



## W12

Strong performance in rugged metal housing for demanding detection tasks

**SICK**  
Sensor Intelligence.

## Advantages



## Suitable for all applications – photoelectric sensors in a metal housing

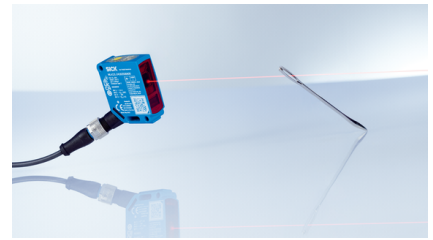
The W12 devices are genuine all-rounders. The portfolio comprises photoelectric proximity sensors, photoelectric retro-reflective sensors and through-beam photoelectric sensors with laser technology, PinPoint LED or infrared light. Different sensing ranges, switching frequencies, and connection options ensure almost limitless selection and combination possibilities. W12 sensors, for example, can be perfectly tailored to the equipment system and the requirements of the specific application – regardless of whether it be a packaging technology, automotive, logistics, pharmaceutical or beverage application.



As individual as the requirements on site: Thanks to the numerous product variants available, you can choose the ideal W12 for your needs



From glass bottles to cling film: Transparent objects can be precisely and reliably detected using the WL12G photoelectric retro-reflective sensors



No problem with large distances: The laser variants make it possible to precisely detect very small objects over distances of up to 1,200 mm



**Single device for everything: The W12 product family is the universal detection solution for a large number of industrial applications and industries**



## Incredibly easy – installation and commissioning using BluePilot

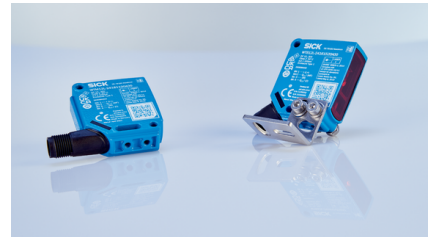
**Set up and aligned in seconds: Using the BluePilot operating concept. The blue LED provides immediate feedback on whether the sensor is aligned correctly. The W12L devices with laser technology can be quickly and precisely parameterized using a Teach-Turn adjustment. While doing so, the LED display serves as an orientation aid for the desired sensing ranges or for assistance, thereby ensuring a very high operational safety. The device is especially easy to mount because the mounting holes offer different fastening options.**



The LED display provides an immediate visual quality check when aligning the sensor and during installation



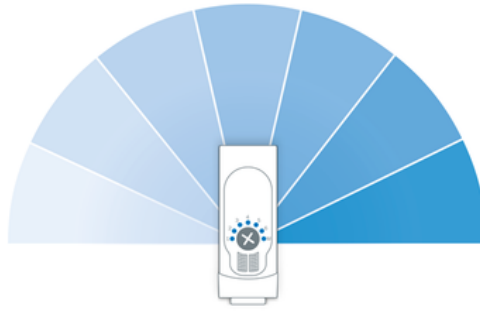
Fast teach-in using BluePilot



Various fastening options with through-holes and blind holes as well as elongated holes and dovetail openings

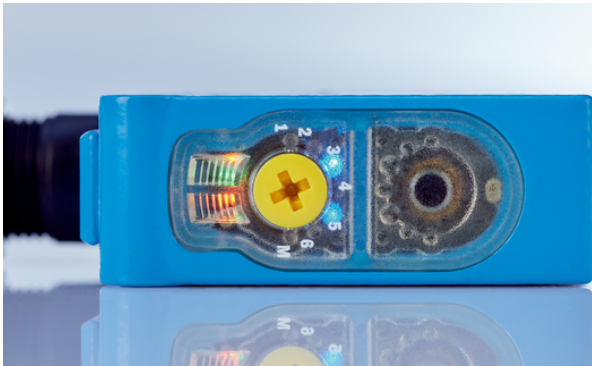


**Uncomplicated mounting, fast parameterization: The W12 devices save you valuable time during commissioning**



## High flexibility – with just one device

The WTM12L variants come with a MultiMode feature: Various operating modes such as background blanking, foreground blanking, two-point teach-in, two independent switching points or window teach-in can be set directly on the device or via IO-Link. It is also possible to read the distance value from the device. The advantage: The same sensor can meet a wide variety of detection requirements. This means, for example, that the settings can be adjusted with a single action when changing the product. It is no longer necessary to replace the sensor.



