W9

High-performance in rugged VISTAL® housing

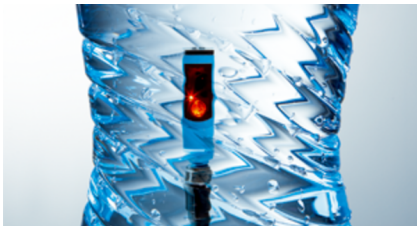**PHOTOELECTRIC SENSORS**

SICK
Sensor Intelligence.

Advantages

Reliable detection for a diverse range of objects

The rugged photoelectric sensors of the W9 product family reliably detect objects and items regardless of the type or quality. The W9 achieves high sensing ranges thanks to the PinPoint LED and laser technology. The portfolio contains photoelectric proximity sensors with excellent background suppression, photoelectric retro-reflective sensors with autocollimation optics and through-beam photoelectric sensors. The W9 thereby offers the right principle of operation for any detection task.

Excellent detection properties

Undefeated in the detection of transparent objects thanks to the ClearSens technology

Universal application possibilities due to the excellent background suppression

The newest laser technology for the safe detection of small objects and fine details

With the extensive detection principles, the W9 product family has a reliable sensor solution for any detection task

Extremely rugged with flexible installation

The rugged VISTAL™ housing offers very high mechanical stability and therefore high sensor availability. The use of glass-fiber reinforced plastic combined with high-performance adhesives ensures excellent housing sealing and makes it resistant to cleaning agents. The laser inscription is easy to read even if the sensor has already been in use for years.

Rugged VISTAL™ housing offers maximum mechanical stability

Housing variants for M3 and M4 fixing screws Slots make it possible to move the sensor on the screw

Diverse connection concepts: M8 and M12 male connector, cable as well as cable with M12 male connector

For mounting, adjustment and connection, the W9 product family offers nearly unlimited possibilities

Technical data overview

Dimensions (W x H x D)	12.2 mm x 49.8 mm x 23.6 mm 12.2 mm x 52.2 mm x 23.6 mm 12.2 mm x 50 mm x 23.6 mm 12.2 mm x 52.5 mm x 23.6 mm 12 mm x 40 mm x 22 mm
Light source	PinPoint LED LED Laser (depending on type)
Type of light	Visible red light Infrared light Visible blue light (depending on type)
Enclosure rating	IP66 / IP67 / IP69K / IP67 (depending on type)
Housing material	Plastic
Adjustment	Potentiometer None Cable Teach-in button (depending on type)

Product description

Precise detection of small objects and object features. Reliable for use in harsh industrial environments: The W9 photoelectric sensor family offers a wider range of solutions than ever before. It is a complete product family, including photoelectric proximity sensors as well as photoelectric retro-reflective sensors and through-beam photoelectric sensors. All sensors are equipped with the latest laser and LED technology, protected by a rugged VISTAL® housing – for even stronger mechanical resistance. The W9 range works using SICK´s SIRIC® technology; optical and electromagnetic interference is effectively suppressed in any environment. With the addition of various connection, mounting and sensing options, the W9 sensor family is the ideal solution for a variety of application needs in the automation environment.

At a glance

- Rugged VISTAL™ housing
- PinPoint LED or laser
- Photoelectric proximity sensor with sensing range of up to 800 mm
- Photoelectric retro-reflective sensors with autocollimation optics
- Through-beam photoelectric sensors with sensing ranges of up to 60 m
- SIRIC technology
- Connections: M8 and M12 male connector, cable as well as cable with male connector
- M3 and M4 hole pattern

Your benefits

- Precise detection of small objects and object features
- Detection of objects even through small openings
- Less machine downtime due to stable VISTAL™ housing as well as the suppression of optical interference
- The longest detection and sensing ranges in its class
- Best-in-class background suppression for photoelectric proximity sensors
- No blind spots, detection of shiny or transparent objects using photoelectric retro-reflective sensors
- A wide variety of connection and mounting options
- Highly visible light spot simplifies alignment

Fields of application

- Detection of the smallest work pieces or fine details on products
- Detection through narrow openings
- Checks for protrusions or misalignment
- Detection of objects within a short distance from difficult backgrounds
- Detection of transparent objects
- Object detection in harsh industrial environments

