



Ordering information

Type	Part no.
WTT280L-2P1531	6048065

Included in delivery: BEF-W280 (1)

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

Illustration may differ



Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression, Optical time-of-flight
Dimensions (W x H x D)	23.5 mm x 76 mm x 55.8 mm
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

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_J = +25 °C.

Mechanics/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	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
Connection type	Cable, 5-wire, 2 m ⁶⁾
Cable material	PVC
Conductor cross section	0.18 mm ²
Cable diameter	Ø 3.8 mm
Circuit protection	A ⁷⁾ B ⁸⁾ C ⁹⁾ D ¹⁰⁾
Protection class	III
Weight	120 g
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67
Items supplied	Mounting bracket BEF-W280
Electromagnetic compatibility (EMC)	EN 60947-5-2
Ambient operating temperature	-10 °C ... +50 °C
Ambient temperature, storage	-40 °C ... +70 °C
UL File No.	NRKH2.E300503 & NRKH8.E300503

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⁾ Do not bend below 0 °C.

⁷⁾ A = V_S connections reverse-polarity protected.

⁸⁾ B = output reverse-polarity protected.

⁹⁾ C = interference suppression.

¹⁰⁾ D = outputs overcurrent and short-circuit protected.

Safety-related parameters

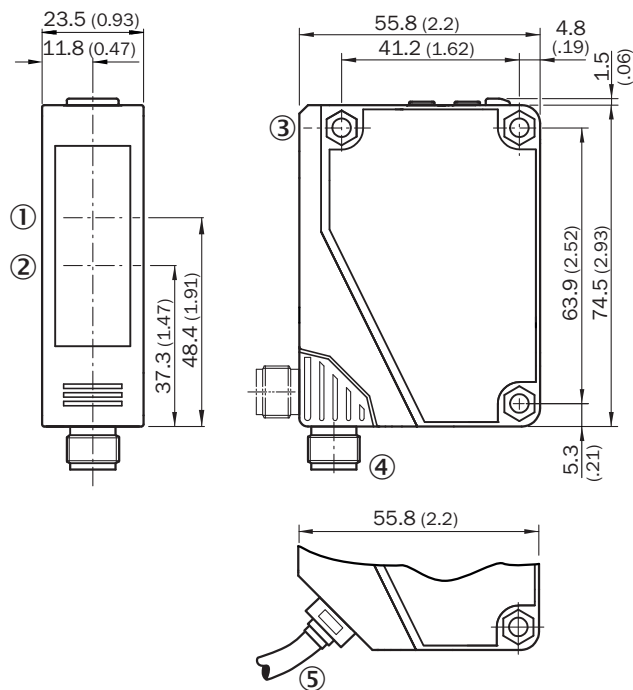
MTTF_D	201 years
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DC_{avg}	0 %
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Classifications

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

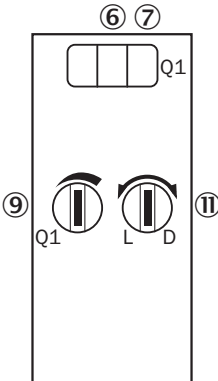
Dimensional drawing (Dimensions in mm (inch))



- 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

Adjustments

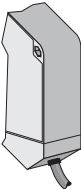
WTT280L-2xxxx1



- ⑥ LED indicator green: Stability indicator
- ⑦ LED indicator yellow: Status of received light beam
- ⑨ Sensing range adjustment: potentiometer
- ⑪ Light/dark selector

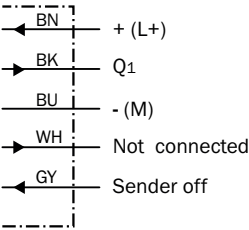
Connection type

WTT280L-2x15xx WLT280L-2x15xx

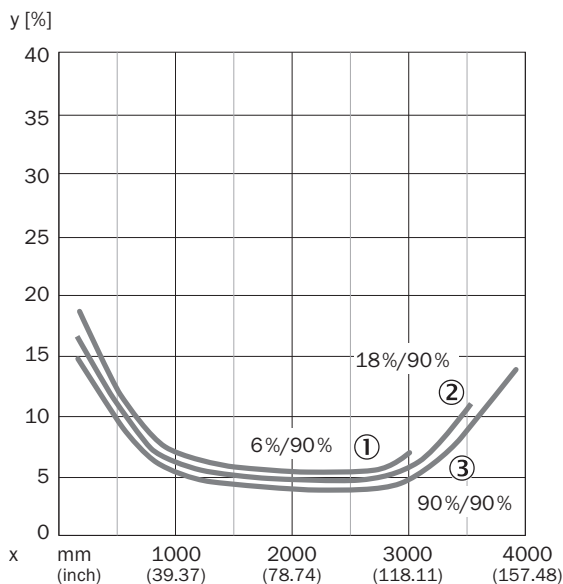


Connection diagram

Cd-209

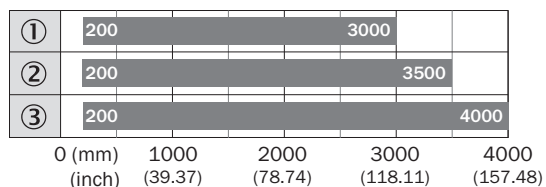


Characteristic curve



- 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



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

Recommended accessories

Other models and accessories → www.sick.com/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
Plug connectors and cables			
	Head A: male connector, M12, 5-pin, straight Cable: unshielded For field bus technology	STE-1205-G	6022083

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