Data sheet

WTE280-2P4331

W280-2

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
WTE280-2P4331	6044724

Included in delivery: BEF-W280 (1)

Other models and accessories ➜ www.sick.com/W280-2

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Energetic
Dimensions (W x H x D)	23.5 mm x 74.5 mm x 63 mm
Housing design (light emission)	Rectangular
Sensing range max.	10 mm ... 2,000 mm [1]
Sensing range	10 mm ... 1,500 mm
Type of light	Visible red light
Light source	LED [2]
Light spot size (distance)	Ø 45 mm (1,500 mm)
Adjustment	Potentiometeradjustable via sensing range adjustment

[1] Object with 90% remission (based on standard white, DIN 5033).
[2] Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]
Current consumption	20 mA [3]
Switching output	PNP
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]
Connection type	Cable gland
Circuit protection	A [6] B [7] C [8] D [9]
Protection class	III
Weight	150 g
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP66 IP67
Items supplied	Mounting bracket BEF-W280
Electromagnetic compatibility (EMC)	EN 60947-5-2 [10]
Ambient operating temperature	–25 °C ... +55 °C
Ambient temperature, storage	–40 °C ... +70 °C
UL File No.	NRKH2.E300503 & NRKH8.E300503

[1] Limit values when operated in short-circuit protected network: max. 8 A.
[2] May not fall below or exceed U_V tolerances.
[3] Without load.
[4] Signal transit time with resistive load.
[5] With light/dark ratio 1:1.
[6] A = V_S connections reverse-polarity protected.
[7] B = inputs and output reverse-polarity protected.
[8] C = interference suppression.
[9] D = outputs overcurrent and short-circuit protected.
[10] The AC/DC devices (-2Rxxxx only) comply with the Radio Safety Requirements for the industrial sector (Radio Safety Class A). They may cause radio interference if used in a residential area.

Safety-related parameters

$MTTF_D$	1,440 years
DC_{avg}	0 %

Certificates

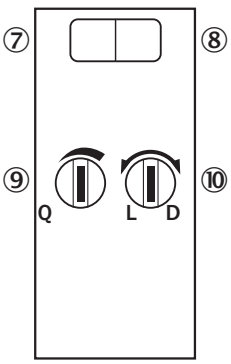
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓

Moroccan declaration of conformity	✓
China-RoHS	✓
cRUus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

Classifications

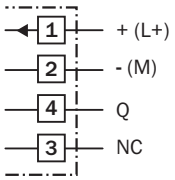
ECLASS 5.0	27270903
ECLASS 5.1.4	27270903
ECLASS 6.0	27270903
ECLASS 6.2	27270903
ECLASS 7.0	27270903
ECLASS 8.0	27270903
ECLASS 8.1	27270903
ECLASS 9.0	27270903
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC001821
ETIM 6.0	EC001821
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Adjustments

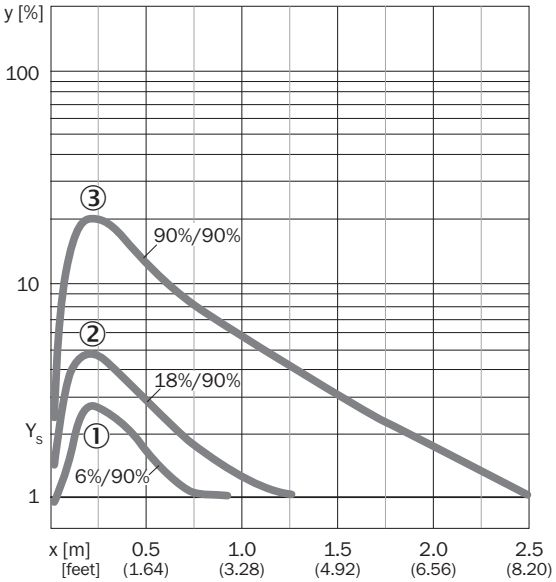


⑦ LED indicator green: Stability indicator
⑧ LED indicator yellow: Status of received light beam
⑨ Sensing range adjustment: potentiometer
⑩ Light/dark selector

Connection diagram Cd-207

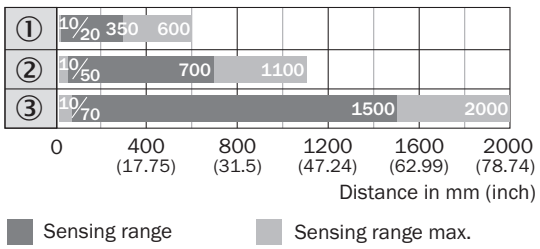


Characteristic curve WTE280-2



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 WTE280-2



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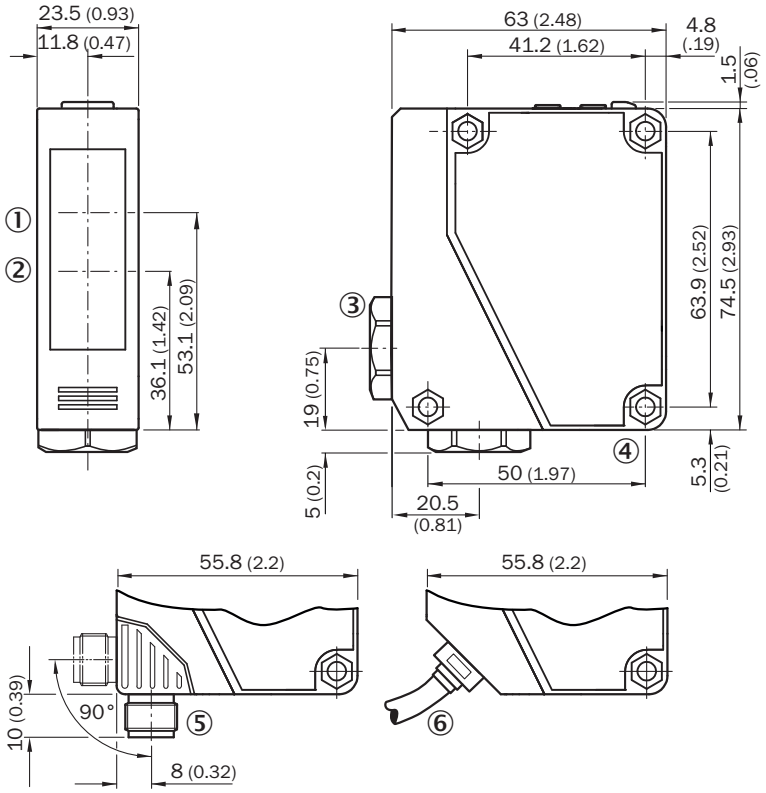
Dimensional drawing WTE280-2, WL280-2, DC



Dimensions in mm (inch)
① Center of optical axis, receiver
② Center of optical axis, sender
③ Cable entry gland 3/8" for cable diameter 6 to 8 mm
④ Mounting hole, Ø 4.3 mm
⑤ M12 male connector, 4-pin, can be rotated through 90°, can be locked with slider
⑥ Cable, 2 m, 3-wire, Ø 3,8 mm

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.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com

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