Ordering information

Other models and accessories ➜ www.sick.com/W9

- **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.
20 mm ... 350 mm	NPN	Potentiometer	Cable with M12 male connector, 4-pin, 120 mm [1]	WTB9-3N3461	1070769
			Cable, 4-wire, 2 m [1]	WTB9-3N1161	1049052
				WTB9M4-3N1161	1051882
			Male connector M12, 4-pin	WTB9-3N2461	1049053
			Male connector M8, 4-pin	WTB9M4-3N2261	1051885
	PNP	Potentiometer	Cable with M12 male connector, 4-pin, 120 mm [1]	WTB9-3P3461	1049051
				WTB9M4-3P3461	1054429
			Cable with M8 male connector, 4-pin, 120 mm [1]	WTB9-3P3261	1054306
			Cable with M8 male connector, 4-pin, 200 mm [1]	WTB9-3P3061S18	1052896
			Cable, 4-wire, 2 m [1]	WTB9-3P1161	1049043
				WTB9M4-3P1161	1051887
			Cable, 4-wire, 5 m [1]	WTB9-3P1261	1049044
			Male connector M12, 4-pin	WTB9-3P2461	1049049
				WTB9M4-3P2461	1051891
			Male connector M8, 4-pin	WTB9-3P2261	1049047
				WTB9M4-3P2261	1051889
		Cable, Teach-in button	Cable with M12 male connector, 4-pin, 120 mm	WTB9C-3P3462A00	1098209
			Cable, 4-wire, 2 m [1]	WTB9C-3P1162A00	1104228
			Male connector M12, 4-pin	WTB9C-3P2462A00	1080924
				WTB9C-3P2462A70	1080925
				WTB9C-3P2462A71	1080926
20 mm ... 400 mm	PNP	Potentiometer	Cable with M12 male connector, 4-pin, 120 mm [1]	WTB9M4-3P3461S19	1064722
50 mm ... 175 mm	PNP	Potentiometer		WTB9-3P3461S08	1091757
≤ 98 mm	PNP	None	Male connector M12, 4-pin	WTB9-3P2400S03	1054717

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

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
20 mm ... 350 mm	PNP	Potentiometer	Cable with M12 male connector, 4-pin, 120 mm [1]	WTB9-3P3461S13	1050772
			Cable with connector M8, 3-pin, 120 mm [1]	WTB9-3P3161	1052931

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

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
20 mm ... 350 mm	PNP	Potentiometer	Cable with M12 male connector, 4-pin, 120 mm [1]	WTB9-3F3461S06	1051057

[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.
20 mm ... 100 mm	PNP	None	Male connector M12, 4-pin	WTB9-3P2410S20	1114015
20 mm ... 350 mm	PNP	Potentiometer	Male connector M12, 4-pin	WTB9-3P2411S09	1093450

[1] Do not bend below 0 °C.

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
20 mm ... 500 mm	NPN	Potentiometer	Male connector M12, 4-pin	WTB9M4-3N2411	1055145
	PNP	Potentiometer	Cable with M12 male connector, 4-pin, 120 mm [1]	WTB9-3P3411	1052929
				WTB9M4-3P3411	1054430
			Cable, 4-wire, 2 m [1]	WTB9-3P1111	1049042
				WTB9M4-3P1111	1051886
			Male connector M12, 4-pin	WTB9-3P2411	1049048
				WTB9M4-3P2411	1051890
			Male connector M8, 4-pin	WTB9-3P2211	1049045
				WTB9M4-3P2211	1051888
20 mm ... 800 mm	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	WTB9-3N1111S14	1050948
	PNP	Potentiometer	Cable with JST-connector, 450 mm [1]	WTB9-3P3011S14	1052289
			Cable with M12 male connector, 4-pin, 120 mm [1]	WTB9-3P3411S14	1054194
				WTB9M4-3P3411S14	1054431
			Cable, 4-wire, 2 m [1]	WTB9-3P1111S14	1052173
			Male connector M12, 4-pin	WTB9-3P2411P10	1116355
				WTB9-3P2411S14	1052172
			Male connector M8, 4-pin	WTB9-3P2211S14	1052171

