Precise, durable and powerful solution for a wide range of applications

IP 69K | AC/DC | SIRIC®

Product description

The W27 family is designed for harsh industrial environments where it copes easily with heavy vibrations, shocks and extreme temperature fluctuations. The photoelectric proximity sensor is a leader in its class, especially through its reliable detection at long ranges. A sensor with PinPoint LED or a laser photoelectric proximity sensor is available for detection of small targets. The retro-reflective and through-beam versions reduce downtime due to high operating reserves. A diverse range of features further enhance application-specific functionality including, Teach or potentiometer adjustment, time delays, front lens heating, ASi, and universal voltage DC or AC/DC.

At a glance

- Intense visible red emitter LED with consistent light spot for PinPoint versions
- Long sensing ranges with IR LED achieve up to 2500 mm
- Precise background suppression for detection of multi-colored objects
- Universal DC or DC/AC supply voltage
- Operating temperature: –40 °C – +60 °C

Your benefits

- Quick and easy commissioning due to a highly visible red PinPoint LED
- PinPoint technology can replace laser photoelectric proximity sensors in some applications. No laser safety regulations and a longer operating life due to PinPoint technology
- Resistant to ambient light, optical reflections, and crosstalk from other photoelectric devices
- Less contamination due to high operating reserves, reducing downtime
- Resistant to vibrations, reducing downtime
- Operation in harsh environments with temperatures as low as –40 °C
- Quick and easy configuration

SIRIC® optical ASIC invented by SICK

Additional information

→ **www.mysick.com/en/W27-3**

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8015327/2014-02-08
Subject to change without notice

Detailed technical data

Features

	DC			AC/DC		
	WTB27-3	WL27-3	WSE27-3	WTB27-3	WL27-3	WSE27-3
Sensor principle	Photoelectric proximity sensor	Photoelectric retro-reflective sensor	Through-beam photoelectric sensor	Photoelectric proximity sensor	Photoelectric retro-reflective sensor	Through-beam photoelectric sensor
Detection principle	Background suppression	Standard optics	–	Background suppression	Standard optics	–
Dimensions (W x H x D)	24.6 mm x 80.6 mm x 54 mm					
Housing design (light emission)	Rectangular					
Sensing range max.	30 mm ... 2,000 mm [1] (depending on type)	0.1 m ... 19 m [2] (depending on type)	0 m ... 35 m	30 mm ... 1,600 mm [1] (depending on type)	0.1 m ... 15 m [2]	0 m ... 35 m
Sensing range	100 mm ... 2,000 mm (depending on type)	0.1 m ... 14 m [2] (depending on type)	0 m ... 25 m	100 mm ... 1,600 mm (depending on type)	0.1 m ... 11 m [2]	0 m ... 25 m
Type of light	Infrared light/visible red light (depending on type)					
Light source	LED [3]/PinPoint LED [3] (depending on type)					
Wave length						
Infrared light	880 nm		–	880 nm	–	
Visible red light	660 nm		645 nm	660 nm		645 nm
Adjustment	Potentiometer Double teach-in button (depending on type)	Potentiometer				
Time type	Switch on delay/Time delay off/Switch on delay and time delay off					
Delay time	Adjustable via time delay selector switch: 0.02 s ... 0.5 s/0.5 s ... 10 s			Adjustable via time delay selector switch: 0.5 s ... 10 s		

[1] Object with 90 % reflectance (referred to standard white, DIN 5033)

[2] PL80A.

[3] Average service life of 100,000 h at T_A = +25 °C.

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Mechanics/electronics

	DC			AC/DC		
	WTB27-3	WL27-3	WSE27-3	WTB27-3	WL27-3	WSE27-3
Supply voltage	10 V DC ... 30 V DC [1]	24 V AC/DC ... 240 V AC/ DC [2]	10 V DC ... 30 V DC [1]	24 V AC/DC ... 240 V AC/ DC [2]	10 V DC ... 30 V DC [1]	24 V AC/DC ... 240 V AC/ DC [2]
Ripple [3]	≤ 5 V_{SS}			–		
Current consumption	≤ 35 mA ... ≤ 55 mA [4]					
Current consumption, sender	–		35 mA ... 50 mA [4]	–		
Current consumption, receiver	–		20 mA [4] ... 35 mA [4]	–		
Power consumption	–			≤ 2,5 VA	≤ 2,5 VA	≤ 5,5 VA
Output type	PNP / NPN (depending on type)			Relay, electrically isolated [5], Relay, galvanically isolated [6] (depending on type)		Relay, galvanically isolated [6]
Output function	Complementary			Change-over contacts		
Switching mode	Light/dark-switching / Light switching (depending on type)			Light/dark-switching [5]/Light switching [6] (depending on type)		
Switching mode selector	–			Selectable via time delay selector switch		