All of the available modes can be easily and quickly selected via the Teach-Turn adjustment



Using the “Two independent switching points” mode, standing and lying objects can be detected and distinguished from one another



Window teach-in can be used to define a window within which to perform object detection



Distance values via IO-Link: The output of precise distance values during detection extends the application possibilities of the photoelectric proximity sensors. The values can, for example, be used for positioning tasks in downstream processes



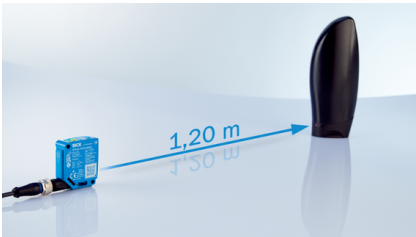
**Versatile problem solver thanks to MultiMode: The W12L devices can be flexibly adjusted to changing requirements at the press of a button**



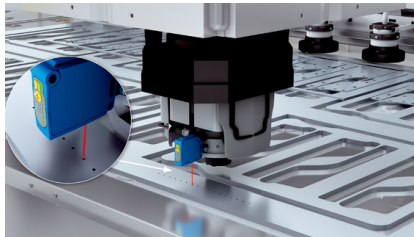


## Reliable detection – even at a large distance

In certain applications it is necessary to detect objects over large distances. Using the W12L, especially large sensing ranges can be implemented thanks to the precise and powerful laser light. Furthermore, the optionally selectable ApplicationSelect operating mode provides even greater reliability when detecting dark and obliquely-oriented objects from a long distance.



The W12L laser variants are highly suitable for applications with large sensing ranges up to 1,200 mm



The focused light spot of the laser beam allows the detection of very small objects as well as precise edge recognition



The especially high sensitivity of the sensors improves the correct detection of dark and obliquely-oriented objects

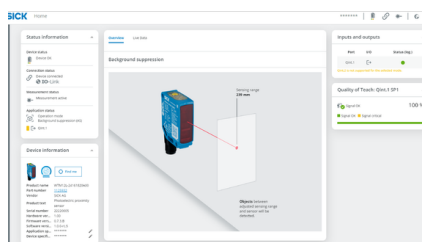


**Large sensing range, low error risk: The high performance laser optics of the W12L makes it possible to reliably detect even distant objects**

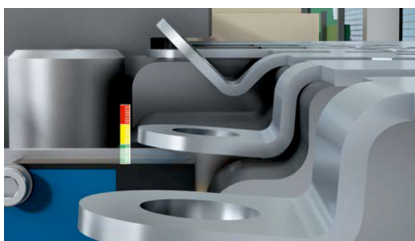


## Everything under control – with IO-Link

Thanks to IO-Link and comprehensive diagnostic functions, the status of the W12 photoelectric sensors can be viewed in real time. This enables faults, e.g., due to vibrations or contamination, to be detected early during operation as well as condition-based scheduling of maintenance, thereby avoiding downtimes and reducing costs.



High transparency: Production parameters can be viewed in real time via the sensor data



Reducing machine downtimes: The W12 devices detect disturbances and report these automatically



Creating needs-based service plans: Diagnostic data allow cost-efficient maintenance of sensors



**Ready for Industry 4.0: Using the W12 and IO-Link, you can automate your production in diverse ways and make it especially reliable**



## Rugged metal housing – for very high resilience

**SICK uses only zinc die cast metal housings for its W12 photoelectric sensors. This makes the sensors impervious to aggressive chemicals, high temperatures, dust, and water spray. The W12 effortlessly withstands shocks and vibrations due to machine movements or high-pressure cleaning. A high EMC resistance also protects the electronics of the sensors.**