[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.
20 mm ... 500 mm	PNP	Potentiometer	Cable with connector M8, 3-pin, 120 mm [1]	WTB9-3F3111	1058892

[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 blue light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
20 mm ... 200 mm	PNP	Potentiometer	Male connector M8, 4-pin	WTB9-3P2281	1094676

- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** autocollimation
- **Light source:** PinPoint 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 … 0.7 m	NPN	Teach-in button	Cable, 4-wire, 5 m [1]	WL9G-3N1234S02	1058701
0 m … 4 m	PNP	None	Cable with M12 male connector, 4-pin, 120 mm [1]	WL9-3P3430S12	1051054
			Cable with connector M8, 3-pin, 120 mm [1]	WL9-3P3130	1065065
			Cable, 4-wire, 2.6 m [1]	WL9-3P1030S17	1062874
			Male connector M8, 4-pin	WL9-3P2230S03	1067948
0 m … 5 m	PNP	Teach-in button	Cable with connector M8, 3-pin, 120 mm [1]	WL9-3P3132	1050917
			Male connector M12, 4-pin	WL9M4G-3P2434	1067619
		Teach-in button, cable	Male connector M8, 4-pin	WL9M4-3P2234	1051906
		Cable, Teach-in button	Male connector M12, 4-pin	WL9G-3P2434	1054599
			Male connector M8, 4-pin	WL9G-3P2234	1054598
				WL9M4G-3P2234	1073995

[1] Do not bend below 0 °C.

- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** autocollimation
- **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 m … 0.4 m	NPN	Teach-in button	Cable, 4-wire, 2 m [1]	WL9-3N1162	1049068
			Male connector M12, 4-pin	WL9-3N2462	1049072
	PNP	Teach-in button	Cable with M12 male connector, 4-pin, 120 mm [1]	WL9-3P3462	1049065
			Cable with connector M8, 3-pin, 120 mm [1]	WL9-3P3162	1054424
			Cable, 4-wire, 2 m [1]	WL9-3P1162	1049054
			Male connector M12, 4-pin	WL9-3P2462	1049061
			Male connector M8, 4-pin	WL9-3P2262	1049058
0 m … 4 m	NPN	None	Cable, 4-wire, 2 m [1]	WL9-3N1130	1049069
			Male connector M12, 4-pin	WL9-3N2430	1049073
			Male connector M8, 4-pin	WL9-3N2230	1049071
	PNP	None	Cable with M12 male connector, 4-pin, 120 mm [1]	WL9-3P3430	1049066
			Cable, 4-wire, 2 m [1]	WL9-3P1130	1049055
			Male connector M12, 4-pin	WL9-3P2430	1049062
			Male connector M8, 4-pin	WL9-3P2230	1049059

[1] Do not bend below 0 °C.

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 5 m	NPN	Teach-in button	Cable, 4-wire, 2 m [1]	WL9-3N1132	1049070
				WL9M4-3N1132	1051892
				WL9G-3N1132P05	1057477
				WL9G-3N1132P06	1061788
				WL9G-3N1132P11	1054637
				WL9G-3N1132	1049085
				WL9M4G-3N1132	1051897
			Male connector M12, 4-pin	WL9-3N2432	1049074
		Teach-in button	Male connector M12, 4-pin	WL9G-3E2432	1096364
				WL9G-3N2432	1054152
			Male connector M8, 4-pin	WL9M4-3E2230S14	1102002
				WL9M4-3N2232	1051893
	PNP	Teach-in button	Cable with M12 male connector, 4-pin, 120 mm [1]	WL9-3P3432	1049067
				WL9M4-3P3432	1051907
				WL9G-3P3432S03	1084970
				WL9G-3P3432	1049084
				WL9M4G-3P3432	1051910
0 m ... 5 m	PNP	Teach-in button	Cable with M8 male connector, 4-pin, 200 mm [1]	WL9-3P3032S28	1052899
				WL9G-3P3232	1057499
			Cable, 4-wire, 2 m [1]	WL9-3P1132	1049056
				WL9M4-3P1132	1051894
				WL9G-3P1132P07	1064368
				WL9G-3P1132P10	1054636
				WL9G-3P1132	1049081
				WL9M4G-3P1132	1051898
			Cable, 4-wire, 5 m [1]	WL9-3P1232	1049057

[1] Do not bend below 0 °C.