	DC			AC/DC		
	WTB27-3	WL27-3	WSE27-3	WTB27-3	WL27-3	WSE27-3
Signal voltage PNP HIGH/LOW	Approx. V_S – 2.5 V / 0 V			–		
Signal voltage NPN HIGH/LOW	Approx. V_S / < 2.5 V			–		
Output current $I_{max.}$	≤ 100 mA			–		
Switching current (switching voltage)	–			3 A (250 V AC), 3 A (24 V DC), 0.11 A (250 V DC)		
Response time	≤ 1.5 ms [7] ≤ 1.9 ms [8] (depending on type)	≤ 500 µs [7] ≤ 2.5 ms [7] (depending on type)	≤ 500 µs [7]	≤ 10 ms		
Switching frequency	350 Hz [9, 10]	1,000 Hz [9] ± 200 Hz [9] (depending on type)	1,000 Hz [9]	10 Hz [9]		
Angle of reception	–		Approx. 3°	–		Approx. 3°
Connection type	Cable, 2 m [11]/Male connector, M12/Cable with connector, M12 [11] (depending on type)			Male connector Q6/Cable, 2 m [11] (depending on type)		
Circuit protection	A [12], B [13], C [14]			A [12], C [14]		
Protection class	II [15]			II [16]		
Weight						
Connector M12	100 g		200 g	–		
Connector Q6	100 g		200 g	120 g		240 g
Cable	180 g/300 g (depending on type)	180 g	200 g/360 g (depending on type)	180 g		–
Cable with connector	120 g		–	–		
Polarisation filter	–	✔/– (depending on type)	–		✔	–
Front screen heating	–/✔ (depending on type)					
Housing material	ABS					
Optics material	PMMA					
Enclosure rating	IP 65, IP 66, IP 67, IP 69K (depending on type)			IP 65, IP 66, IP 67(depending on type)	IP 65, IP 67 (depending on type)	IP 65
Usage category	–			AC-15, DC-13, according to EN 60947-1		
Test input sender off	TE to V_S / TE to 0 V (depending on type)			–		
Ambient operating temperature	–40 °C ... +60 °C			–40 °C ... +60 °C [17]		
Ambient storage temperature	–40 °C ... +75 °C					

[1] Limit values, operation in short-circuit protected network max. 8 A.

[2] +- 10 %.

[3] May not exceed or fall short of V_S tolerances.

[4] Without load.

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

[6] Provide suitable spark suppression for inductive or capacitive loads.

[7] Signal transit time with resistive load.

[8] Signal transit time with resistive load in switching mode. Different values possible in COM2 mode.

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

[10] With light/dark ratio 1:1 in switching mode. Different values possible in COM2 mode.

[11] Do not bend below 0 °C.

[12] A = V_S connections reverse-polarity protected.

[13] B = inputs and output reverse-polarity protected.

[14] C = interference suppression.

[15] Reference voltage: 50 V DC.

[16] Reference voltage: 250 V AC.

[17] UL: 0 °C ... +60 °C.

Ordering information

Other models available at www.mysick.com/en/W27-3

WTB27-3, DC, infrared light

- **Sensor principle:** photoelectric proximity sensor
- **Detection principle:** background suppression
- **Type of light:** infrared light
- **Switching mode:** light/dark-switching

Sensing range max. [1]	Light spot size (distance)	Output type	Adjustment	Connection	Front screen heating	Time functions	Connection diagram	Type	Part no.
30 mm ... 1,600 mm	Ø 25 mm (800 mm)	PNP	Potentiometer	Cable, 4-wire, 2 m	–	–	Cd-094	WTB27-3P1111	1027752
				Cable, 4-wire, 5 m	–	–	Cd-094	WTB27-3P1211	1028065
				Connector M12, 4-pin	–	–	Cd-083	WTB27-3P2411	1025994
					–	✔	Cd-083	WTB27-3F2411	1027753
					✔	–	Cd-083	WTB27-3P2421	1027754
				Connector Q6, 6-pin, DC-coding	–	✔	Cd-178	WTB27-3F2611	1027756
				Cable with connector M12, 4-pin, 270 mm	–	–	Cd-083	WTB27-3P3411	1044438
			Double teach-in button	Cable, 4-wire, 2 m	–	–	Cd-094	WTB27-3P1113	1027759
				Connector M12, 4-pin	–	–	Cd-083	WTB27-3P2413	1027760
		NPN	Potentiometer	Cable, 4-wire, 2 m	–	–	Cd-094	WTB27-3N1111	1044855
				Connector M12, 4-pin	–	✔	Cd-083	WTB27-3E2411	1027755
				Connector Q6, 6-pin, DC-coding	–	✔	Cd-178	WTB27-3E2611	1027757
			Double teach-in button	Connector M12, 4-pin	–	–	Cd-083	WTB27-3N2413	1027761

[1] Object with 90 % reflectance (referred to standard white, DIN 5033)

WTB27-3, DC, visible red light

- **Sensor principle:** photoelectric proximity sensor
- **Detection principle:** background suppression
- **Type of light:** visible red light
- **Switching mode:** light/dark-switching
- **Front screen heating:** –

Sensing range max. [1]	Light spot size (distance)	Output type	Adjustment	Connection	Time functions	Connection diagram	Type	Part no.
30 mm ... 1,100 mm	Ø 15 mm (500 mm)	PNP	Potentiometer	Connector M12, 4-pin	–	Cd-083	WTB27-3P2441	1027744
				Connector Q6, 6-pin, DC-coding	✔	Cd-178	WTB27-3F2641	1027746
				Cable with connector M12, 4-pin, 270 mm, PVC	–	Cd-083	WTB27-3P3441	1029082
			Double teach-in button	Connector M12, 4-pin	–	Cd-083	WTB27-3P2443	1027745
		NPN	Potentiometer	Connector Q6, 6-pin, DC-coding	✔	Cd-178	WTB27-3E2641	1027747
30 mm ... 2,000 mm	Ø 12 mm (800 mm)	PNP	Potentiometer	Connector M12, 4-pin	–	Cd-083	WTB27-3P2461	1044163
				Cable with connector M12, 4-pin	–	Cd-083	WTB27-3P3461	1048546
		NPN	Potentiometer	Cable, 4-wire, 2 m, PVC	–	Cd-094	WTB27-3N1161	1051644

[1] Object with 90 % reflectance (referred to standard white, DIN 5033)

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WL27-3, DC, visible red light

- **Sensor principle:** photoelectric retro-reflective sensor
- **Type of light:** visible red light

