



WSE27-3R2631

W27-3

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
WSE27-3R2631	1027795

Other models and accessories → www.sick.com/W27-3

Detailed technical data

Features

Functional principle	Through-beam photoelectric sensor
Dimensions (W x H x D)	24.6 mm x 80.6 mm x 54 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m ... 35 m
Sensing range	0 m ... 25 m
Focus	Approx. 1.5°
Type of light	Visible red light
Light source	LED ¹⁾
Light spot size (distance)	Ø 600 mm (25 m)
Angle of dispersion	Approx. 1.5°
Wave length	645 nm
Adjustment	Potentiometer

¹⁾ Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage	20 V AC/DC ... 250 V AC/DC ¹⁾
Power consumption	≤ 5.5 VA
Switching output	Relay, electrically isolated ²⁾

¹⁾ Limit values.

²⁾ Provide suitable arc suppression for inductive or capacitive loads. Relay contacts are separated from the supply voltage by a basic isolation of 3 mm. Depending on the application, additional isolation might have to be applied in the user's circuit.

³⁾ With light/dark ratio 1:1.

⁴⁾ A = V_S connections reverse-polarity protected.

⁵⁾ C = interference suppression.

⁶⁾ Reference voltage: 250 V AC, overvoltage category 2.

⁷⁾ UL: 0 °C ... +60 °C.

Output function	Change-over contacts
Switching mode	Light/dark switching
Switching mode selector	Selectable via time delay selector switch
Switching current (switching voltage)	4 A @ 250 V AC, 4 A @ 24 V DC, 0.125 A @ 250 V DC UL: 4 A @ 250 V AC, general use / 4 A @ 250 V AC, resistive (NO) / 3 A @ 250 V AC, resistive (NC) / 4 A @ 24 V DC, NO, general use / 3 A @ 24 V DC, NC, general use / R300 / B300 (NO contacts only) / 0 °C ... +60 °C
Response time	≤ 10 ms
Switching frequency	10 Hz ³⁾
Angle of reception	Approx. 3°
Time functions	On delay Off delay Switch on delay and time delay off
Delay time	Adjustable via time delay selector switch, 0.5 s ... 10 s
Connection type	Connector Q6, 6-pin, AC/UC-coding
Circuit protection	A ⁴⁾ C ⁵⁾
Protection class	II ⁶⁾
Weight	240 g
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP65
Ambient operating temperature	-40 °C ... +60 °C ⁷⁾
Ambient temperature, storage	-40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493
Part number of individual components	2033597 WS27-3U2630 2038939 WE27-3R2631

¹⁾ Limit values.

²⁾ Provide suitable arc suppression for inductive or capacitive loads. Relay contacts are separated from the supply voltage by a basic isolation of 3 mm. Depending on the application, additional isolation might have to be applied in the user's circuit.

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⁷⁾ UL: 0 °C ... +60 °C.

Safety-related parameters

MTTF_D	443 years
DC_{avg}	0 %
B_{10d}	65,693 Switching cycles ¹⁾

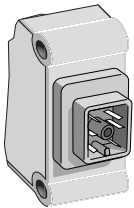
¹⁾ Only for devices containing electro-mechanical components. In this case, the MTTF_D value of the entire device must be calculated from the given B_{10D} value, the number of switching cycles and the given MTTF_D value.

Classifications

eCl@ss 5.0	27270901
eCl@ss 5.1.4	27270901
eCl@ss 6.0	27270901
eCl@ss 6.2	27270901

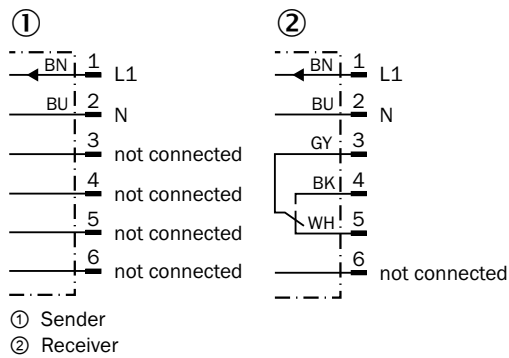
eCl@ss 7.0	27270901
eCl@ss 8.0	27270901
eCl@ss 8.1	27270901
eCl@ss 9.0	27270901
eCl@ss 10.0	27270901
eCl@ss 11.0	27270901
eCl@ss 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