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
			Male connector M12, 4-pin	WL9-3P2432	1049063
				WL9M4-3P2432	1051896
				WL9G-3P2432	1049083
				WL9M4G-3P2432	1051900
			Male connector M8, 4-pin	WL9-3P2232S02	1057798
				WL9-3P2232S09	1084889
				WL9-3P2232S10	1084890
				WL9-3P2232	1049060
				WL9M4-3P2232	1051895
				WL9G-3F2232	1064168
				WL9G-3P2232	1049082
				WL9M4G-3P2232	1051899
		Cable, Teach-in button	Cable with M12 male connector, 4-pin, 120 mm	WL9C-3P3432A00	1098210
			Cable with M12 male connector, 4-pin, 168 mm [1]	WL9GC-3P3432A00	1125678
			Male connector M12, 4-pin	WL9C-3P2432A00	1080915
				WL9C-3P2432A70	1080916
				WL9C-3P2432A71	1080917
				WL9GC-3P2432A00	1080918
				WL9GC-3P2432A70	1080919
				WL9GC-3P2432A71	1080920
		None	Cable with M12 male connector, 4-pin, 290 mm [1]	WL9-3P3030S01	1050913
0 mm … 290 mm	NPN	Teach-in button	Cable, 4-wire, 2 m [1]	WL9-3N1102P08	1076073
				WL9-3N1102S07	1076074

[1] Do not bend below 0 °C.

- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** autocollimation
- **Light source:** PinPoint 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 m … 4 m	PNP	None	Cable with M12 male connector, 4-pin, 120 mm [1]	WL9-3F3430S04	1051055
			Cable with connector M8, 3-pin, 120 mm [1]	WL9-3F3130	1051056
0 m … 5 m	PNP	Teach-in button	Cable, 4-wire, 2 m [1]	WL9M4-3V1132	1051908
			Male connector M8, 4-pin	WL9M4-3V2232	1051909
				WL9G-3F2232S01	1058103
		Teach-in button, cable	Male connector M8, 4-pin	WL9-3F2234S20	1050928

[1] Do not bend below 0 °C.

- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** autocollimation
- **Light source:** PinPoint LED
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m … 4 m	PNP	None	Cable with M8 male connector, 4-pin, 200 mm [1]	WL9-3P3030S27	1052898

[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.
20 mm … 350 mm	PNP	Potentiometer	Male connector M12, 4-pin	WTF9-3P2461	1052990
			Male connector M8, 4-pin	WTF9-3P2261P03	1053767
				WTF9-3P2261S01	1053880
		Cable, Teach-in button	Male connector M12, 4-pin	WTF9C-3P2462A00	1099064

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** 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.
20 mm ... 600 mm	PNP	Potentiometer	Cable with MOLEX-connector	WTF9-3P3011S05	1084601

- **Functional principle:** Through-beam photoelectric sensor
- **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 m ... 10 m	NPN	None	Cable, 4-wire, 2 m [1]	WSE9-3N1130	1049079
				WSE9M4-3N1130	1051914
			Male connector M12, 4-pin	WSE9-3N2430	1049080
			Male connector M8, 4-pin	WSE9-3N2230	1055041
				WSE9M4-3N2230	1052938
	PNP	Cable	Male connector M12, 4-pin	WSE9C-3P2430A00	1080921
				WSE9C-3P2430A70	1080922
				WSE9C-3P2430A71	1080923
		None	Cable with M12 male connector, 4-pin, 120 mm [1]	WSE9-3P3430	1049078
				WSE9M4-3P3430	1054435
			Cable with M8 male connector, 4-pin, 120 mm [1]	WSE9-3P3230	1056568
			Cable, 4-wire, 2 m [1]	WSE9-3P1130	1049075
				WSE9M4-3P1130	1051911
			Male connector M12, 4-pin	WSE9-3P2430	1049077
				WSE9M4-3P2430	1051913
			Male connector M8, 4-pin	WSE9-3P2230S05	1073459
				WSE9-3P2230	1049076
				WSE9M4-3P2230	1051912

[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 ... 13 m	PNP	None	Cable with M12 male connector, 4-pin, 120 mm [1]	WSE9M4-3P3410S02	1065465
			Cable, 4-wire, 5 m [1]	WSE9-3P1210S08	1130819

[1] Do not bend below 0 °C.

