Product data sheet

WSE26P-39112102ZZZ

W26

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
WSE26P-39112102ZZZ	1102912

Other models and accessories ➜ www.sick.com/W26

Detailed technical data

Features

Functional principle	Through-beam photoelectric sensor
Sensing range	
Sensing range min.	0 m
Sensing range max.	60 m
Maximum distance range from receiver to sender (operating reserve 1)	0 m ... 60 m
Recommended distance range from receiver to sender (operating reserve 2)	0 m ... 50 m
Recommended sensing range for the best performance	0 m ... 50 m
Emitted beam	
Light source	PinPoint LED
Type of light	Visible red light
Shape of light spot	Point-shaped
Light spot size (distance)	Ø 115 mm (15 m)
Maximum dispersion of the emitted beam around the standardized transmission axis (squint angle)	< +/- 1.0° (at Ta = +23 °C)
Key LED figures	
Normative reference	EN 62471:2008-09 | IEC 62471:2006, modified
LED risk group marking	Free group
Wave length	635 nm
Average service life	100,000 h at T_a = +25 °C
Adjustment	
Teach-Turn adjustment	BluePilot: for configuring the time function
Wire/pin	For activating the test input

Indication	
LED blue 1	BluePilot: Alignment aid
LED blue 2	BluePilot: Time function display
LED green	Operating indicator Static on: power on
LED yellow	Status of received light beam Static on: object not present Static off: object present Flashing: Below the 1.5 function reserve

Safety-related parameters

$MTTF_D$	438 years
DC_{avg}	0 %
T_M (mission time)	20 years (EN ISO 13849) Rate of use: 60 %

Electrical data

Supply voltage U_B	10 V DC ... 30 V DC [1]
Ripple	≤ 5 V_{pp}
Usage category	DC-12 (According to EN 60947-5-2) DC-13 (According to EN 60947-5-2)
Current consumption, sender	≤ 30 mA, without load. At U_B = 24 V < 50 mA [2]
Current consumption, receiver	≤ 30 mA, without load. At U_B = 24 V < 50 mA [2]
Protection class	III
Digital output	
Number	2 (Complementary)
Type	Push-pull: PNP/NPN
Signal voltage PNP HIGH/LOW	Approx. U_B-2.5 V / 0 V
Signal voltage NPN HIGH/LOW	Approx. U_B / < 2.5 V
Output current $I_{max.}$	≤ 100 mA
Circuit protection outputs	Reverse polarity protected Overcurrent and short-circuit protected
Response time	≤ 500 µs [3]
Repeatability (response time)	150 µs
Switching frequency	1,000 Hz [4]
Time functions	Deactivated (factory setting) On delay Off delay ON and OFF delay Impulse (one shot)
Delay time	Teach-turn adjustment, 0 ms ... 30,000 ms, 0 ms (factory setting)
Pin/Wire assignment, sender	

[1] Limit values.

[2] 10 V DC ... 16 V DC, without load.

[3] Signal transit time with resistive load in switching mode.

[4] With light/dark ratio 1:1.

Pin 6 function/gray (GY)	Test at 0 V
Pin/Wire assignment, receiver	
Function of pin 4/black (BK)	Digital output, light switching, object present → output Q_{L1} LOW
Pin 5 function/white (WH)	Digital output, dark switching, object present → output $\bar{Q}_{L1}$ HIGH

[1] Limit values.
[2] 10 V DC ... 16 V DC, without load.
[3] Signal transit time with resistive load in switching mode.
[4] With light/dark ratio 1:1.

Mechanical data

Housing	Rectangular
Dimensions (W x H x D)	24.6 mm x 82.5 mm x 53.3 mm
Connection	Cable with connector Q6, 6-pin, DC-coding, 298 mm
Connection detail	
Deep-freeze property	Do not bend below 0 °C
Conductor size	0.14 mm²
Cable diameter	Ø 4.8 mm
Length of cable (L)	270 mm
Bending radius	For flexible use > 12 x cable diameter
Bending cycles	1,000,000
Material	
Housing	Plastic, VISTAL®
Front screen	Plastic, PMMA
Cable	PVC
Male connector	Plastic, VISTAL®
Weight	Approx. 200 g
Maximum tightening torque of the fixing screws	1.3 Nm