Sensing range max. [1]	Light spot size (distance)	Output type	Switching mode	Adjustment	Connection	Time functions	Connection diagram	Type	Part no.
0.1 m ... 15 m	Ø 220 mm (10 m)	PNP	Light/dark-switching	Potentiometer	Cable, 4-wire, 2 m	–	Cd-094	WL27-3P1131	1027768
					Connector M12, 4-pin	–	Cd-083	WL27-3P2431	1027982
								WL27-3P2451	1027770
					Cable with connector M12, 4-pin, 270 mm	–	Cd-083	WL27-3P3431	1029081
					Connector Q6, 6-pin, DC-coding	✔	Cd-178	WL27-3F2631	1027772
				–	Connector M12, 4-pin	–	Cd-083	WL27-3P2430	1027769
								WL27-3P2450	1027771
					Connector M12, 4-pin	–	Cd-101	WL27-3K2430	1028069
			Light switching	–	Connector M12, 4-pin	–	Cd-104	WL27-3V2430	1028063
		NPN	Light/dark-switching	Potentiometer	Connector Q6, 6-pin, DC-coding	✔	Cd-178	WL27-3E2631	1027773
0.1 m ... 19 m	Ø 60 mm (6 m)	PNP	Light/dark-switching	–	Cable with connector M12, 4-pin, 270 mm	–	Cd-083	WL27-3P3460	1047955
				Potentiometer	Connector M12, 4-pin	–	Cd-083	WL27-3P2461	1044166

[1] PL80A.

WL27-3, DC, detecting objects wrapped in film

- **Sensor principle:** photoelectric retro-reflective sensor
- **Type of light:** visible red light
- **Switching mode:** light/dark-switching

Sensing range max.	Light spot size (distance)	Output type	Connection	Connection diagram	Type	Part no.
0.1 m ... 4.3 m [1]	Ø 90 mm (4 m)	PNP	Connector M12, 4-pin	Cd-083	WL27-3P2430S01	1028057
0.1 m ... 3 m [2]	Ø 30 mm (3 m)	PNP	Connector M12, 4-pin	Cd-083	WL27-3P2460S14	1047908

[1] PL80A.

[2] PL20A.

WSE27-3, DC, infrared light

- **Sensor principle:** through-beam photoelectric sensor
- **Switching mode:** light/dark-switching

Sensing range max.	Light spot size (distance)	Output type	Adjustment	Connection	Front screen heating	Time functions	Connection diagram	Type	Part no.
0 m ... 35 m	Ø 3.7 m (25 m)	PNP	–	Cable, 4-wire, 3 m, PVC	–	–	Cd-088	WSE27-3P1710	1028059
				Connector M12, 4-pin	–	–	Cd-072	WSE27-3P2410	1048199

WSE27-3, DC, visible red light

- **Sensor principle:** through-beam photoelectric sensor
- **Switching mode:** light/dark-switching

Sensing range max.	Light spot size (distance)	Output type	Adjustment	Connection	Front screen heating	Time functions	Connection diagram	Type	Part no.
0 m ... 35 m	Ø 600 mm (25 m)	PNP	–	Connector M12, 4-pin	–	–	Cd-072	WSE27-3P2430	1027790
					✔	–	Cd-072	WSE27-3P2450	1027791
			Potentiometer	Connector Q6, 6-pin, DC-coding	–	✔	Cd-143	WSE27-3F2631	1027792
		NPN	–	Cable, 4-wire, 2 m, PVC	–	–	Cd-088	WSE27-3N1130	1047803
				Connector M12, 4-pin	–	–	Cd-072	WSE27-3N2430	1028072
			Potentiometer	Connector Q6, 6-pin, DC-coding	–	✔	Cd-143	WSE27-3E2631	1027793

WTB27-3, AC/DC

- **Sensor principle:** photoelectric proximity sensor
- **Detection principle:** background suppression
- **Output type:** relay
- **Adjustment:** potentiometer

Type of light	Sensing range max. [1]	Light spot size (distance)	Switching mode	Connection	Time functions	Connection diagram	Type	Part no.
Infrared light	30 mm ... 1,600 mm	Ø 25 mm (800 mm)	Light/dark-switching [2]	Connector Q6, 6-pin, AC/UC-coding	✔	Cd-181	WTB27-3R2611	1027763
			Light switching [3]	Cable, 5-wire, 2 m	–	Cd-161	WTB27-3S1511	1027762
Visible red light	30 mm ... 1,100 mm	Ø 15 mm (500 mm)	Light/dark-switching [2]	Connector Q6, 6-pin, AC/UC-coding	✔	Cd-181	WTB27-3R2641	1027750
			Light switching [3]	Cable, 5-wire, 2 m	–	Cd-161	WTB27-3S1541	1027749

[1] Object with 90 % reflectance (referred to standard white, DIN 5033)

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

[3] Provide suitable spark suppression for inductive or capacitive loads.

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WL27-3, AC/DC

- **Sensor principle:** photoelectric retro-reflective sensor
- **Detection principle:** standard optics
- **Type of light:** visible red light
- **Output type:** relay
- **Adjustment:** potentiometer

Sensing range max. [1]	Light spot size (distance)	Switching mode	Connection	Time functions	Connection diagram	Type	Part no.
0.1 m ... 15 m	Ø 220 mm (10 mm)	Light/dark-switching [2]	Connector Q6, 6-pin, AC/UC-coding	✔	Cd-181	WL27-3R2631	1027776
		Light switching [3]	Cable, 5-wire, 2 m, PVC	–	Cd-161	WL27-3S1531	1027775

[1] PL80A.

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

[3] Provide suitable spark suppression for inductive or capacitive loads.