Connection type

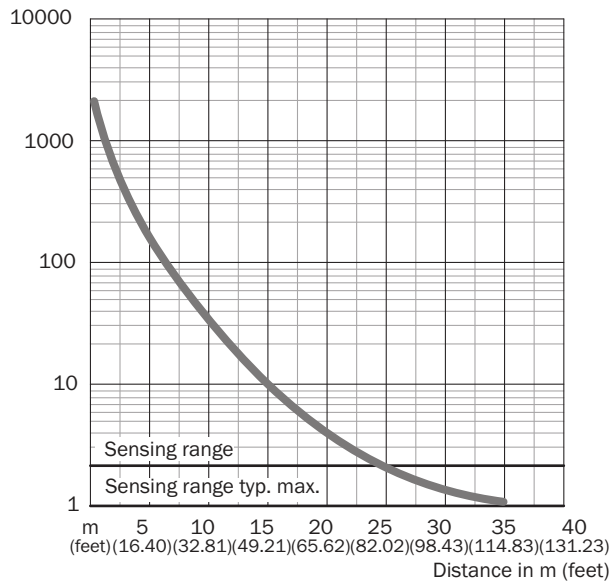


Connection diagram

Cd-159

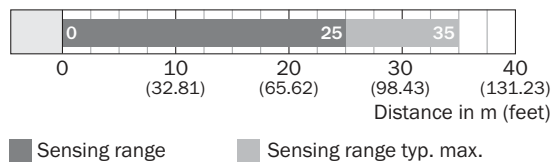


Characteristic curve



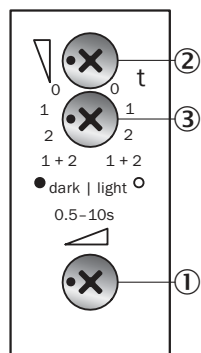
Sensing range diagram

WSE27-3



Adjustments

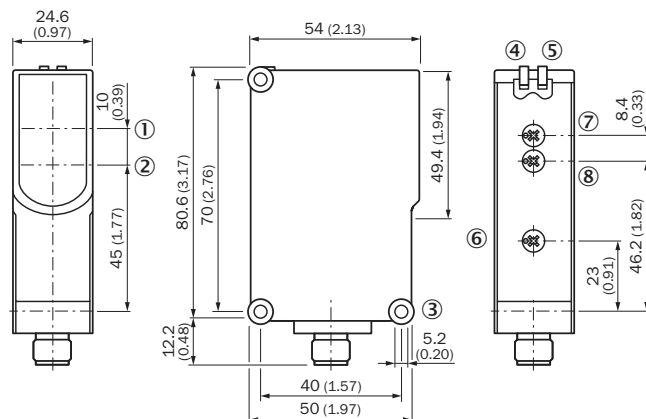
Potentiometer, time functions, light-/dark-switch



- ① Potentiometer
- ② Time control
- ③ Time delay selector switch

Dimensional drawing (Dimensions in mm (inch))



WL27-3, WSE27-3, potentiometer, time functions



- ① Optical axis, sender
- ② Optical axis, receiver
- ③ Mounting hole \varnothing 5.2 mm
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ Sensitivity control (10 revolutions)
- ⑦ Time control
- ⑧ Time delay selector switch

Recommended accessories

Other models and accessories → www.sick.com/W27-3

	Brief description	Type	Part no.
Device protection (mechanical)			
	Protective housing for W26, W27-3 and mounting rods with diameter 12 mm ... 20 mm, Zinc plated steel (protective housing), Zinc die cast (clamping bracket), Universal clamp BEF-KHS-KH1 (2022726), mounting hardware	BEF-SG-W27	2039601
Plug connectors and cables			
	Head A: female connector, 6-pin, angled, AC/UC-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	DOL-1406-W02M	6030221

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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.

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