- **Functional principle:** Through-beam photoelectric sensor
- **Light source:** PinPoint 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 m ... 10 m	PNP	None	Sender: cable with JST PHR male connector, 2-pin, 450 mm [1]	WSE9-3F3030S06	1092578

[1] Do not bend below 0 °C.

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

Sensing range max.	Switching output	Adjustment	Connection type	Laser class	Type	Part no.
25 mm ... 300 mm	NPN	Potentiometer	Cable with M12 male connector, 4-pin, 120 mm [1]	1	WTB9L-3N3461	1062525
			Male connector M12, 4-pin	1	WTB9L-3N2461	1062524
			Male connector M8, 4-pin	1	WTB9L-3N2261	1062523
	PNP	Potentiometer	Cable with M12 male connector, 4-pin, 120 mm [1]	1	WTB9L-3P3461	1058916
					WTB9M4L-3P3461	1063663
			Cable with M8 male connector, 4-pin, 120 mm [1]	1	WTB9L-3P3261S03	1073333
			Cable, 4-wire, 2 m [1]	1	WTB9L-3P1161	1058232
					WTB9M4L-3P1161	1058188
			Male connector M12, 4-pin	1	WTB9L-3P2461	1058231
					WTB9M4L-3P2461	1058187
			Male connector M8, 4-pin	1	WTB9L-3P2261	1058230
					WTB9M4L-3P2261	1058186
		Cable, Teach-in button	Male connector M12, 4-pin	1	WTB9LC-3P2462A00	1080942
					WTB9LC-3P2462A70	1080943
					WTB9LC-3P2462A71	1080944

[1] Do not bend below 0 °C.

Sensing range max.	Switching output	Adjustment	Connection type	Laser class	Type	Part no.
25 mm ... 400 mm	NPN	Potentiometer	Cable with M12 male connector, 4-pin, 120 mm [1]	2	WTB9L-3N3491	1058152
			Cable, 4-wire, 2 m [1]	2	WTB9L-3N1191	1068515
			Male connector M12, 4-pin	2	WTB9L-3N2491	1058149
			Male connector M8, 4-pin	2	WTB9L-3N2291	1058146
	PNP	Potentiometer	Cable with M12 male connector, 4-pin, 120 mm [1]	2	WTB9L-3P3491	1058153
			Cable, 4-wire, 2 m [1]	2	WTB9M4L-3P1191	1058226
			Male connector M12, 4-pin	2	WTB9L-3P2491	1058151
					WTB9M4L-3P2491	1058225
			Male connector M8, 4-pin	2	WTB9L-3P2291	1058150
					WTB9M4L-3P2291	1058224
		Cable, Teach-in button	Cable with M12 male connector, 4-pin, 120 mm [1]	2	WTB9LC-3P3492A00	1125677
30 mm ... 150 mm	NPN	Potentiometer	Male connector M12, 4-pin	2	WT9L-N430	1023990
			Male connector M8, 4-pin	2	WT9L-N330	1023991
	PNP	Potentiometer	Male connector M12, 4-pin	2	WT9L-P430	1023959
			Male connector M8, 4-pin	2	WT9L-P330	1023977

[1] Do not bend below 0 °C.

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

Sensing range max.	Switching output	Adjustment	Connection type	Laser class	Type	Part no.
0.1 m ... 12 m	NPN	Teach-in button	Male connector M12, 4-pin	2	WL9L-N430	1023988
			Male connector M8, 4-pin	2	WL9L-N330	1023989
	PNP	Teach-in button	Male connector M12, 4-pin	2	WL9L-P430	1023958
			Male connector M8, 4-pin	2	WL9L-P330	1023976

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

Sensing range max.	Switching output	Adjustment	Connection type	Laser class	Type	Part no.
0 m ... 50 m	NPN	Teach-in button	Male connector M12, 4-pin	2	WS/WE9L-N430	1023994
			Male connector M8, 4-pin	2	WS/WE9L-N330	1023995
	PNP	Teach-in button	Male connector M12, 4-pin	2	WS/WE9L-P430	1023992
			Male connector M8, 4-pin	2	WS/WE9L-P330	1023993

[1] Do not bend below 0 °C.

