



W27

Ready to use in zone 2 and 22 Ex areas thanks to device category 3G / 3D

SICK
Sensor Intelligence.



Technical data overview

Dimensions (W x H x D)	24.6 mm x 80 mm x 53.5 mm 24.6 mm x 80.6 mm x 54 mm 24.6 mm x 79.5 mm x 43.3 mm 31.4 mm x 112.3 mm x 70.4 mm
Functional principle detail	Background suppression Foreground suppression With minimum distance to reflector (dual lens system) Energetic (depending on type)
Light source	LED / PinPoint LED (depending on type)
Type of light	Infrared light / visible red light (depending on type)
Enclosure rating	IP67 IP65 IP66 IP69K IP54 (depending on type)
Housing material	Plastic / stainless steel / plastic (depending on type)
Adjustment	Potentiometer None Teach-in button Cable (depending on type)

Product description

W27 photoelectric sensors are suitable for use in a harsh industrial environment. The powerful sensors are designed to withstand strong vibrations, shocks or strong temperature fluctuations. The devices offer a high operational reliability even with reflections. There are also ready-to-install sensor variants with additional protective metal housings that meet the requirements of device categories 3D and 3G according to ATEX. This enables these variants to achieve a mechanical stability that is unmatched by standard sensors.

At a glance

- Sensor variants with additional protective metal housing that meet the device categories 3G and 3D (optionally certified to IECEx and CCC Ex)
- PinPoint LED with well-visible, uniform light spot
- Powerful background suppression and high ambient light immunity
- Vibration resistant and reliable operation at temperatures down to $-20\text{ }^{\circ}\text{C}$

Your benefits

- Versatile use in harsh environments, protective metal housing especially suitable for explosion-hazardous areas
- High user-friendliness through easy alignment, commissioning and monitoring
- Fault-free system operation thanks to reliable object detection
- Operational safety thanks to high resistance to harsh ambient conditions

Fields of application

- Packaging industry
- Handling and assembly technology
- Storage and conveyor technology
- Wood industry
- Food and beverage industry
- Machine tools
- Rubber and plastics industry
- Textile industry

Ordering information

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

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Light source:** LED
- **Voltage type:** DC
- **Type of light:** Infrared light

Sensing range max.	Adjustment	Connection type	Type	Part no.
100 mm ... 1,500 mm	Potentiometer	Male connector M12, 4-pin	WT27-2Z210	1015098
			WT27-2Z240	1015137

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Light source:** LED
- **Voltage type:** DC
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
100 mm ... 1,000 mm	–	Potentiometer	Male connector M12, 4-pin	WT27-2Z230	1015099
30 mm ... 1,100 mm	Relay	Potentiometer	Male connector Q6, 6-pin, AC/UC-coded	WTB27-302641S08	1029141

- **Functional principle:** Photoelectric retro-reflective sensor
- **Light source:** LED
- **Voltage type:** DC
- **Type of light:** visible red light

Sensing range max.	Adjustment	Connection type	Type	Part no.
0.1 m ... 14 m	Potentiometer	Male connector M12, 4-pin	WL27-2Z230	1015112
			WL27-2Z240	1015136

- **Functional principle:** Through-beam photoelectric sensor
- **Light source:** LED
- **Voltage type:** DC
- **Type of light:** visible red light

Sensing range max.	Adjustment	Connection type	Type	Part no.
0 m ... 35 m	None	Male connector M12, 4-pin	WS/WE27-2Z250	1015140

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Light source:** LED
- **Voltage type:** AC/DC
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
100 mm ... 1,500 mm	Relay	Potentiometer	Cable, 5-wire, 2 m ¹⁾	WT27-2S112	1015093

¹⁾ Do not bend below 0 °C.