The high quality zinc die cast makes the housing especially break-proof and resilient



The chemical and thermal resistance of the housing enables it to be used under extreme ambient conditions



Thanks to a special printing method, the information on the sensor housing remains permanently readable and durable



**Withstands all stresses: Thanks to the rugged metal housing, the W12 is suitable for demanding tasks in harsh environments**



## Reliable data – even for transparent objects

From PET bottles right through to transparent films – the W12G photoelectric retro-reflective sensors reliably detect highly transparent and semi-transparent objects thanks to PinPoint technology. The focused light spot has a higher light intensity and is impervious to sources of interference in the production environment. In case of contamination, the switching threshold of the sensor is automatically adjusted via an AutoAdapt function. This extends the sensor availability and lengthens the maintenance interval, thereby increasing the productivity of the system. After cleaning, the sensor automatically restores the original switching threshold.



**The WL12G devices reliably detect transparent objects while keeping the operating costs low thanks to continuous threshold adaptation**



### Technical data overview

<b>Dimensions (W x H x D)</b>	15.6 mm x 49.5 mm x 43.1 mm 15.6 mm x 48.5 mm x 42 mm 15 mm x 49 mm x 41.5 mm 15.5 mm x 48.5 mm x 42 mm
<b>Functional principle detail</b>	Background suppression Foreground suppression MultiMode Without reflector minimum distance (autocollimation/coaxial optics) With minimum distance to reflector (dual lens system) (depending on type)
<b>Light source</b>	Laser LED PinPoint LED (depending on type)
<b>Type of light</b>	Visible red light / Infrared light (depending on type)
<b>Enclosure rating</b>	IP66 IP67 IP69 IP69K (depending on type)
<b>Housing material</b>	Metal / PTFE coating (depending on type)
<b>Adjustment</b>	Teach-in button Potentiometer Teach-Turn adjustment Cable None (depending on type)

### Product description

The W12 photoelectric sensors can be used nearly anywhere for exact object detection in demanding environments. Whether you are working with lasers, infrared light or LEDs – the photoelectric proximity sensors, photoelectric retro-reflective sensors and through-beam photoelectric sensors are suitable for a wide range of applications. The sensors are insensitive to shocks and vibrations thanks to their zinc die cast housing. IO-Link and BluePilot allow for fast and simple parameterization. Numerous functions such as background or foreground suppression ensure extremely reliable detection of transparent or very dark objects and make the W12 resistant to interference. Condition-based maintenance based on sensor and diagnostic data reduces costs and increases efficiency.

### At a glance

- Precise autocollimation optics
- Light sources: laser, PinPoint LED, infrared light
- MultiMode function
- Line-shaped light spot for detecting perforated objects
- ApplicationSelect mode available
- IO-Link and BluePilot for parameterization
- Diagnostic functions via IO-Link
- Rugged zinc die cast metal housing

### Your benefits

- Universal application possibilities thanks to MultiMode function
- Precise detection of small objects due to exact light spot of the laser variants
- Reliable detection of challenging objects such as very dark or sloping objects thanks to ApplicationSelect mode
- High reliability even under harsh ambient conditions thanks to tough metal housing
- Simple parameterization with BluePilot on device or via customer-friendly IO-Link user interface
- High availability levels thanks to predictive maintenance
- Reliable detection of transparent objects – from PET bottles to transparent foil – thanks to superior chip technology



## Ordering information

Other models and accessories → [www.sick.com/W12](http://www.sick.com/W12)

- **Sensing range min. / max.:** 15 mm / 420 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Switching mode:** Light/dark switching
- **Switching output:** push-pull: PNP/NPN
- **Light source:** laser
- **Type of light:** visible red light
- **Housing:** rectangular

