



WSE280-2N1131

W280-2

COMPACT PHOTOELECTRIC SENSORS



COMPACT PHOTOELECTRIC SENSORS



Ordering information

Туре	Part no.
WSE280-2N1131	6044744

Included in delivery: BEF-W280 (2)

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

Illustration may differ



Detailed technical data

Features

Todal of	
Sensor/ detection principle	Through-beam photoelectric sensor
Dimensions (W x H x D)	23.5 mm x 74.5 mm x 63 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m 60 m
Sensing range	0 m 50 m
Type of light	Visible red light
Light source	LED ¹⁾
Light spot size (distance)	Ø 0.6 m (20 m)
Adjustment	Potentiometer

 $^{^{1)}}$ Average service life: 100,000 h at TU = +25 °C.

Mechanics/electronics

Supply voltage	10 V DC 30 V DC ¹⁾
Ripple	\leq 5 V_{pp}^{2}
Power consumption, sender	≤ 20 mA

 $^{^{1)}}$ Limit values when operated in short-circuit protected network: max. 8 A.

 $^{^{2)}}$ May not exceed or fall below U_{V} tolerances.

³⁾ Without load.

 $^{^{4)}}$ 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 = inputs and output reverse-polarity protected.

⁹⁾ C = interference suppression.

 $^{^{10)}}$ D = outputs overcurrent and short-circuit protected.

¹¹⁾ 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.

Power consumption, receiver ≤ 20 mA ³) Switching output NPN 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, 3-wire, 2 m ⁶) Cable material PVC Conductor cross-section 0.18 mm² Circuit protection A ⁻¹ B ৪ c 2 c 2 c 2 c 2 c 2 c 2 c 2 c 2 c 2 c		
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 40 Switching frequency 1,000 Hz 50 Connection type Cable, 3-wire, 2 m 60 Cable material PVC Conductor cross-section 0.18 mm² Circuit protection A 70 B 80 C 90 D 100 Protection class III Weight 300 g Housing material Plastic, ABS Optics material Plastic, PMMA Enclosure rating IP66 IP67 Items supplied Mounting bracket BEF-W280 EMC EN 60947-5-2 ¹¹⁵ Ambient operating temperature -25 °C +55 °C Ambient storage temperature -40 °C +70 °C	Power consumption, receiver	\leq 20 mA $^{3)}$
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, 3-wire, 2 m ⁶) Cable material PVC Conductor cross-section 0.18 mm² Circuit protection A ⁿ B శ⟩ C °) C °) D °) D 100 D °) Protection class III Weight 300 g Housing material Plastic, ABS Optics material Plastic, PMMA Enclosure rating IP66 Items supplied Mounting bracket BEF-W280 EMC EN 60947-5-2 ¹¹¹) Ambient operating temperature -25 °C +55 °C Ambient storage temperature -40 °C +70 °C	Switching output	NPN
Output current I _{max} . 100 mA Response time ≤ 0.5 ms ⁴) Switching frequency 1,000 Hz ⁵) Connection type Cable, 3-wire, 2 m ⁶) Cable material PVC Conductor cross-section 0.18 mm² Circuit protection A ⁻ / B ể ∘ C ∘ C ∘ C ∘ C ∘ C ∘ C ∘ C ∘ C ∘ C ∘	Switching mode	Light/dark switching
Response time Switching frequency 1,000 Hz 5) Connection type Cable, 3-wire, 2 m 6) Conductor cross-section Circuit protection Protection class III Weight Housing material Optics material Plastic, ABS Optics material Ple66 IP67 Items supplied EMC Ambient operating temperature Polo Diaman and protection class Pin 60947-52 111 Ambient storage temperature > 0.5 m s 4) A (0.00 Hz 5) Ambient operating temperature 1,000 Hz 5) Abelian (1,000 Hz 5) Abelian (2,000 Hz 6) Abelian (3,000 Hz 6) Abelian (3,00	Switching mode selector	Selectable via light/dark rotary switch
Switching frequency Connection type Cable, 3-wire, 2 m 6) Conductor cross-section Circuit protection A 7	Output current I _{max.}	100 mA
Connection type Cable, 3-wire, 2 m 6) Cable material PVC Conductor cross-section 0.18 mm² Circuit protection A 7)	Response time	\leq 0.5 ms $^{4)}$
Cable material Conductor cross-section Circuit protection A 7 B 8 C 9 D 100) Protection class III Weight A 300 g Housing material Plastic, ABS Optics material Plastic, PMMA Enclosure rating IP66 IP67 Items supplied Mounting bracket BEF-W280 EMC Ambient operating temperature Ambient storage temperature PVC A 7 B 8 A 7 B 8 A 7 B 8 B 8 C 9 C	Switching frequency	1,000 Hz ⁵⁾
Conductor cross-section Circuit protection A 7 B 8 C C 9 C 9 D 10) Protection class III Weight 300 g Housing material Optics material Plastic, ABS Optics material Plastic, PMMA Enclosure rating IP66 IP67 Items supplied Mounting bracket BEF-W280 EMC Ambient operating temperature -25 ° C +55 ° C Ambient storage temperature -40 ° C +70 ° C	Connection type	Cable, 3-wire, 2 m ⁶⁾
Circuit protection A 7) B 8) C 9) D 10) Protection class III Weight Housing material Optics material Plastic, ABS Optics material Plastic, PMMA Enclosure rating IP66 IP67 Items supplied Mounting bracket BEF-W280 EMC Ambient operating temperature -25 °C +55 °C -40 °C +70 °C	Cable material	PVC
B 8) C 9) D 10) Protection class III Weight 300 g Housing material Plastic, ABS Optics material Plastic, PMMA Enclosure rating IP66 IP67 Items supplied Mounting bracket BEF-W280 EMC EN 60947-5-2 11) Ambient operating temperature -25 ° C +55 ° C Ambient storage temperature -40 ° C +70 ° C	Conductor cross-section	0.18 mm ²
Weight300 gHousing materialPlastic, ABSOptics materialPlastic, PMMAEnclosure ratingIP66 IP67Items suppliedMounting bracket BEF-W280EMCEN 60947-5-2 11)Ambient operating temperature-25 °C +55 °CAmbient storage temperature-40 °C +70 °C	Circuit protection	B ⁸⁾ C ⁹⁾
Housing material Plastic, ABS Optics material Plastic, PMMA Enclosure rating IP66 IP67 Items supplied Mounting bracket BEF-W280 EMC EN 60947-5-2 11) Ambient operating temperature -25 °C +55 °C -40 °C +70 °C	Protection class	III
Optics materialPlastic, PMMAEnclosure ratingIP66 IP67Items suppliedMounting bracket BEF-W280EMCEN 60947-5-2 11)Ambient operating temperature-25 °C +55 °CAmbient storage temperature-40 °C +70 °C	Weight	300 g
Enclosure ratingIP66 IP67Items suppliedMounting bracket BEF-W280EMCEN 60947-5-2 11)Ambient operating temperature-25 °C +55 °CAmbient storage temperature-40 °C +70 °C	Housing material	Plastic, ABS
IP67 Items supplied Mounting bracket BEF-W280 EMC EN 60947-5-2 ¹¹⁾ Ambient operating temperature -25 °C +55 °C Ambient storage temperature -40 °C +70 °C	Optics material	Plastic, PMMA
EMC EN 60947-5-2 ¹¹⁾ Ambient operating temperature -25 °C +55 °C Ambient storage temperature -40 °C +70 °C	Enclosure rating	
Ambient operating temperature $-25 ^{\circ}\text{C} \dots +55 ^{\circ}\text{C}$ Ambient storage temperature $-40 ^{\circ}\text{C} \dots +70 ^{\circ}\text{C}$	Items supplied	Mounting bracket BEF-W280
Ambient storage temperature -40 °C +70 °C	EMC	EN 60947-5-2 ¹¹⁾
	Ambient operating temperature	-25 °C +55 °C
NEW MANAGEMENT OF THE PROPERTY	Ambient storage temperature	-40 °C +70 °C
UL FIIE NO. NRKH2.E300503 & NRKH8.E300503	UL File No.	NRKH2.E300503 & NRKH8.E300503