Ambient data

Enclosure rating	IP65 (EN 60529)
Ambient operating temperature	–40 °C ... +60 °C
Ambient temperature, storage	–40 °C ... +75 °C
Shock resistance	50 g, 11 ms (25 positive and 25 negative shocks per axis, for X, Y, Z axes, 150 shocks in total (EN60068-2-27)) 50 g, 6 ms (5,000 positive and 5,000 negative shocks per axis, for X, Y, Z axes, 30,000 shocks in total (EN60068-2-27))
Vibration resistance	10 Hz ... 2,000 Hz (Amplitude 0.5 mm / 10 g, 20 sweeps per axis, for X, Y, Z axes, 1 octave/min, (EN60068-2-6))
Air humidity	35 % ... 95 %, Relative humidity (no condensation)
Electromagnetic compatibility (EMC)	EN 60947-5-2
UL File No.	NRKH.E181493 & NRKH7.E181493

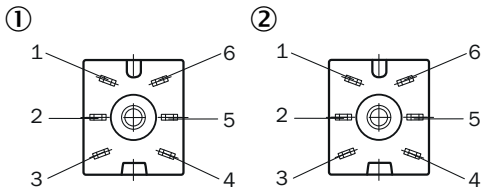
Classifications

eCl@ss 5.0	27270901
eCl@ss 5.1.4	27270901
eCl@ss 6.0	27270901

eCl@ss 6.2	27270901
eCl@ss 7.0	27270901
eCl@ss 8.0	27270901
eCl@ss 8.1	27270901
eCl@ss 9.0	27270901
eCl@ss 10.0	27270901
eCl@ss 11.0	27270901
eCl@ss 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

Connection type

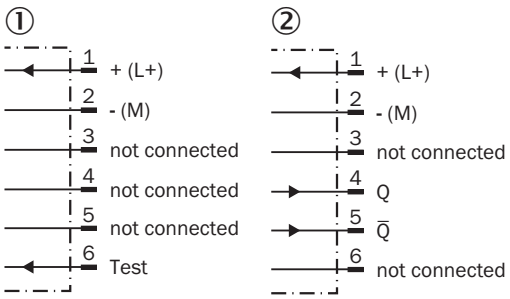
Cubic connector, 6-pin



① Sender
② Receiver

Connection diagram

Cd-075

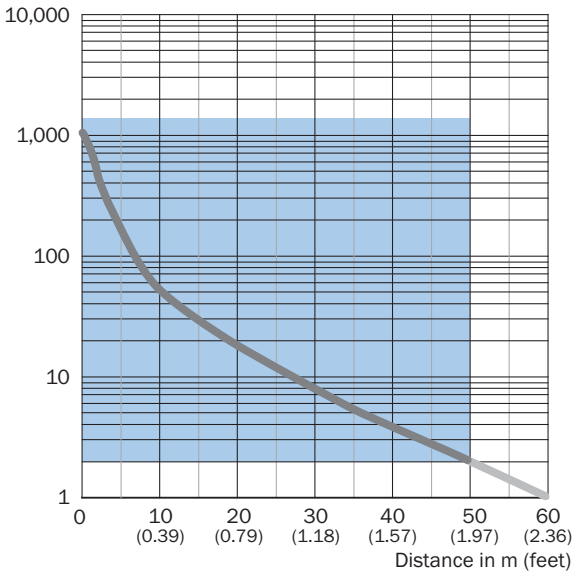


① Sender
② Receiver

Characteristic curve

WSE26P-xxxxx1xx

Operating reserve



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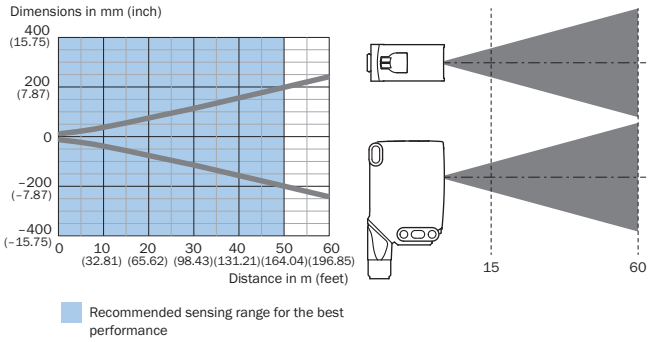
Light spot size