Connection type	Type	Part no.
Cable with M12 male connector, 4-pin, 315 mm	WTB12L-34161820A00	1129946
Cable, 4-wire, 2 m	WTB12L-1H161820A00	1129940
Male connector M12, 4-pin	WTB12L-24161820A00	1126347

- **Sensing range min. / max.:** 15 mm / 350 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Switching mode:** Light/dark switching
- **Switching output:** push-pull: PNP/NPN
- **Light source:** laser
- **Type of light:** visible red light
- **Housing:** rectangular

Connection type	Type	Part no.
Cable with M12 male connector, 4-pin, 318 mm	WTB12L-34161220A00	1126056
Cable, 4-wire, 2 m	WTB12L-1H161220A00	1126055
Male connector M12, 4-pin	WTB12L-24161220A00	1123860

- **Sensing range min. / max.:** 15 mm / 400 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Switching mode:** Light/dark switching
- **Switching output:** push-pull: PNP/NPN
- **Light source:** laser
- **Type of light:** visible red light
- **Housing:** rectangular

Connection type	Type	Part no.
Cable with M12 male connector, 4-pin, 315 mm	WTB12L-34161520A00	1126058
	WTB12L-34161720A00	1125926
Cable, 4-wire, 2 m	WTB12L-1H161520A00	1126057
	WTB12L-1H161720A00	1126059
Male connector M12, 4-pin	WTB12L-24161520A00	1125933
	WTB12L-24161720A00	1126040

- **Sensing range min. / max.:** 80 mm / 850 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Switching mode:** Light/dark switching
- **Switching output:** push-pull: PNP/NPN
- **Light source:** laser
- **Type of light:** visible red light
- **Housing:** rectangular

Connection type	Type	Part no.
Cable with M12 male connector, 4-pin, 315 mm	WTB12L-34161120A00	1126068
Cable, 4-wire, 2 m	WTB12L-1H161120A00	1126069
Male connector M12, 4-pin	WTB12L-24161120A00	1119743

- **Sensing range min. / max.:** 80 mm / 1,200 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Switching mode:** Light/dark switching
- **Switching output:** push-pull: PNP/NPN
- **Light source:** laser
- **Type of light:** visible red light
- **Housing:** rectangular

Connection type	Type	Part no.
Cable with M12 male connector, 4-pin, 315 mm	WTB12L-34161A20A00	1129942
Cable, 4-wire, 2 m	WTB12L-1H161A20A00	1129941
Male connector M12, 4-pin	WTB12L-24161A20A00	1126340

- **Sensing range min. / max.:** 40 mm / 350 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Switching mode:** Light/dark switching
- **Switching output:** push-pull: PNP/NPN
- **Light source:** laser
- **Type of light:** visible red light
- **Housing:** rectangular

Connection type	Type	Part no.
Cable with M12 male connector, 4-pin, 315 mm	WTB12V-34161120A00	1125115
Cable, 4-wire, 2 m	WTB12V-1H161120A00	1126065
Male connector M12, 4-pin	WTB12V-24161120A00	1125930

- **Sensing range min. / max.:** 15 mm / 420 mm, 20 mm / 150 mm, 15 mm / 650 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression, Foreground suppression, MultiMode
- **Switching mode:** Light/dark switching
- **Switching output:** push-pull: PNP/NPN
- **Light source:** laser
- **Type of light:** visible red light
- **Housing:** rectangular

Connection type	Type	Part no.
Cable with M12 male connector, 4-pin, 315 mm	WTM12L-34161820A00	1126054

Connection type	Type	Part no.
Cable, 4-wire, 2 m	WTM12L-1H161820A00	1126067
Male connector M12, 4-pin	WTM12L-24161820A00	1125932

- **Sensing range min. / max.:** 80 mm / 850 mm, 80 mm / 350 mm, 80 mm / 1,200 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression, Foreground suppression, MultiMode
- **Switching mode:** Light/dark switching
- **Switching output:** push-pull: PNP/NPN
- **Light source:** laser
- **Type of light:** visible red light
- **Housing:** rectangular

