W18-3

Reliable object detection for demanding applications

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

W18-3
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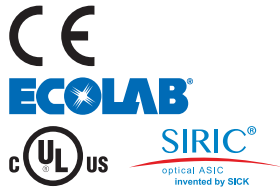
Technical data overview

Dimensions (W x H x D)	17.6 mm x 75.5 mm x 33.5 mm
Light source	LED
Type of light	Visible red light / Infrared light (depending on type)
Enclosure rating	IP67 / IP65 (depending on type)
Housing material	Plastic
Adjustment	None Potentiometer Teach-in button (depending on type)

Product description

SICK's W18-3 photoelectric sensor series reliably detects objects under difficult application conditions. Different variants are available, including proximity sensors with high-precision background suppression, retro-reflective sensors with autocollimation and through-beam sensors with high operating reserves. These sensors are immune to ambient light, background reflections and light absorbing objects, making them a reliable sensor solution. The W18-3 series can also be customized according to the customer's requirements in critical applications. And, these sensors are available with IO-Link, which is the new sensor communication standard of the future.

At a glance

- Best-in-class optical performance due to superior OES technology
- Autocollimation optics
- Background suppression with second sender LED
- Slim, durable plastic housing
- Operation via double teach-in pushbutton or potentiometer
- Wide variety of options for operation, connection, and optics
- Flexible sensor settings, monitoring, advanced diagnostics, and visualization

Your benefits

- Reliable object detection due to best-in-class background suppression and resistance to ambient light
- A wide range of product variants provides increased user flexibility
- Less downtime in industrial environments
- IO-Link provides easy data access from the PLC
- Quick and easy configuration
- Quick and easy integration using function blocks
- Easy device replacement and identification

Ordering information

Other models and accessories ➜ www.sick.com/W18-3

- **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.
10 mm ... 350 mm	PNP	Potentiometer	Male connector M12, 4-pin	WT18-3P430S33	1044259

[1] Do not bend below 0 °C.

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
10 mm ... 381 mm	PNP	None	Male connector M12, 4-pin	WT18-3P430S40	1055350
10 mm ... 500 mm	PNP	Potentiometer	Male connector M12, 4-pin	WT18-3P430S19	1040439
10 mm ... 600 mm	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	WT18-3N130	1025897
			Male connector M12, 4-pin	WT18-3N430	1025898
		Teach-in button	Cable, 4-wire, 2 m [1]	WT18-3N131	1028040
			Male connector M12, 4-pin	WT18-3N431	1026035
	PNP	Potentiometer	Cable with M12 male connector, 4-pin, 0.29 m [1]	WT18-3P930	1028320
				WT18-3P930S34	1044328
			Cable, 4-wire, 0.23 m [1]	WT18-3P130S24	1040227
			Cable, 4-wire, 2 m [1]	WT18-3P130	1025895
			Cable, 4-wire, 5 m [1]	WT18-3P230	1026559
			Male connector M12, 4-pin	WT18-3P430	1025896
				WT18-3P430S27	1041919
				WT18-3P430S29	1041934
				WT18-3P430S39	1051203
		Teach-in button	Cable, 4-wire, 2 m [1]	WT18-3P131	1026034
			Male connector M12, 4-pin	WT18-3P431	1026032
				WTB18C-3P2434	1040121
10 mm ... 800 mm	PNP	Teach-in button	Cable with M12 male connector, 4-pin, 0.1 m [1]	WT18-3P931S38	1051032

[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:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
10 mm ... 1,000 mm	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	WT18-3P120	1025904
			Male connector M12, 4-pin	WT18-3K420	1061203
				WT18-3P420	1025905
				WT18-3P420S10	1028052
		Teach-in button	Cable with M12 male connector, 4-pin, 0.29 m [1]	WT18-3P921	1041913
			Male connector M12, 4-pin	WT18-3P421	1026383
				WTB18C-3P2424S01	1044774
10 mm ... 400 mm	PNP	Potentiometer	Male connector M12, 4-pin	WT18-3P420S21	1040570
10 mm ... 700 mm	NPN	Potentiometer	Cable with AMP connector, 1.2 m [1]	WT18-3N110S03	1026560
			Cable, 4-wire, 0.3 m [1]	WT18-3N110S08	1027515
			Cable, 4-wire, 2 m [1]	WT18-3N110	1025891
			Cable, 4-wire, 5 m [1]	WT18-3N210	1025892
			Cubic connector, 6-pin	WT18-3N610	1025894
			Male connector M12, 4-pin	WT18-3N410	1025893
	PNP	Potentiometer	Cable with M12 male connector, 4-pin, 0.1 m [1]	WT18-3P010S37	1047137
			Cable, 4-wire, 2 m [1]	WT18-3P110	1025887
			Cable, 4-wire, 5 m [1]	WT18-3P210	1025888
			Cubic connector, 6-pin	WT18-3P610	1025890
				WT18-3P610S30	1043064
			Male connector M12, 4-pin	WT18-3P410	1025889
				WT18-3P410S33	1042372
				WT18-3P420S09	1027572
		Teach-in button	Cable, 4-wire, 2 m [1]	WT18-3P111	1026033
			Male connector M12, 4-pin	WT18-3P411	1026031
				WT18-3P411S07	1026765

[1] Do not bend below 0 °C.