 $^{^{1)}}$ Limit values when operated in short-circuit protected network: max. 8 A.

Classifications

ECI@ss 5.0	27270901
ECI@ss 5.1.4	27270901
ECI@ss 6.0	27270901
ECI@ss 6.2	27270901
ECI@ss 7.0	27270901
ECI@ss 8.0	27270901
ECI@ss 8.1	27270901

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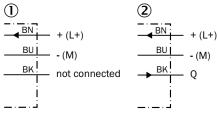
WSE280-2N1131 | W280-2

COMPACT PHOTOELECTRIC SENSORS

ECI@ss 9.0	27270901
ECI@ss 10.0	27270901
ECI@ss 11.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
UNSPSC 16.0901	39121528

Connection diagram

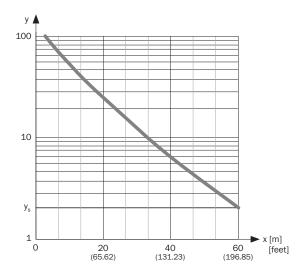
Cd-049



- ① Sender
- ② Receiver

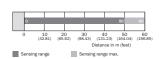
Characteristic curve

WSE280-2



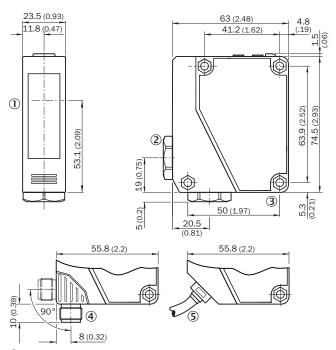
Sensing range diagram

WSE280-2



Dimensional drawing (Dimensions in mm (inch))

WSE280-2, DC



- ① Sender and receiver optical axis center
- 3 Mounting hole, Ø 4.3 mm
- ④ M12 male connector, 4-pin, can be rotated through 90°, can be locked with slider
- ⑤ Cable, 2 m, 3-wire, Ø 3,8 mm

Recommended accessories

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

	Brief description	Туре	Part no.
Plug connecto	ors and cables		
	Head A: male connector, M8, 3-pin, straight Head B: - Cable: unshielded	STE-0803-G	6037322

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."

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