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Light source:** LED
- **Voltage type:** AC/DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
100 mm ... 1,000 mm	Relay	Potentiometer	Male connector Q6, 6-pin, AC/UC-coded	WT27-2R630	1015092
			Mini connector 7/8", 5-pin	WT27-2R830	1016074
				WT27-2R830S24	1016496
			Cable with connector Mini 7/8", 5-pin	WT27-2S030S14	1015709
30 mm ... 1,100 mm	Relay	Potentiometer	Male connector Q6, 6-pin, AC/UC-coded	WTB27-3R2641	1027750

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Light source:** LED
- **Voltage type:** AC/DC
- **Switching mode:** Light/dark switching
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
100 mm ... 1,500 mm	Relay	Potentiometer	Male connector Q6, 6-pin, AC/UC-coded	WT27-2R610	1015091
			Mini connector 7/8", 5-pin	WT27-2R810	1016073
30 mm ... 1,600 mm	Relay	Potentiometer	Male connector Q6, 6-pin, AC/UC-coded	WTB27-3R2611	1027763

- **Functional principle:** Photoelectric retro-reflective sensor
- **Light source:** LED
- **Voltage type:** AC/DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0.1 m ... 14 m	Relay	Potentiometer	Male connector Q6, 6-pin, AC/UC-coded	WL27-2R630	1015109
			Mini connector 7/8", 5-pin	WL27-2R830	1016072
			Cable, 5-wire, 2 m ¹⁾	WL27-2S132	1015110

¹⁾ Do not bend below 0 °C.

- **Functional principle:** Through-beam photoelectric sensor
- **Light source:** LED
- **Voltage type:** AC/DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 35 m	Relay	Potentiometer	Male connector Q6, 6-pin, AC/UC-coded	WSE27-3R2631	1027795
			Mini connector 7/8", 5-pin	WS/WE27-2R830	1016075

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
30 mm ... 1,400 mm	PNP	Potentiometer	Cable, 4-wire, 2 m ¹⁾	WTB27-3P1111S07	1028570

¹⁾ Do not bend below 0 °C.

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
30 mm ... 1,600 mm	NPN	Potentiometer	Cable, 4-wire, 2 m ¹⁾	WTB27-3N1111	1044855
			Male connector, Q6, 6-pin, DC-coded	WTB27-3E2611	1027757
			Male connector M12, 4-pin	WTB27-3E2411	1027755
		Teach-in button	Male connector M12, 4-pin	WTB27-3N2413	1027761
	PNP	Potentiometer	Cable with M12 male connector, 4-pin, 270 mm ¹⁾	WTB27-3P3411	1044438
				WTB27X-3P3411	1089183
			Cable with Q7 male connector, 7-pin, DC-coded, 150 mm	WTB27-3P3711	1027758
			Cable, 4-wire, 10 m ¹⁾	WTB27X-3P1811	1027988
			Cable, 4-wire, 2 m ¹⁾	WTB27-3P1111	1027752
			Cable, 4-wire, 5 m ¹⁾	WTB27-3P1211	1028065
			Male connector, Q6, 6-pin, DC-coded	WTB27-3F2611	1027756
			Male connector M12, 4-pin	WTB27-3F2411	1027753
				WTB27-3K2411	1029083
				WTB27-3P2411	1025994
				WTB27-3P2411P02	1029225
				WTB27-3P2411S12	1028206
			WTB27-3P2421	1027754	
			Teach-in button	Cable, 4-wire, 2 m ¹⁾	WTB27-3P1113
Male connector M12, 4-pin	WTB27-3P2413	1027760			
WTB27-3P2413S14	1028208				
30 mm ... 2,200 mm	PNP	Teach-in button	Cable, 4-wire, 2 m ¹⁾	WTB27-3P1113S21	1044886
			Male connector M12, 4-pin	WTB27-3P2413S09	1029563
30 mm ... 2,500 mm	PNP	Potentiometer	Male connector M12, 4-pin	WTB27-3P2411S18	1044508

¹⁾ Do not bend below 0 °C.

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.		
100 mm ... 2,000 mm	PNP	Potentiometer	Male connector M12, 4-pin	WTB27-3P2461S27	1048348		
100 mm ... 900 mm	PNP	Potentiometer	Male connector M12, 4-pin	WTB27-3P2461S36	1061743		
30 mm ... 1,000 mm	PNP	Potentiometer	Male connector M12, 4-pin	WTB27-3P2461P07	1047909		
				WTB27-3P2461S25	1047910		
30 mm ... 2,000 mm	NPN	Potentiometer	Cable, 4-wire, 2 m ¹⁾	WTB27-3N1161	1051644		
	PNP	Potentiometer	Cable with M12 male connector, 4-pin, 270 mm ¹⁾	WTB27-3P3461	1048546		
				Cable, 4-wire, 2 m ¹⁾	WTB27-3P1161	1067530	
					Male connector M12, 4-pin	WTB27-3P2461	1044163
						WTB27-3P2461S24	1045976
				WTB27-3P2461S37	1070472		
				WTB27-3V2461S30	1051431		

¹⁾ Do not bend below 0 °C.