WSE27-3, AC/DC

- **Sensor principle:** through-beam photoelectric sensor
- **Type of light:** visible red light
- **Output type:** relay
- **Adjustment:** potentiometer

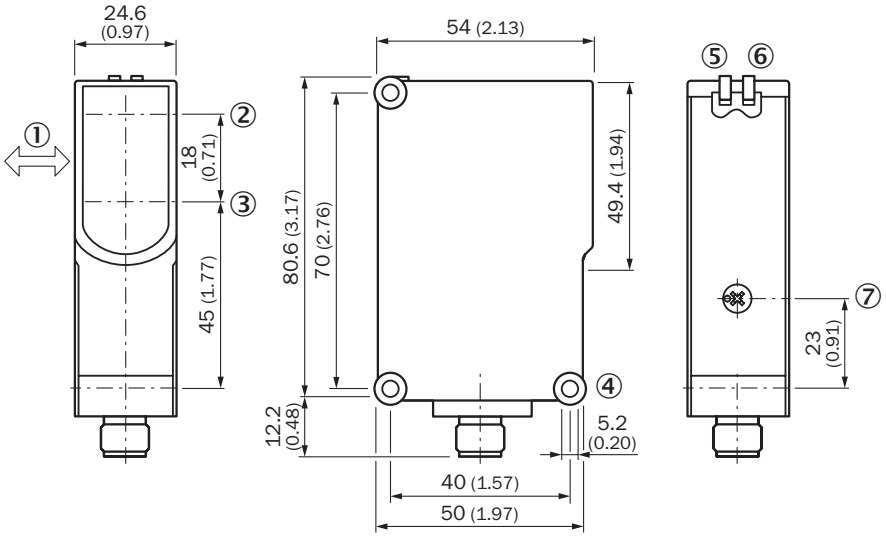
Sensing range max.	Light spot size (distance)	Switching mode	Connection	Time functions	Connection diagram	Type	Part no.
0 m ... 35 m	Ø 600 mm (25 mm)	Light/dark-switching [1]	Connector Q6, 6-pin, AC/UC-coding	✔	Cd-159	WSE27-3R2631	1027795

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

Dimensional drawings

Dimensions in mm (inch)

WTB27-3, potentiometer



① Standard direction of the material being detected
② Optical axis, sender
③ Optical axis, receiver
④ Mounting hole ø 5.2 mm
⑤ Status indicator LED green: power on
⑥ Status indicator LED, yellow:
Status of received light beam
⑦ Sensing range adjustment: potentiometer

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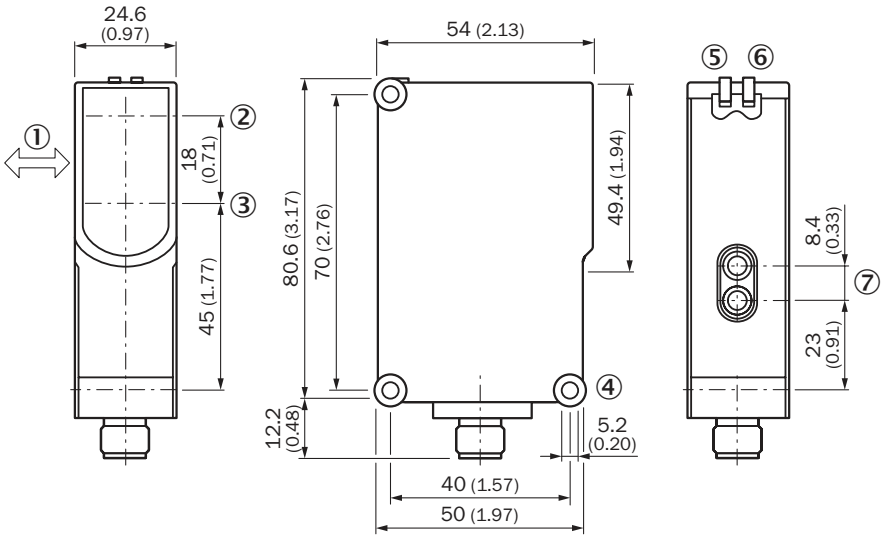
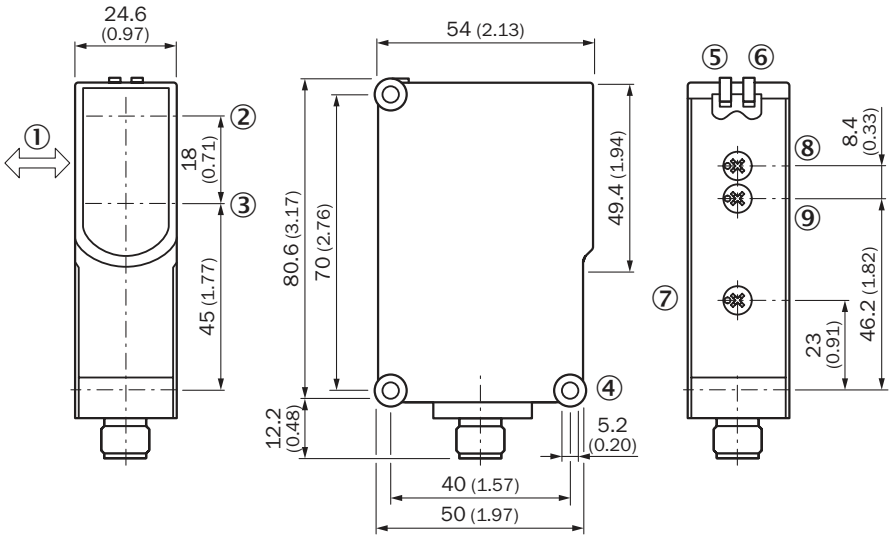
WTB27-3, double teach-in button



