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DATA SHEET

WTT280L-2P2536

WTT280 PowerProx
Time-of-flight sensors

SICK Sensor Intelligence



Illustration may differ

TIME-OF-FLIGHT SENSORS

WTT280L-2P2536

ORDERING INFORMATION

Type	part no.
WTT280L-2P2536	6048062

Further device versions and accessories at 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) [5]
Adjustment	Potentiometer (2 x)
Special applications	Detecting small objects
Items supplied	Mounting bracket BEF-W280
Safety-related parameters	
$MTTF_D$	193 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.

[5] Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

ELECTRONICS

Supply voltage U_B	10 V DC ... 30 V DC [1]
Ripple	< 3 V_{pp}
Current consumption	70 mA [2]
Switching output	PNP
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	Plug, M12, 5-pin

AMBIENT DATA

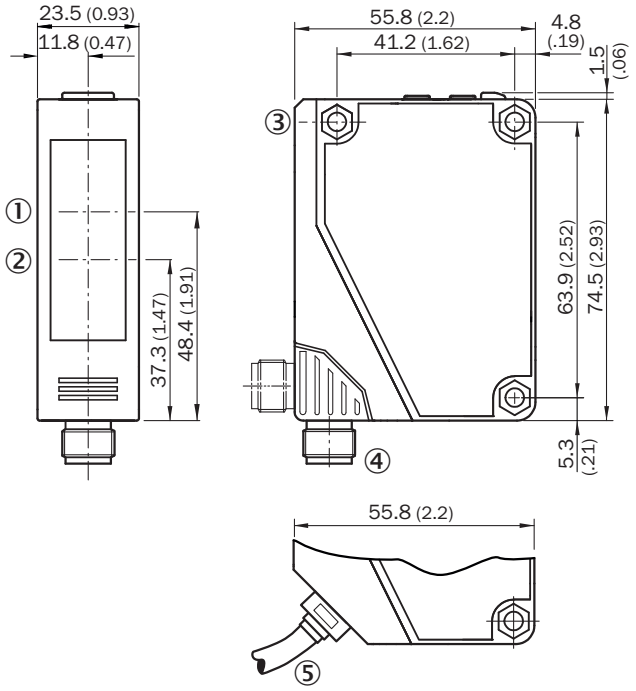
Ambient operating temperature	–10 °C ... +50 °C
Ambient temperature, storage	–40 °C ... +70 °C
Electromagnetic compatibility (EMC)	EN 60947-5-2

CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓

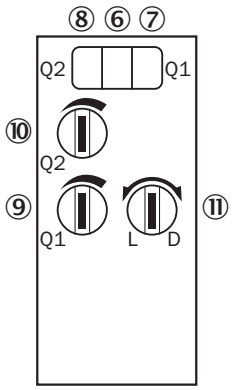
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
cRUus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓
Laser safety (IEC 60825-1) certificate	✓

DIMENSIONAL DRAWING



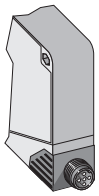
Dimensions in mm (inch)
① Center of optical axis, receiver
② Center of optical axis, sender
③ Mounting hole, Ø 4.3 mm
④ M12 plug connector, 5-pin, can be rotated through 90°
⑤ Cable, 2 m, 5-wire, Ø 3.8 mm

ADJUSTMENTS WXT280L-2XXXX6

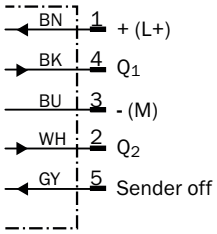


⑥ LED indicator green: Stability indicator
⑦ Status indicator LED, yellow: Status of received light beam (switching output 1)
⑧ Status indicator LED, yellow: Status of received light beam (switching output 2)
⑨ Sensing range adjustment: potentiometer for switching output 1
⑩ Sensing range adjustment: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

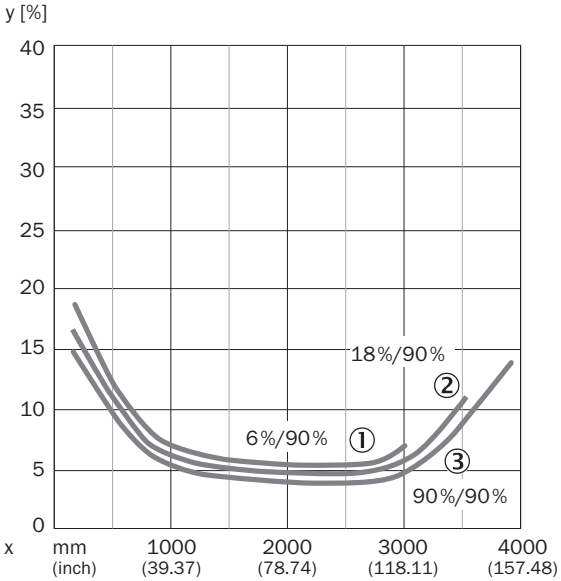
CONNECTION TYPE WTT280L-2X25XX WLT280L-2X25XX



CONNECTION DIAGRAM CD-211

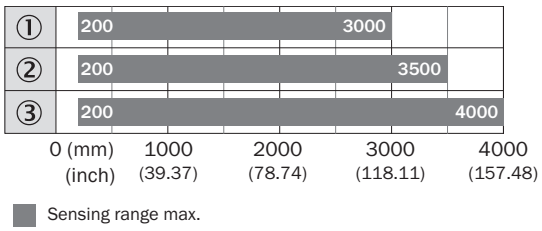


CHARACTERISTIC CURVE



① Sensing range on black, 6% remission factor
② Sensing range on gray, 18% remission factor
③ Sensing range on white, 90% remission factor

SENSING RANGE DIAGRAM



① Sensing range on black, 6% remission factor
② Sensing range on gray, 18% remission factor
③ Sensing range on white, 90% remission factor

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/6048062

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SICK AT A GLANCE

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SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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