Connection type	Type	Part no.
Cable with M12 male connector, 4-pin, 315 mm	WTM12L-34161120A00	1126070
Cable, 4-wire, 2 m	WTM12L-1H161120A00	1126071
Male connector M12, 4-pin	WTM12L-24161120A00	1125113

- **Sensing range min. / max.:** 20 mm / 150 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Foreground suppression
- **Switching mode:** Light/dark switching
- **Switching output:** push-pull: PNP/NPN
- **Light source:** laser
- **Type of light:** visible red light
- **Housing:** rectangular

Connection type	Type	Part no.
Cable with M12 male connector, 4-pin, 315 mm	WTF12L-34162220A00	1125927
	WTF12L-34162820A00	1126061
Cable, 4-wire, 2 m	WTF12L-1H162220A00	1126062
	WTF12L-1H162820A00	1125114
Male connector M12, 4-pin	WTF12L-24162220A00	1126063
	WTF12L-24162820A00	1126060

- **Sensing range min. / max.:** 80 mm / 350 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Foreground suppression
- **Switching mode:** Light/dark switching
- **Switching output:** push-pull: PNP/NPN
- **Light source:** laser
- **Type of light:** visible red light
- **Housing:** rectangular

Connection type	Type	Part no.
Cable with M12 male connector, 4-pin, 315 mm	WTF12L-34162120A00	1126064
Cable, 4-wire, 2 m	WTF12L-1H162120A00	1125925
Male connector M12, 4-pin	WTF12L-24162120A00	1125923

- **Sensing range min. / max.:** 0 mm / 140 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Foreground suppression
- **Switching mode:** Light/dark switching
- **Switching output:** push-pull: PNP/NPN
- **Light source:** laser
- **Type of light:** visible red light
- **Housing:** rectangular

Connection type	Type	Part no.
Cable with M12 male connector, 4-pin, 315 mm	WTF12V-34162120A00	1126066
Cable, 4-wire, 2 m	WTF12V-1H162120A00	1125924
Male connector M12, 4-pin	WTF12V-24162120A00	1125931

- **Sensing range min. / max.:** 0 m / 20 m
- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** Without reflector minimum distance (autocollimation/coaxial optics)
- **Switching mode:** Light/dark switching
- **Switching output:** push-pull: PNP/NPN
- **Light source:** laser
- **Type of light:** visible red light
- **Housing:** rectangular

Connection type	Type	Part no.
Cable with M12 male connector, 4-pin, 315 mm	WLA12L-34162130A00	1126053
Cable, 4-wire, 2 m	WLA12L-1H162130A00	1129943
Male connector M12, 4-pin	WLA12L-24162130A00	1126037

- **Sensing range min. / max.:** 0 m / 11 m
- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** Without reflector minimum distance (autocollimation/coaxial optics)
- **Switching mode:** Light/dark switching
- **Switching output:** push-pull: PNP/NPN
- **Light source:** laser
- **Type of light:** visible red light
- **Housing:** rectangular

Connection type	Type	Part no.
Cable with M12 male connector, 4-pin, 315 mm	WLA12L-34162230A00	1126051
	WLA12L-34162530A00	1126049
	WLA12L-34162730A00	1126002
	WLA12L-34162830A00	1126045
Cable, 4-wire, 2 m	WLA12L-1H162230A00	1126052
	WLA12L-1H162530A00	1126001
	WLA12L-1H162730A00	1126048
	WLA12L-1H162830A00	1126046
Male connector M12, 4-pin	WLA12L-24162230A00	1125936
	WLA12L-24162530A00	1126050
	WLA12L-24162730A00	1126047
	WLA12L-24162830A00	1125938



- **Sensing range max.:** 40 mm ... 200 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Foreground suppression
- **Switching mode:** Light/dark switching
- **Switching output:** PNP

Light source	Type of light	Connection type	Housing	Type	Part no.
LED	Visible red light	Male connector M12, 4-pin	Rectangular	WTF12-3P2441S64	1061909