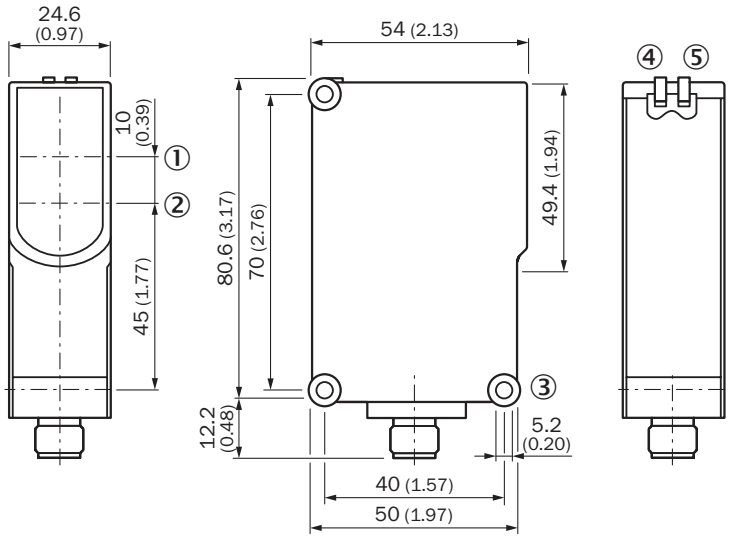
① Standard direction of the material being detected
② Optical axis, sender
③ Optical axis, receiver
④ Mounting hole ø 5.2 mm
⑤ Status indicator LED green: power on
⑥ Status indicator LED, yellow:
Status of received light beam
⑦ Sensing range adjustment: double teach button

WTB27-3, potentiometer, time functions



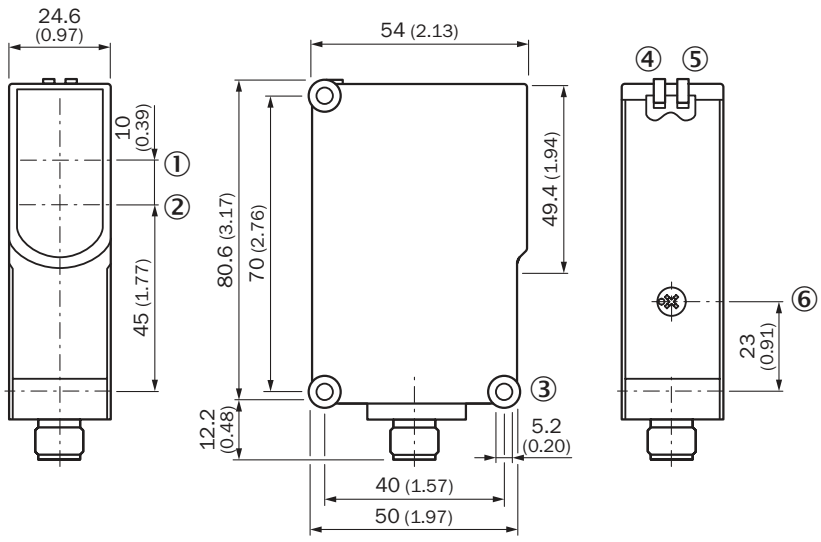
① Standard direction of the material being detected
② Optical axis, sender
③ Optical axis, receiver
④ Mounting hole ø 5.2 mm
⑤ Status indicator LED green: power on
⑥ Status indicator LED, yellow:
Status of received light beam
⑦ Sensing range adjustment: potentiometer
⑧ Time control
⑨ Time delay selector switch

WL27-3, WSE27-3



① Optical axis, sender
② Optical axis, receiver
③ Mounting hole ø 5.2 mm
④ Status indicator LED green: power on
⑤ Status indicator LED, yellow: Status of received light beam

WL27-3, potentiometer



① Optical axis, sender
② Optical axis, receiver
③ Mounting hole ø 5.2 mm
④ Status indicator LED green: power on
⑤ Status indicator LED, yellow: Status of received light beam
⑥ Sensitivity control (10 revolutions)

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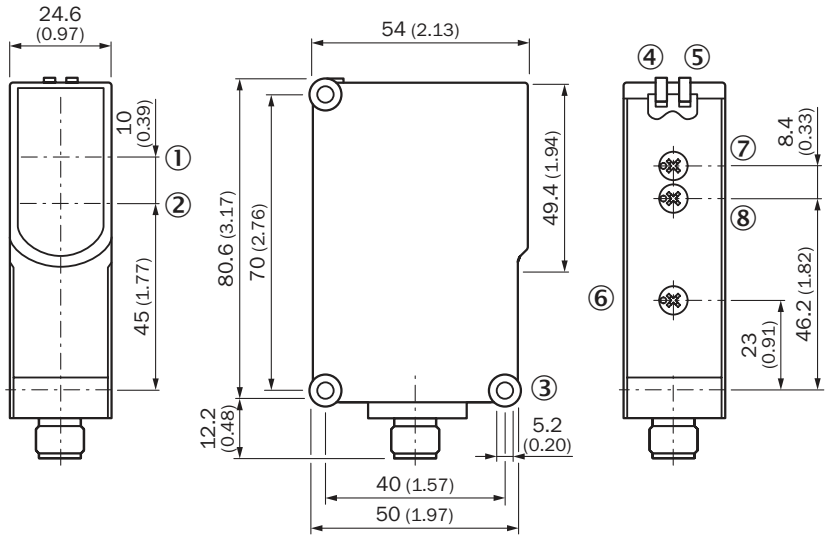
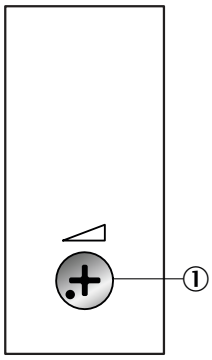
WL27-3, WSE27-3, potentiometer, time functions