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
10 mm ... 850 mm	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	WT18-3P120S06	1026631
				WT18-3P120S20	1040547
			Male connector M12, 4-pin	WT18-3P420S05	1026623
		Teach-in button	Male connector M12, 4-pin	WT18-3P421S36	1045264
20 mm ... 1,000 mm	PNP	Potentiometer	Cable with M8 male connector, 4-pin, 2 m [1]	WT18-3P020S35	1044416
			Male connector M12, 4-pin	WT18-3P420S31	1043236

[1] Do not bend below 0 °C.

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Foreground 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.
10 mm ... 600 mm	PNP	Teach-in button	Male connector M12, 4-pin	WT18-3P431S23	1041329

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **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.
10 mm ... 600 mm	PNP	Teach-in button	Cable with M12 male connector, 4-pin, 0.29 m [1]	WT18-3P931S18	1040438

[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 switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
10 mm ... 600 mm	PNP	Teach-in button	Cable with M12 male connector, 4-pin, 0.29 m [1]	WT18-3P931S26	1041733

[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 switching
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
10 mm ... 1,000 mm	PNP	Potentiometer	Male connector M12, 4-pin	WT18-3P420S22	1040721
10 mm ... 850 mm	PNP	Potentiometer	Male connector M12, 4-pin	WT18-3P420S25	1041541
50 mm ... 1,000 mm	PNP	None	Male connector M12, 4-pin	WT18-3P420S32	1043397

- **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.
10 mm ... 1,000 mm	PNP	Potentiometer	Cable with MOLEX-connector, 1 m [1]	WT18-3P020S15	1029590
		Teach-in button	Cable with MOLEX-connector, 1 m [1]	WT18-3P021S28	1041939
300 mm ... 800 mm	PNP	Potentiometer	Cable with M12 male connector, 4-pin, 0.29 m [1]	WTF18-3V910	1025906

[1] Do not bend below 0 °C.

- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** autocollimation
- **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 ... 2 m	PNP	Potentiometer	Cable with M12 male connector, 4-pin, 100 mm [1]	WL18-3P030S07	1042484
				WL18-3P030S08	1044798

[1] Do not bend below 0 °C.

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m … 7 m	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	WL18-3N130	1025913
			Cable, 4-wire, 5 m [1]	WL18-3N230	1025914
			Cable, 5-wire, 2 m [1]	WL18-3N730	1026030
			Cubic connector, 6-pin	WL18-3N630	1025916
			Male connector M12, 4-pin	WL18-3N430	1025915
				WL18-3N480	1040135
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	WL18-3P130	1025909
				WL18-3P130S06	1041931
			Cable, 4-wire, 5 m [1]	WL18-3P230	1025910
			Cable, 5-wire, 2 m [1]	WL18-3P730	1026029
			Cubic connector, 6-pin	WL18-3P630	1025912
				WL18-3P630S04	1041928
				WL18-3P680	1025918
			Male connector M12, 4-pin	WL18-3P430S05	1041929
				WL18-3P430S09	1047521
				WL18-3P480	1025917
		None	Cable with M12 male connector, 4-pin, 0.29 m [1]	WLF18-3P930	1025919
			Male connector M12, 4-pin	WLF18-3K430	1028428

[1] Do not bend below 0 °C.

- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** autocollimation
- **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 m ... 7 m	PNP	None	Cable with M12 male connector, 4-pin, 0.29 m [1]	WLF18-3V930	1025920
			Male connector M12, 4-pin	WLF18-3V430	1025921

[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 ... 20 m	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	WS/WE18-3N130	1025925
					1075294
			Cubic connector, 6-pin	WS/WE18-3N630	1025926
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	WS/WE18-3P130	1025922
					1075291
				WS/WE18-3P430	1025923
			Cubic connector, 6-pin	WS/WE18-3P630	1025924
					1075293
			Male connector M12, 4-pin	WS/WE18-3P430	1075292
0 m ... 60 m	PNP	Potentiometer	Male connector M12, 4-pin	WS/WE18-3P430S03	1042746
					1075298

[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:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 20 m	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	WS/WE18-3P110	1025928
					1075297
			Male connector M12, 4-pin	WS/WE18-3P410	1025927
					1075296

[1] Do not bend below 0 °C.

Online data sheet

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:

Contacts and other locations –**www.sick.com**

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