- **Sensing range max.:** 30 mm ... 175 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Foreground suppression
- **Switching mode:** Light/dark switching
- **Light source:** LED
- **Type of light:** visible red light
- **Housing:** rectangular

Switching output	Connection type	Type	Part no.
NPN	Cable, 4-wire, 2 m <sup>1)</sup>	WTF12-3N1131	1041410
	Male connector M12, 4-pin	WTF12-3N2431	1041408
		WTF12-3N2433	1041409
PNP	Cable, 4-wire, 2 m <sup>1)</sup>	WTF12-3P1131	1041406
	Cable, 4-wire, 5 m <sup>1)</sup>	WTF12-3P1231	1125679
	Male connector M12, 4-pin	WTF12-3P2431	1041404
		WTF12-3P2433	1041405
		WTF12C-3P2433	1042001

<sup>1)</sup> Do not bend below 0 °C.

- **Sensing range max.:** 30 mm ... 500 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Foreground suppression
- **Switching mode:** Light/dark switching
- **Light source:** LED
- **Type of light:** visible red light
- **Housing:** rectangular

Switching output	Connection type	Type	Part no.
NPN	Male connector M12, 4-pin	WTF12-3N2441	1041403
		WTF12-3N2443	1094258
PNP	Cable, 4-wire, 2 m <sup>1)</sup>	WTF12-3P1141	1041402
	Male connector M12, 4-pin	WTF12-3P2441	1041400
		WTF12-3P2443	1041401

<sup>1)</sup> Do not bend below 0 °C.

- **Sensing range max.:** 20 mm ... 350 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light
- **Housing:** rectangular

Switching output	Light source	Connection type	Type	Part no.
NPN	LED	Cable, 4-wire, 2 m <sup>1)</sup>	WTB12-3N1131	1041418
		Cable, 4-wire, 5 m <sup>1)</sup>	WTB12-3N1231	1041419
		Male connector M12, 4-pin	WTB12-3N2431	1041416
			WTB12-3N2433	1041417
PNP	LED	Cable with M12 male connector, 4-pin, 270 mm	WTB12-3P3431	1075802
			WTB12-3P3433	1112363
		Cable, 4-wire, 2 m <sup>1)</sup>	WTB12-3P1131	1041413
		Cable, 4-wire, 5 m <sup>1)</sup>	WTB12-3P1231	1041415
		Male connector M12, 4-pin	WTB12-3F2431	1041420
			WTB12-3F2431S65	1130742
			WTB12-3P2431	1041411
			WTB12-3P2431S60	1052578
			WTB12-3P2431T01	1041414
			WTB12-3P2433	1041412
			WTB12-3P2433T01	1048278
			WTB12C-3P2433	1042002
	PinPoint LED	Male connector M12, 4-pin	WTB12C-3P2432A00	1067771
			WTB12C-3P2432A70	1067772
			WTB12C-3P2432A71	1067773
			WTB12C-3P2432A91	1060222

<sup>1)</sup> Do not bend below 0 °C.

- **Sensing range max.:** 30 mm ... 175 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Switching mode:** Light/dark switching
- **Switching output:** PNP

Light source	Type of light	Connection type	Housing	Type	Part no.
LED	Visible red light	Male connector M12, 4-pin	Rectangular	WTB12-3P2441	1041421

- **Sensing range max.:** 20 mm ... 80 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Switching mode:** Light/dark switching
- **Switching output:** PNP

Light source	Type of light	Connection type	Housing	Type	Part no.
LED	Infrared light	Male connector M12, 4-pin	Rectangular	WTB12-3P2441S63	1059689

- **Sensing range max.:** 20 mm ... 600 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Light source:** LED
- **Type of light:** Infrared light
- **Housing:** rectangular