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

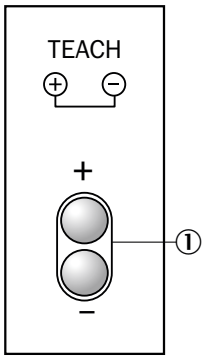
Adjustments

Potentiometer



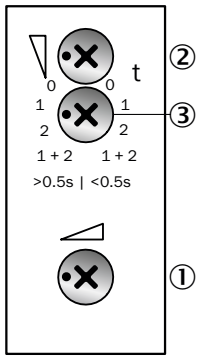
① Potentiometer

Double teach-in button



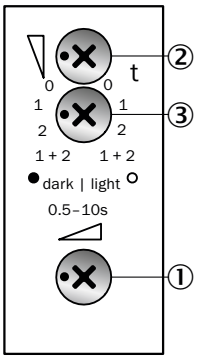
① Double teach-in button

Potentiometer, time functions



① Potentiometer
② Time control
③ Time delay selector switch

Potentiometer, time functions, light-/dark-switch



① Potentiometer
② Time control
③ Time delay selector switch

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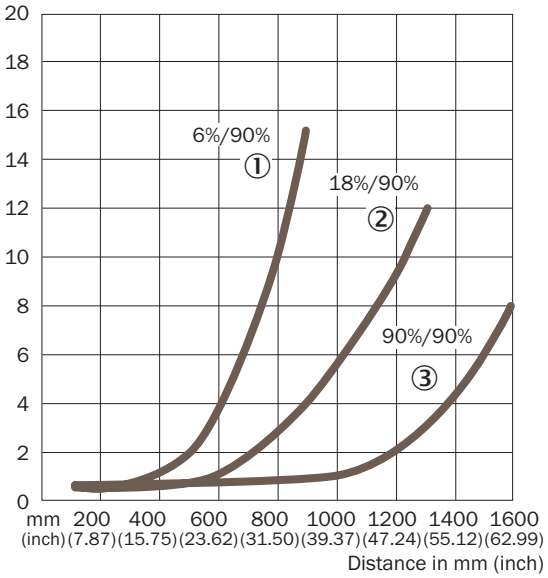
Characteristic curves

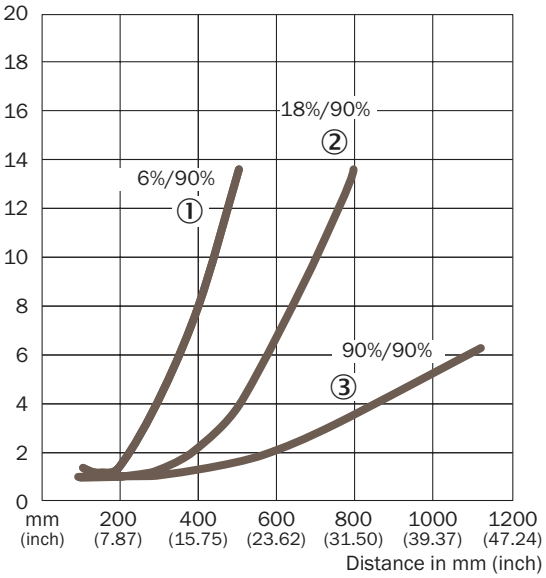
Black-white shift

WTB27-3, infrared



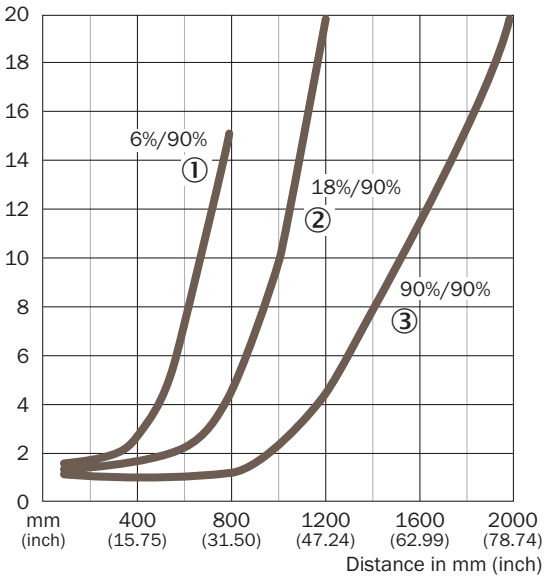
① Sensing range on black, 6 % remission
② Sensing range on gray, 18 % remission
③ Sensing range on white, 90 % remission

WTB27-3, red light



① Sensing range on black, 6 % remission
② Sensing range on gray, 18 % remission
③ Sensing range on white, 90 % remission

WTB27-3, PinPoint LED



① Sensing range on black, 6 % remission
② Sensing range on gray, 18 % remission
③ Sensing range on white, 90 % remission

