



WL27-3P2461
W27-3

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
WL27-3P2461	1044166

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

Detailed technical data

Features

Sensor/ detection principle	Photoelectric retro-reflective sensor, Dual lens
Dimensions (W x H x D)	24.6 mm x 80.6 mm x 54 mm
Housing design (light emission)	Rectangular
Sensing range max.	0.1 m ... 19 m ¹⁾
Sensing range	0.1 m ... 14 m ¹⁾
Type of light	Visible red light
Light source	PinPoint LED ²⁾
Light spot size (distance)	Ø 60 mm (6 m)
Angle of dispersion	Approx. 0.6°
Adjustment	Potentiometer

¹⁾ Reflector PL80A.

²⁾ Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
Ripple	$\leq 5 V_{pp}$ ²⁾
Power consumption	30 mA ³⁾
Switching output	PNP
Output function	Complementary
Switching mode	Light/dark switching
Signal voltage PNP HIGH/LOW	Approx. $V_S - 2.5 V / 0 V$
Output current I_{max}	$\leq 100 mA$
Response time	$\leq 500 \mu s$ ⁴⁾
Switching frequency	1,000 Hz ⁵⁾
Connection type	Male connector M12, 4-pin
Circuit protection	A ⁶⁾ B ⁷⁾ C ⁸⁾
Protection class	II ⁹⁾
Weight	100 g
Polarisation filter	✓
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP69K
Ambient operating temperature	-40 °C ... +60 °C
Ambient storage temperature	-40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

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⁾ A = V_S connections reverse-polarity protected.

⁷⁾ B = inputs and output reverse-polarity protected.

⁸⁾ C = interference suppression.

⁹⁾ Reference voltage: 50 V DC.

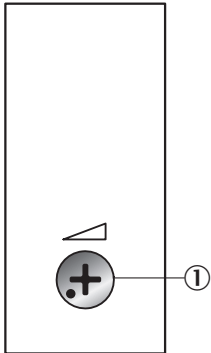
Classifications

ECl@ss 5.0	27270902
ECl@ss 5.1.4	27270902
ECl@ss 6.0	27270902
ECl@ss 6.2	27270902
ECl@ss 7.0	27270902
ECl@ss 8.0	27270902
ECl@ss 8.1	27270902
ECl@ss 9.0	27270902
ETIM 5.0	EC002717

ETIM 6.0	EC002717
UNSPSC 16.0901	39121528

Adjustments possible

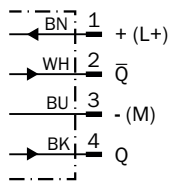
Potentiometer



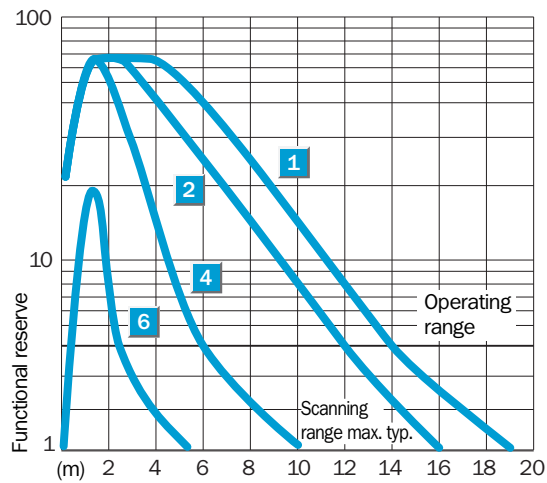
① Potentiometer

Connection diagram

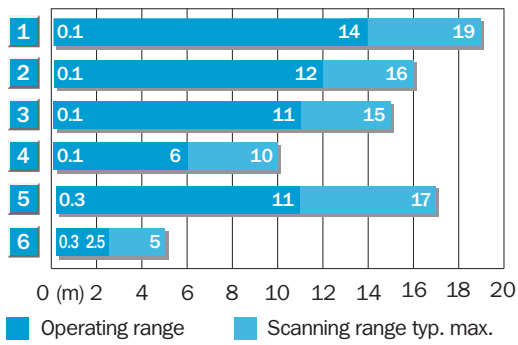
Cd-083



Characteristic curve



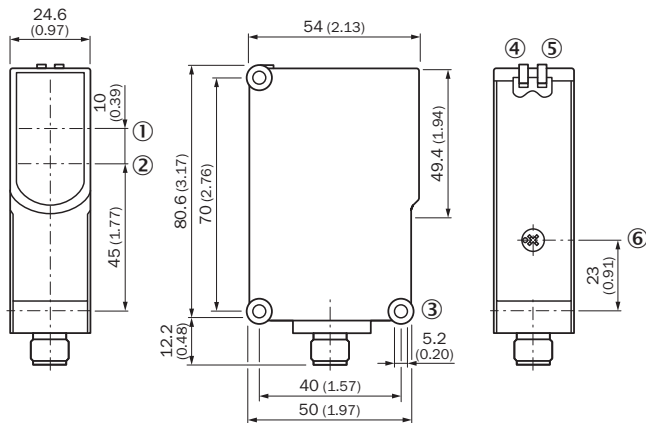
Sensing range diagram



Reflector type	Operating range
1 PL80A	0.1 ... 14.0 m
2 PL40A	0.1 ... 12.0 m
3 P250	0.1 ... 11.0 m
4 PL20A	0.1 ... 6.0 m
5 C110A	0.3 ... 11.0 m
6 Reflective tape Diamond Grade	0.3 ... 2.5 m

Dimensional drawing (Dimensions in mm (inch))

WL27-3, potentiometer



- 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)

Recommended accessories

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

	Brief description	Type	Part no.
Universal bar clamp systems			
	Plate NO4 for universal clamp, steel, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware	BEF-KHS-N04	2051610
Device protection (mechanical)			
	Protective housing for universal clamp, Zinc plated steel (protective housing), Zinc die cast (clamping bracket), Universal clamp (2031357), mounting hardware	BEF-SG-W27	2039601
	Weather hood for universal clamp bracket, steel, zinc coated, mounting hardware included	OBW-KHS-M01	2023240
Mounting brackets and plates			
	Mounting bracket with articulated arm for W11-2, W27, Dx50, steel, zinc coated, mounting hardware included	BEF-WN-MULTI	2064469
	Mounting bracket with hinged arm, steel, zinc coated, mounting hardware included	BEF-WN-W27	2009122
Reflectors			
	Rectangular, screw connection, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250	5304812
	Rectangular, screw connection, 38 mm x 15 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL20A	1012719
	Rectangular, screw connection, 56 mm x 28 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL30A	1002314
	Rectangular, screw connection, 37 mm x 56 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL40A	1012720
	Rectangular, screw connection, 80 mm x 80 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL80A	1003865
	"Diamond grade" reflective tape, self-adhesive, can be assembled from the sheet, 74.9 cm x 91.4 cm ¹⁾ , self-adhesive	REF-DG-K	4019634
	Self-adhesive	REF-IRF-56	5314244
	Round, screw connection, PMMA/ABS, Center hole mounting, screw-on	C110A	5304549

¹⁾ Customizable length by sheet. Width max. 74.9 cm, length max. 91.4 cm.

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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