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression, Foreground suppression
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
40 mm ... 500 mm	PNP	Potentiometer	Cable with special male connector, 4-pin, 650 mm ¹⁾	WTB27-3P1111S06	1028442

¹⁾ Do not bend below 0 °C.

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
30 mm ... 1,100 mm	NPN	Potentiometer	Male connector, Q6, 6-pin, DC-coded	WTB27-3E2641	1027747
			PNP	Potentiometer	Cable with M12 male connector, 4-pin, 270 mm ¹⁾
	Cable with Q7 male connector, 7-pin, DC-coded, 150 mm	WTB27-3P3741			1027748
	Male connector, Q6, 6-pin, DC-coded	WTB27-3F2641			1027746
	Male connector M12, 4-pin	WTB27-3P2441			1027744
		WTB27-3P2441P01			1029224
		WTB27-3P2441S04			1029487
		WTB27-3P2441S13			1028207
		WTB27-3P2441S22			1045144
	Teach-in button	Male connector M12, 4-pin	WTB27-3P2443	1027745	
Teach-in button, cable	Male connector M12, 4-pin	WTB27C-3P2444	1040120		
30 mm ... 2,000 mm	PNP	Potentiometer	Cable, 4-wire, 2 m ¹⁾	WTB27-3P1161S23	1045970

¹⁾ Do not bend below 0 °C.

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Dark switching
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
30 mm ... 1,600 mm	PNP	Potentiometer	Male connector M12, 4-pin	WTB27-3V2411S02	1028062

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Light source:** LED
- **Voltage type:** AC/DC
- **Switching mode:** Light switching
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
30 mm ... 1,600 mm	Relay	Potentiometer	Cable with Q7 male connector, 7-pin, AC/UC-coded, 150 mm	WTB27-3S3711	1027764
			Cable, 5-wire, 2 m ¹⁾	WTB27-3S1511	1027762
				WTB27-3S1511S01	1029143
30 mm ... 2,000 mm	Relay	Potentiometer	Cable, 5-wire, 2 m ¹⁾	WTB27-3S1511P04	1042970
				WTB27-3S1511P08	1051143
				WTB27-3S1511S17	2044022

¹⁾ Do not bend below 0 °C.

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Light source:** LED
- **Voltage type:** AC/DC
- **Switching mode:** Light switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
30 mm ... 1,100 mm	Relay	Potentiometer	Cable with Q7 male connector, 7-pin, AC/UC-coded, 150 mm	WTB27-3S3741	1027751
			Cable, 5-wire, 2 m ¹⁾	WTB27-3S1541	1027749

¹⁾ Do not bend below 0 °C.

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Foreground suppression
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
30 mm ... 2,000 mm	PNP	Potentiometer	Male connector M12, 4-pin	WTB27-3V2411S39	1078056

- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** With minimum distance to reflector (dual lens system)
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.	
0.1 m ... 15 m	NPN	Potentiometer	Male connector, Q6, 6-pin, DC-coded	WL27-3E2631	1027773	
		PNP	Potentiometer	Cable with M12 male connector, 4-pin, 270 mm ¹⁾	WL27-3P3431	1029081
	Cable, 4-wire, 2 m ¹⁾			WL27-3P1131	1027768	
	Male connector, Q6, 6-pin, DC-coded			WL27-3F2631	1027772	
	Male connector M12, 4-pin			WL27-3F2431S11	1044330	
				WL27-3P2431	1027982	
				WL27-3P2451	1027770	
	None		Cable with Q7 male connector, 7-pin, DC-coded, 150 mm	WL27-3P3730	1027774	
				Male connector M12, 4-pin	WL27-3K2430	1028069
			WL27-3P2430		1027769	
			WL27-3P2430P03		1029226	
	0.1 m ... 4.3 m	PNP	None	Male connector M12, 4-pin	WL27-3P2430S01	1028057
					WL27-3P2430S09	1028209
				WL27-3P2450	1027771	

¹⁾ Do not bend below 0 °C.

- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** With minimum distance to reflector (dual lens system)
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0.1 m ... 19 m	PNP	Potentiometer	Male connector M12, 4-pin	WL27-3P2461	1044166
		None	Cable with M12 male connector, 4-pin, 270 mm ¹⁾	WL27-3P3460	1047955
0.1 m ... 3 m	PNP	None	Male connector M12, 4-pin	WL27-3P2460P04	1047927
				WL27-3P2460S14	1047908

¹⁾ Do not bend below 0 °C.

- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** With minimum distance to reflector (dual lens system)
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0.1 m ... 1.8 m	Relay	None	Male connector Q6, 6-pin, AC/UC-coded	WL27-302630S12	1045988
0.1 m ... 15 m	PNP	None	Male connector M12, 4-pin	WL27-3V2430	1028063

- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** With minimum distance to reflector (dual lens system)
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0.1 m ... 15 m	PNP	None	Male connector M12, 4-pin	WL27-3V2430S05	1028074

- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** With minimum distance to reflector (dual lens system)
- **Light source:** LED
- **Voltage type:** AC/DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0.1 m ... 15 m	Relay	Potentiometer	Male connector Q6, 6-pin, AC/UC-coded	WL27-3R2631	1027776
				WL27-3R2631S02	1029144

- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** With minimum distance to reflector (dual lens system)
- **Light source:** LED
- **Voltage type:** AC/DC
- **Switching mode:** Light switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0.1 m ... 15 m	Relay	Potentiometer	Cable with Q7 male connector, 7-pin, AC/UC-coded, 150 mm	WL27-3S3731	1027777
			Cable, 5-wire, 2 m ¹⁾	WL27-3S1531	1027775

¹⁾ Do not bend below 0 °C.

- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** With minimum distance to reflector (dual lens system)
- **Light source:** LED
- **Voltage type:** AC/DC
- **Switching mode:** Dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0.1 m ... 15 m	Relay	Potentiometer	Cable with Q7 male connector, 7-pin, AC/UC-coded, 150 mm	WL27-3S3731S03	1029145

- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** With minimum distance to reflector (dual lens system)
- **Light source:** LED
- **Voltage type:** DC
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0.1 m ... 2.5 m	Relay	None	Male connector Q6, 6-pin, AC/UC-coded	WL27-302610P01	1029113

- **Functional principle:** Through-beam photoelectric sensor
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 35 m	PNP	None	Cable, 4-wire, 3 m ¹⁾	WSE27-3P1710	1028059
			Male connector M12, 4-pin	WSE27-3P2410	1048199
0 m ... 45 m	PNP	None	Male connector M12, 4-pin	WSE27-3P2410S03	1054544

¹⁾ Do not bend below 0 °C.

- **Functional principle:** Through-beam photoelectric sensor
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 30 m	PNP	Potentiometer	Male connector M12, 4-pin	WSE27-3F2431S02	1052606

¹⁾ Do not bend below 0 °C.

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 35 m	NPN	Potentiometer	Male connector, Q6, 6-pin, DC-coded	WSE27-3E2631	1027793
		None	Cable, 4-wire, 2 m ¹⁾	WSE27-3N1130	1047803
	Male connector M12, 4-pin		WSE27-3N2430	1028072	
	PNP	Potentiometer	Male connector, Q6, 6-pin, DC-coded	WSE27-3F2631	1027792
		None	Cable with Q7 male connector, 7-pin, DC-coded, 150 mm	WSE27-3P3730	1027794
			Cable, 4-wire, 10 m ¹⁾	WSE27X-3P1830	1027991
			Male connector M12, 4-pin	WSE27-3P2430	1027790
				WSE27-3P2430P01	1029227
		WSE27-3P2450	1027791		

¹⁾ Do not bend below 0 °C.

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Energetic
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
10 mm ... 300 mm	PNP	Potentiometer	Cable, 4-wire, 10 m ¹⁾	WTE27X-3P1861	1066386

¹⁾ Do not bend below 0 °C.

- **Functional principle:** Photoelectric retro-reflective sensor
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0.1 m ... 15 m	PNP	Potentiometer	Cable with M12 male connector, 4-pin, 300 mm	WL27X-3P3431	1029955
			Cable, 4-wire, 10 m ¹⁾	WL27X-3P1831	1027989

¹⁾ Do not bend below 0 °C.

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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