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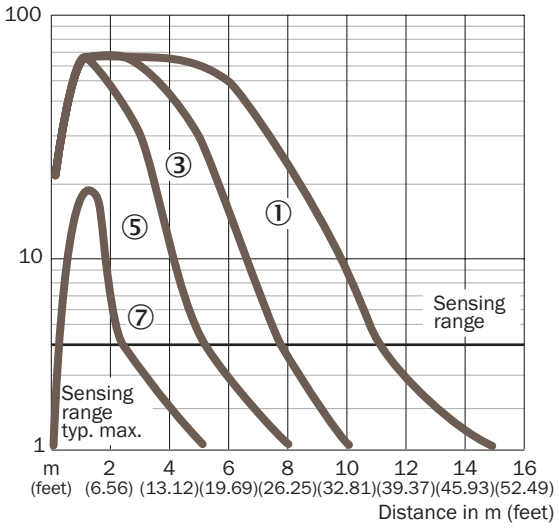
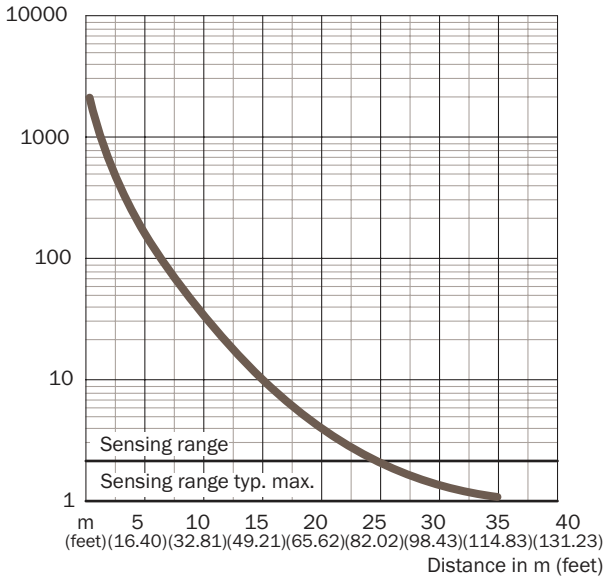
Operating reserve

WL27-3



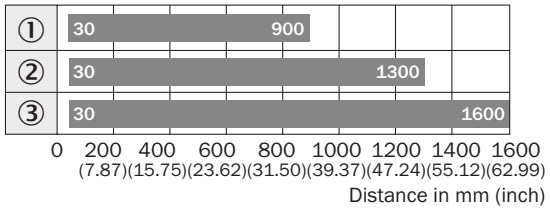
① PL80A
③ PL40A
⑤ PL20A
⑦ Reflective tape Diamond Grade

WSE27-3



Bar diagrams

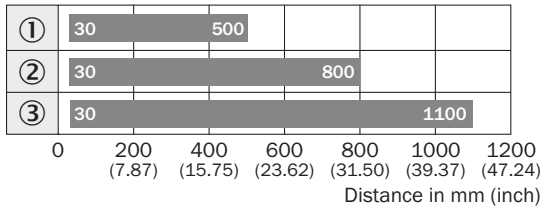
WTB27-3, infrared



Sensing range

① Sensing range on black, 6 % remission
② Sensing range on gray, 18 % remission
③ Sensing range on white, 90 % remission

WTB27-3, red light



Sensing range

① Sensing range on black, 6 % remission
② Sensing range on gray, 18 % remission
③ Sensing range on white, 90 % remission

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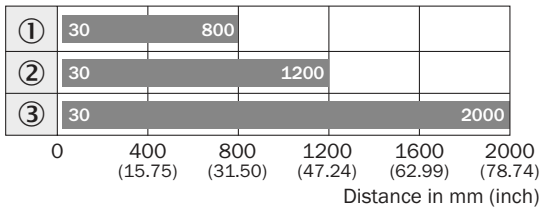
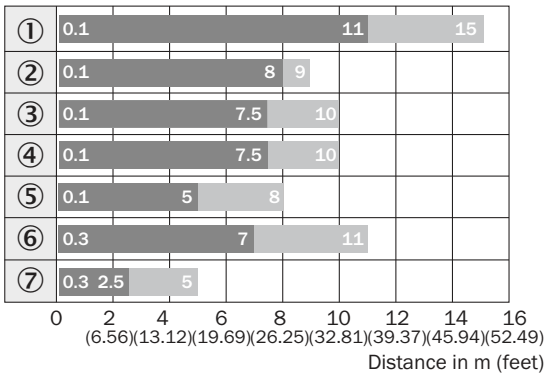
WTB27-3, PinPoint LED



Sensing range

① Sensing range on black, 6 % remission
② Sensing range on gray, 18 % remission
③ Sensing range on white, 90 % remission

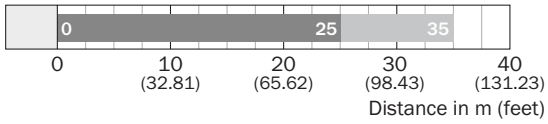
WL27-3



Sensing range Sensing range max.

① PL80A
② PL50A
③ PL40A
④ PL30A
⑤ PL20A
⑥ C110A
⑦ Reflective tape Diamond Grade

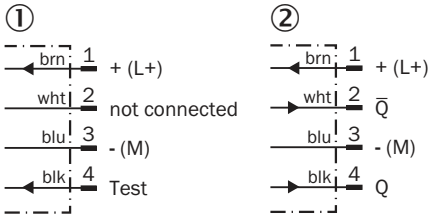
WSE27-3



Sensing range Sensing range typ. max.

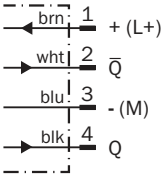
Connection diagram

Cd-072

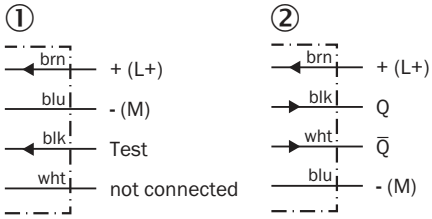


① Sender
② Receiver

Cd-083

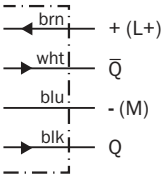


Cd-088



① Sender
② Receiver

Cd-094



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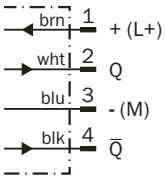
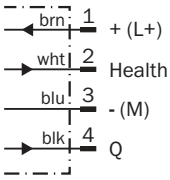
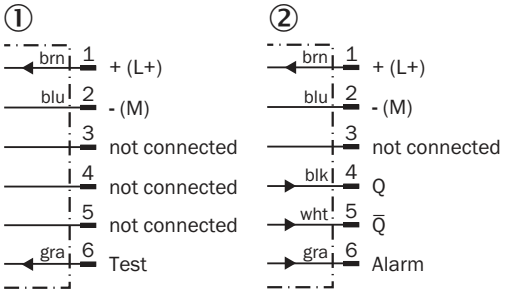
Cd-101



