WTT280L-2N1536

WTT280 PowerProx

TIME-OF-FLIGHT SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
WTT280L-2N1536	6048068

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 (2 x)
Special applications	Detecting small objects
Items supplied	Mounting bracket BEF-W280
Safety-related parameters	
$MTTF_D$	194 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	2 (Q_1, Q_2) [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, Q2 = 2 switching thresholds, 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

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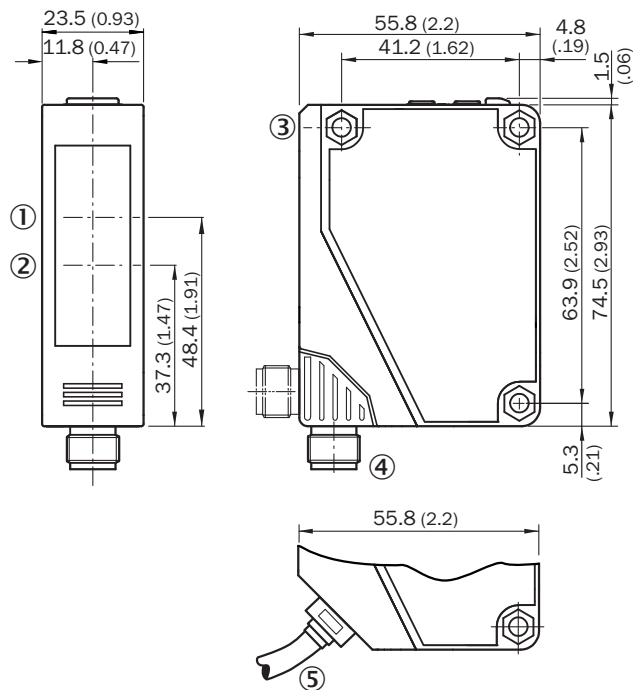
① Center of optical axis, receiver
② Center of optical axis, sender
③ Mounting hole, Ø 4.3 mm
④ M12 plug connector, 5-pin, can be rotated through 90°
⑤ Cable, 2 m, 5-wire, Ø 3.8 mm

Connection type

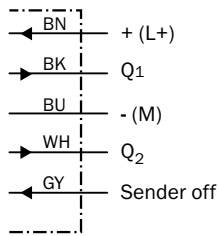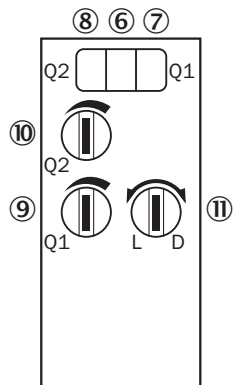WTT280L-2x15xx WLT280L-2x15xx
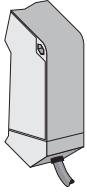
Connection diagram

Cd-208

BN		+ (L+)
BK		Q_1
BU		- (M)
WH		Q_2
GY		Sender off

Adjustment possible

WxT280L-2xxxx6

⑧ ⑥ ⑦		
Q2		Q1
⑩	Q2	
⑨	Q1 L D	⑪

⑥ LED indicator green: Stability indicator
⑦ Status indicator LED, yellow: Status of received light beam (switching output 1)
⑧ Status indicator LED, yellow: Status of received light beam (switching output 2)
⑨ Sensing range adjustment: potentiometer for switching output 1
⑩ Sensing range adjustment: potentiometer for switching output 2
⑪ Light/dark selector

Recommended accessories

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

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket, Stainless steel V2A (1.4301), 2 screws, 2 nuts, 2 circlips, 2 washers for mounting the sensor	BEF-W280	5313885
Others			
	• **Connection type head A:** Male connector, M12, 5-pin, straight, A-coded • **Description:** Unshielded, Head A: male connector, M12, 5-pin, straight, unshielded, for cable diameter 4 mm ... 6 mm Head B: - • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm² • **Note:** For field bus technology	STE-1205-G	6022083

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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.

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