Sensing range max.	Switching output	Adjustment	Connection type	Laser class	Type	Part no.
0 m ... 60 m	NPN	Teach-in button	Cable, 4-wire, 2 m [1]	1	WSE9L-3N1137	1065567
			Male connector M12, 4-pin	1	WSE9L-3N2437	1058180
			Male connector M8, 4-pin	1	WSE9L-3N2237	1058179
	PNP	Teach-in button	Cable, 4-wire, 2 m [1]	1	WSE9L-3P1137	1058915
			Male connector M12, 4-pin	1	WSE9L-3P2437	1058181
			Male connector M8, 4-pin	1	WSE9L-3P2237	1058182
		Cable	Male connector M12, 4-pin	1	WSE9LC-3P2436A00	1080958
					WSE9LC-3P2436A70	1080960
					WSE9LC-3P2436A71	1080962
		Cable, Teach-in button	Cable with M12 male connector, 4-pin, 120 mm	1	WSE9LC-3P3436A00	1098211

[1] Do not bend below 0 °C.

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

Sensing range max.	Switching output	Adjustment	Connection type	Laser class	Type	Part no.
0 m … 12 m	NPN	Teach-in button	Cable, 4-wire, 2 m [1]	1	WL9L-3N1132	1065640
			Male connector M12, 4-pin	1	WL9L-3N2432	1058173
			Male connector M8, 4-pin	1	WL9L-3N2232	1058172
	PNP	Teach-in button	Cable with M12 male connector, 4-pin, 120 mm [1]	1	WL9L-3P3432	1058176
			Cable with M8 male connector, 4-pin, 200 mm [1]	1	WL9L-3P3032S04	1119113
			Cable, 4-wire, 2 m [1]	1	WL9L-3P1132	1058233
					WL9M4L-3P1132	1058229
			Male connector M12, 4-pin	1	WL9L-3P2432S03	1078396
					WL9L-3P2432	1058175
					WL9L-3P2432S01	1058177
					WL9M4L-3P2432	1058228
			Male connector M8, 4-pin	1	WL9L-3P2232	1058174
					WL9M4L-3P2232	1058227
		Cable, Teach-in button	Cable with M12 male connector, 4-pin, 120 mm	1	WL9LC-3P3432A00	1098212
			Male connector M12, 4-pin	1	WL9LC-3P2432A00	1080946
					WL9LC-3P2432A70	1080948
					WL9LC-3P2432A71	1080950
0 m … 3.5 m	PNP	Teach-in button	Cable, 4-wire, 2 m [1]	1	WL9LG-3P1152	1076049
			Male connector M12, 4-pin	1	WL9LG-3P2452	1076048
			Male connector M8, 4-pin	1	WL9LG-3P2252	1076047
		Cable, Teach-in button	Male connector M12, 4-pin	1	WL9LGC-3P2452A00	1080952
					WL9LGC-3P2452A70	1080954
					WL9LGC-3P2452A71	1080956

[1] Do not bend below 0 °C.

Sensing range max.	Switching output	Adjustment	Connection type	Laser class	Type	Part no.
0 m ... 4.5 m	PNP	Teach-in button	Cable, 4-wire, 2 m [1]	1	WL9LG-3P1132	1058236
			Male connector M12, 4-pin	1	WL9LG-3P2432	1058235
			Male connector M8, 4-pin	1	WL9LG-3P2232	1058234

[1] Do not bend below 0 °C.

- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** autocollimation
- **Light source:** laser
- **Voltage type:** DC
- **Switching mode:** Dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Laser class	Type	Part no.
0 m ... 12 m	PNP	Teach-in button	Male connector M12, 4-pin	1	WL9L-3P2432S02	1058178

- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** autocollimation
- **Light source:** laser
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Laser class	Type	Part no.
0 m ... 4.5 m	PNP	Cable, Teach-in button	Male connector M8, 4-pin	1	WL9LGC-3P2232B01	1106618
					WL9LGC-3P2232B02	1126628

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