software.

Interfaces

Digital output		Q_1, Q_2
	Number	2 [1]
		[2]
	Type	PNP
	Function	Q_1: switching output double layer, Q_2: switching output single / no layer, normally closed

[1] Outputs Q_1 and Q_2 short-circuit protected.

[2] PNP: Active = Vs - (< 2 V) / Inactive = 0 V.

Maximum output current I_A	≤ 200 mA
Control input	3 x

[1] Outputs Q_1 and Q_2 short-circuit protected.

[2] PNP: Active = Vs - (< 2 V) / Inactive = 0 V.

Electronics

Supply voltage	20 V DC ... 30 V DC [1]
Power consumption	≤ 1.5 W [2]
Initialization time	< 300 ms
Ultrasonic frequency	400 Hz
Switching frequency	250 Hz
Response time	2.5 ms
Switching output	PNP
Protection class	III [3]
Connection type	Cable open end, 7-wire, 2 m

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

[2] Without load.

[3] Reference voltage DC 50 V.

Mechanics

Sending axis	Straight
Thread size	M18 x 1
Housing material	Nickel-plated brass, PBT/PA Ultrasonic transducer: polyurethane foam, glass epoxy resin
Weight	Approx. 130 g

Ambient data

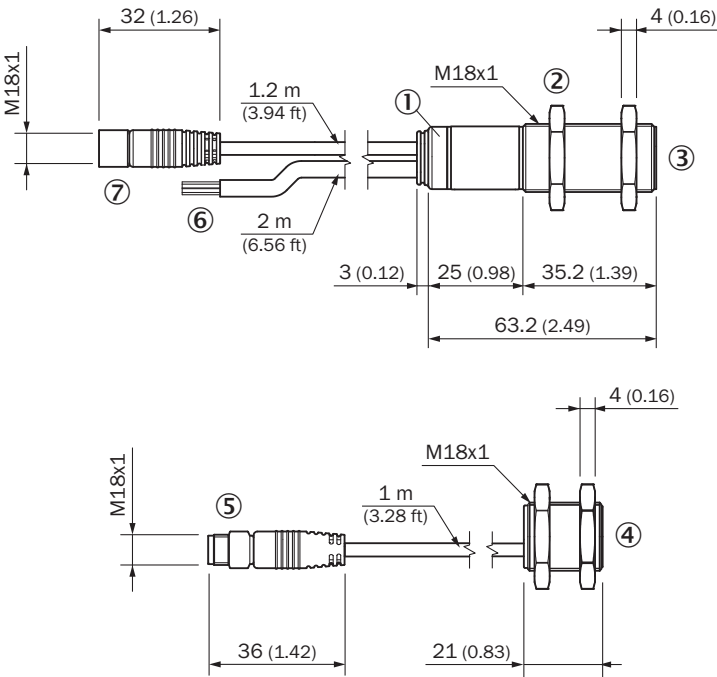|	
Ambient operating temperature	+5 °C ... +60 °C
Ambient temperature, storage	–40 °C ... +85 °C
Shock load	According to EN 60068-2-27
Enclosure rating	IP65

Classifications

ECLASS 5.0	27270909
ECLASS 5.1.4	27270909
ECLASS 6.0	27270909
ECLASS 6.2	27270909
ECLASS 7.0	27270909
ECLASS 8.0	27270909
ECLASS 8.1	27270909
ECLASS 9.0	27270909
ECLASS 10.0	27270909
ECLASS 11.0	27270909
ECLASS 12.0	27270909

ETIM 5.0	EC002720
ETIM 6.0	EC002720
ETIM 7.0	EC002720
ETIM 8.0	EC002720
UNSPSC 16.0901	39121528

Certificates

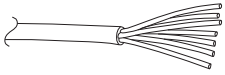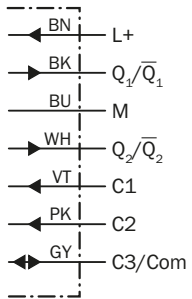| EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓

Dimensional drawing, sensor

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
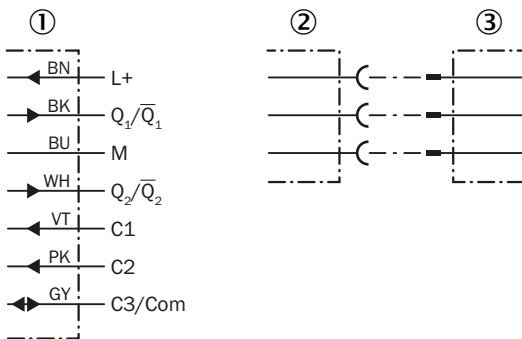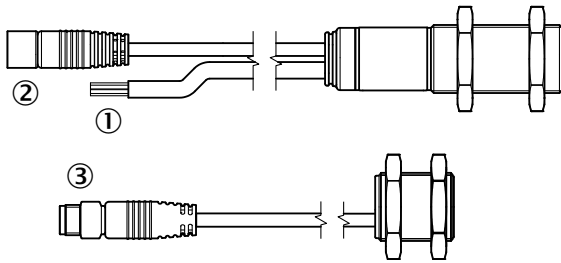⑦ female connector M8x1, 3-pin, for connection with the sender

pinouts

Cable open end, 7-wire

connection diagram

BN	L+
BK	$Q_1/\overline{Q}_1$
BU	M
WH	$Q_2/\overline{Q}_2$
VT	C1
PK	C2
GY	C3/Com

Supply voltage & I/O: cable open end, 7-wire

connection example

① ② ③

BN	L+
BK	$Q_1/\overline{Q}_1$
BU	M
WH	$Q_2/\overline{Q}_2$
VT	C1
PK	C2
GY	C3/Com

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

SICK AT A GLANCE

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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