Cd-104

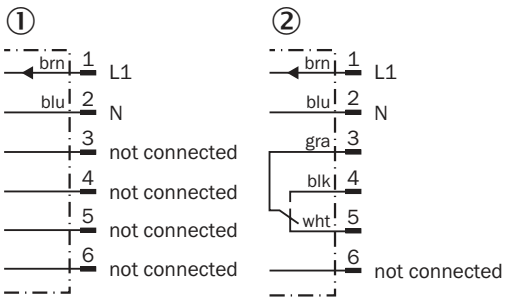


Cd-143



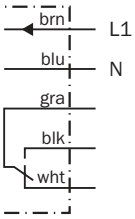
① Sender
② Receiver

Cd-159

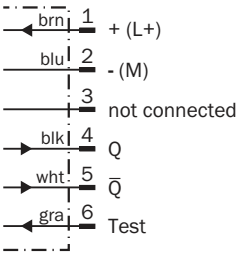


① Sender
② Receiver

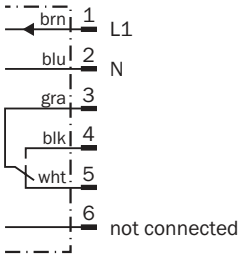
Cd-161



Cd-178



Cd-181



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Recommended accessories

Mounting brackets/plates

Mounting brackets

Figure	Material	Description	Model name	Part no.
	Steel, zinc coated	Mounting bracket with hinged arm	BEF-WN-MULTI	2064469
			BEF-WN-W27	2009122

Plug connectors and cables

Connecting cable (female connector-open)

- **Connector material:** TPU

Figure	Connection type head A	Connection type head B	Connecting cable	Cable material	Enclosure rating	Model name	Part no.
	Female connector, M12, 4-pin, straight	Cable, open conductor heads	2 m, 4-wire	PVC	IP 67	DOL-1204-G02M	6009382
			5 m, 4-wire	PVC	IP 67	DOL-1204-G05M	6009866
			2 m, 4-wire	PUR, halogen-free	IP 65, IP 68, IP 69K	DOL-1204-G02MC	6025900
			5 m, 4-wire	PUR, halogen-free	IP 65, IP 68, IP 69K	DOL-1204-G05MC	6025901
	Female connector, M12, 4-pin, angled, with 3 LEDs	Cable, open conductor heads	2 m, 4-wire	PVC	IP 67	DOL-1204-L02M	6027945
			5 m, 4-wire	PVC	IP 67	DOL-1204-L05M	6027944
	Female connector, M12, 4-pin, angled	Cable, open conductor heads	2 m, 4-wire	PVC	IP 67	DOL-1204-W02M	6009383
			5 m, 4-wire	PVC	IP 67	DOL-1204-W05M	6009867
			2 m, 4-wire	PUR, halogen-free	IP 65, IP 68, IP 69K	DOL-1204-W02MC	6025903
			5 m, 4-wire	PUR, halogen-free	IP 65, IP 68, IP 69K	DOL-1204-W05MC	6025904

Female connector (ready to assemble)

Figure	Connection type head A	Connection type head B	Connector material	Enclosure rating	Model name	Part no.
	Female connector, M12, 4-pin, straight	Screw-type terminals	PBT	IP 67	DOS-1204-G	6007302
	Female connector, M12, 4-pin, angled	Screw-type terminals	PBT	IP 67	DOS-1204-W	6007303

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Male connector (ready to assemble)

Figure	Connection type head A	Connection type head B	Connector material	Enclosure rating	Model name	Part no.
	Male connector, M12, 4-pin, straight	Screw-type terminals	PBT	IP 67	STE-1204-G	6009932
	Male connector, M12, 4-pin, angled	Screw-type terminals	PBT	IP 67	STE-1204-W	6022084

Universal bar clamp systems

Figure	Material	Description	Model name	Part no.
	Zinc plated steel (sheet), Diecast zinc (clamp)	Plate N04 for universal clamp bracket	BEF-KHS-N04	2051610

Device protection (mechanical)

Protective housing/tubes

Figure	Material	Description	Model name	Part no.
	Zinc plated steel (protective housing), Diecast zinc (clamp)	Protective housing for universal clamp	BEF-SG-W27	2039601
	Steel, zinc coated	Weather hood for universal clamp bracket	OBW-KHS-M01	2023240

Reflectors

Angular

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Figure	Material	Description	Model name	Part no.
	PMMA/ABS	Rectangular, screw connection, 47 mm x 47 mm	P250	5304812
		Rectangular, screw connection, 38 mm x 15 mm	PL20A	1012719
		Rectangular, screw connection, 56 mm x 28 mm	PL30A	1002314
		Rectangular, screw connection, 37 mm x 56 mm	PL40A	1012720
		Rectangular, screw connection, 80 mm x 80 mm	PL80A	1003865

Reflective tape

Figure	Description	Model name	Part no.
	Reflective tape “Diamond Grade”, self-adhesive, customizable size by sheet, 74.9 cm x 91.4 cm [1]	REF-DG-K	4019634
	Self-adhesive, 50 mm x 60 mm	REF-IRF-56	5314244

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

Round

Figure	Material	Description	Model name	Part no.
	PMMA/ABS	Round, screw connection	C110A	5304549

→ **For additional accessories, please see page L-861**

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