Visible red light



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Sensing range diagram

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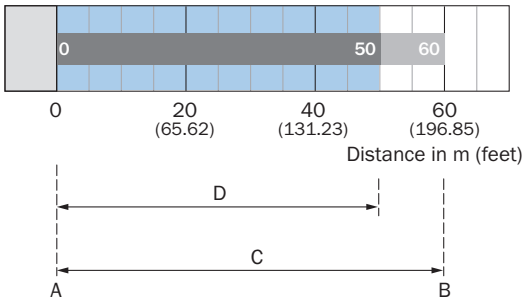

Recommended sensing range for the best performance

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A	Sensing range min. in m
B	Sensing range max. in m
C	Maximum distance range from receiver to sender
D	Recommended distance range from receiver to sender

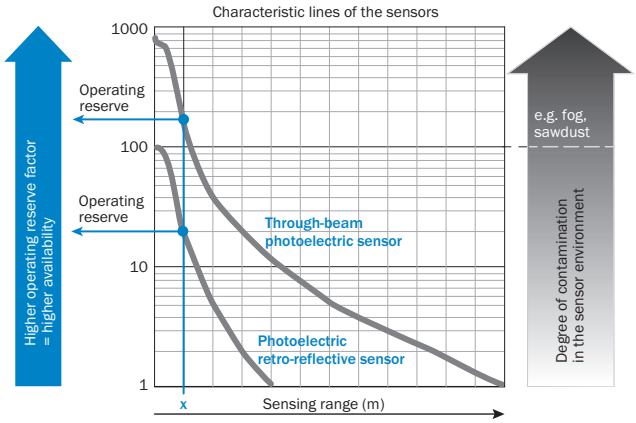
Functions

Operation note

BluePilot: Blue indicator LEDs with double benefits

Easy and quick sensor alignment with the help of the LED indicator All blue LEDs illuminate – optimum alignment – highest possible operating reserve	**WSE through-beam photoelectric sensor alignment**
Service note A reduction in sensor availability is displayed by a decrease of the blue LEDs. Possible causes: a) insufficient alignment b) contamination of the optical surfaces c) particles in the light beam	a) b) c)

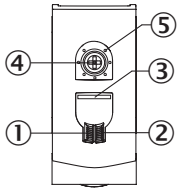
Operation note



At a sensing range of „**x**“ the photoelectric retro-reflective and through-beam photoelectric sensors have different operating reserves (see blue arrow). The higher the operating reserve factor, the better the sensor can compensate the contamination in the air or in the light beam and on the optical surfaces (front screen, reflector), i.e. the sensor has the maximum availablity, otherwise the sensor switches due to pollution although there is no object in the path of the light beam.

Adjustments

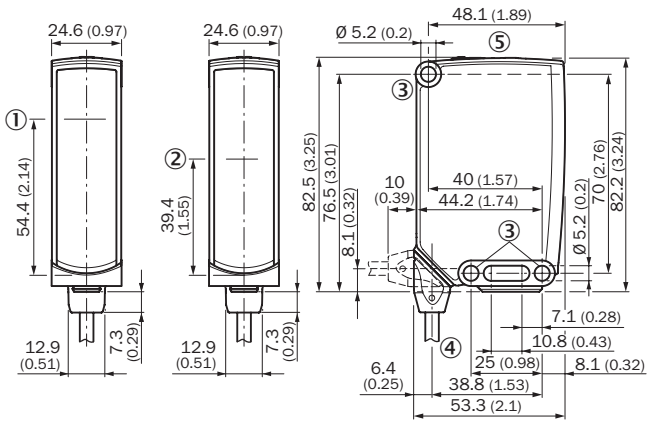
Display and adjustment elements



① LED indicator green
② LED indicator yellow
③ LED blue 1
④ Teach-Turn adjustment
⑤ LED blue 2

Dimensional drawing (Dimensions in mm (inch))

WSE26, cable



① Center of optical axis, sender
② Center of optical axis, receiver
③ Mounting hole, Ø 5.2 mm
④ Connection
⑤ Display and adjustment elements

Recommended accessories

Other models and accessories ➜ www.sick.com/W26

	Brief description	Type	Part no.
Universal bar clamp systems			
	Plate N12 for universal clamp. For mounting PL30A, P250 reflectors, W27 and WTR2 sensors., Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (2022726), mounting hardware	BEF-KHS-N12	2071950
Plug connectors and cables			
	Head A: female connector, 6-pin, angled, DC-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	DOL-1306-W02M	6030217

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:

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