WTT280L-2N1531
WTT280 PowerProx

TIME-OF-FLIGHT SENSORS

SICK
Sensor Intelligence.

WTT280L-2N1531 | WTT280 PowerProx

TIME-OF-FLIGHT SENSORS

Illustration may differ

Ordering information

Type	part no.
WTT280L-2N1531	6048067

Included in delivery: BEF-W280 (1)

Other models and accessories ➜ www.sick.com/WTT280_PowerProx

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression, Optical time-of-flight
Housing design (light emission)	Rectangular
Sensing range max.	200 mm ... 4,000 mm [1] 200 mm ... 3,000 mm [2]
Sensing range	200 mm ... 4,000 mm [1] [3] 200 mm ... 3,000 mm [2] [3]
Type of light	Visible red light
Light source	Laser [4]
Light spot size (distance)	Ø 12 mm (3 m)
Laser class	1 (EN 60825-1:2014, IEC 60825-1:2014)
Adjustment	Potentiometer (1 x)
Special applications	Detecting small objects
Items supplied	Mounting bracket BEF-W280
Safety-related parameters	
$MTTF_D$	202 years
DC_{avg}	0 %

[1] Object with 90% remission (based on standard white, DIN 5033).

[2] Objects to be sensed with 6 % reflectivity (based on black).

[3] Einstellbar.

[4] Average service life: 100,000 h at T_U = +25 °C.

Electronics

Supply voltage U_B	10 V DC … 30 V DC [1]
Ripple	< 3 V_{pp}
Current consumption	70 mA [2]
Switching output	NPN
Number of switching outputs	1 (Q_1) [3]
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark rotary switch
Output current $I_{max.}$	≤ 100 mA
Response time	≤ 0.5 ms [4]
Switching frequency	1,000 Hz [5]
Analog output	-
Input	Sender off
Circuit protection	A [6] B [7] C [8] D [9]
Protection class	III
Enclosure rating	IP67

[1] Limit values. Operated in short-circuit protected network: max. 8 A.

[2] Without load.

[3] Q1 = 1 switching threshold, light/dark switching selectable via light/dark selector.

[4] Signal transit time with resistive load.

[5] With light/dark ratio 1:1.

[6] A = V_S connections reverse-polarity protected.

[7] B = output reverse-polarity protected.

[8] C = interference suppression.

[9] D = outputs overcurrent and short-circuit protected.

Mechanics

Dimensions (W x H x D)	23.5 mm x 76 mm x 55.8 mm
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Weight	120 g
Connection type	Cable, 5-wire, 2 m
Connection type Detail	
Cable diameter	Ø 3.8 mm
Conductor cross section	0.18 mm²
Cable material	Plastic, PVC

Ambient data

Ambient operating temperature	–10 °C … +50 °C
Ambient temperature, storage	–40 °C … +70 °C
Electromagnetic compatibility (EMC)	EN 60947-5-2

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
cRUus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓
Laser safety (IEC 60825-1) certificate	✓

Classifications

ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

## Dimensional drawing
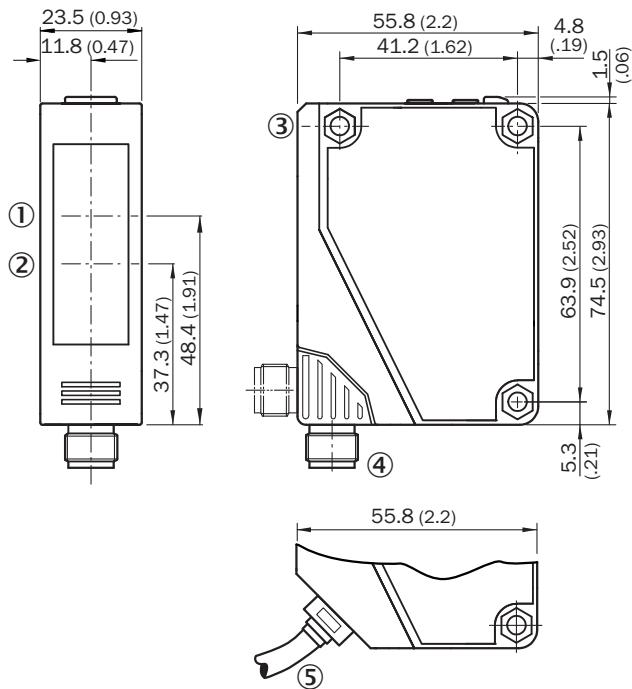
Dimensions in mm (inch)
① Center of optical axis, receiver
② Center of optical axis, sender
③ Mounting hole, Ø 4.3 mm
④ M12 plug connector, 5-pin, can be rotated through 90°
⑤ Cable, 2 m, 5-wire, Ø 3.8 mm

Connection type WTT280L-2x15xx WLT280L-2x15xx
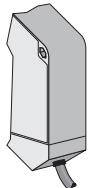
Connection diagram Cd-209

BN	+ (L+)
BK	Q1
BU	- (M)
WH	Not connected
GY	Sender off
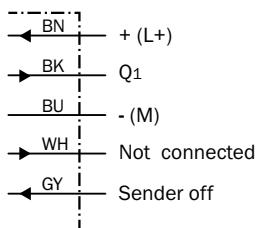
Adjustment possible WTT280L-2xxxx1
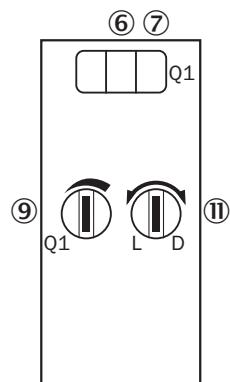
⑥ LED indicator green: Stability indicator
⑦ LED indicator yellow: Status of received light beam
⑨ Sensing range adjustment: potentiometer
⑪ Light/dark selector

Recommended accessories

Other models and accessories ➜ www.sick.com/WTT280_PowerProx

	Brief description	Type	part no.
Mounting systems			
	• **Description:** Mounting bracket • **Material:** Stainless steel • **Details:** Stainless steel V2A (1.4301) • **Items supplied:** 2 screws, 2 nuts, 2 circlips, 2 washers for mounting the sensor • **Suitable for:** W280-2, G20	BEF-W280	5313885
connectors and cables			
	• **Connection type head A:** Male connector, M12, 5-pin, straight, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm² • **Note:** For field bus technology	STE-1205-G	6022083

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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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