Switching mode	Switching output	Connection type	Type	Part no.
Light switching	NPN	–	WTB12-3N1011S47	1044104
Light/dark switching	NPN	Cable, 4-wire, 2 m <sup>1)</sup>	WTB12-3N1111	1041429
		Cable, 4-wire, 3 m <sup>1)</sup>	WTB12-3N1711	1041430
		Male connector M12, 4-pin	WTB12-3N2411	1041427
			WTB12-3N2413	1041428
	PNP	Cable, 4-wire, 2 m <sup>1)</sup>	WTB12-3P1111	1041424
		Cable, 4-wire, 3 m <sup>1)</sup>	WTB12-3P1711	1041426
		Male connector M12, 4-pin	WTB12-3P2411	1041422
			WTB12-3P2411T01	1041425
			WTB12-3P2413	1041423
			WTB12C-3P2413	1042003

<sup>1)</sup> Do not bend below 0 °C.

- **Sensing range max.:** 50 mm ... 100 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Switching mode:** Light switching
- **Switching output:** PNP
- **Light source:** LED
- **Type of light:** visible red light
- **Connection type:** male connector M12, 4-pin
- **Housing:** rectangular

Type	Part no.
WTB12-3P2441S50	1044106
WTB12-3P2441S59	1056725

- **Sensing range max.:** 15 mm ... 340 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Switching mode:** Light/dark switching
- **Switching output:** PNP

Light source	Type of light	Connection type	Housing	Type	Part no.
PinPoint LED	Visible red light	M12 male connector, 4-pin, A-coding, 2 m <sup>1)</sup>	Rectangular	WTB12-3P2460S04	1057942

<sup>1)</sup> Do not bend below 0 °C.

- **Sensing range max.:** 50 mm ... 800 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Switching mode:** Light/dark switching
- **Switching output:** PNP

Light source	Type of light	Connection type	Housing	Type	Part no.
PinPoint LED	Visible red light	Male connector M12, 4-pin	Rectangular	WTB12-3P2461S01	1051967

- **Sensing range max.:** 30 mm ... 700 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Switching mode:** Light/dark switching
- **Switching output:** PNP

Light source	Type of light	Connection type	Housing	Type	Part no.
PinPoint LED	Visible red light	Male connector M12, 4-pin	Rectangular	WTB12-3P2461S02	1055582

- **Sensing range max.:** 30 mm ... 350 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Switching mode:** Light/dark switching
- **Switching output:** PNP

Light source	Type of light	Connection type	Housing	Type	Part no.
LED	Visible red light	Male connector M12, 5-pin	Rectangular	WTB12-3P2531S46	1044103



- **Sensing range max.:** 30 mm ... 500 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Switching mode:** Light/dark switching
- **Switching output:** PNP
- **Light source:** PinPoint LED
- **Type of light:** visible red light
- **Housing:** rectangular

Connection type	Type	Part no.
Cable with M12 male connector, 4-pin, 200 mm	WTB12-3P3461S03	1057676
Male connector M12, 4-pin	WTB12-3P2461S58	1047850

- **Sensing range max.:** 20 mm ... 150 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Switching mode:** Light switching
- **Switching output:** NPN

Light source	Type of light	Connection type	Housing	Type	Part no.
LED	Infrared light	Cable with AMP connector, 0.32 m <sup>1)</sup>	Rectangular	WTB12-3N1011S42	1044101

<sup>1)</sup> Do not bend below 0 °C.

- **Sensing range max.:** 15 mm ... 310 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background suppression
- **Switching mode:** Light/dark switching
- **Switching output:** PNP

Light source	Type of light	Connection type	Housing	Type	Part no.
LED	Infrared light	M12 male connector, 4-pin, A-coding, 2 m <sup>1)</sup>	Rectangular	WTB12-3P2470S05	1072498

<sup>1)</sup> Do not bend below 0 °C.

- **Sensing range max.:** 0 m ... 7 m
- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** Without reflector minimum distance (autocollimation/coaxial optics)
- **Light source:** LED
- **Type of light:** visible red light
- **Housing:** rectangular

Switching mode	Switching output	Connection type	Type	Part no.
Dark switching	PNP	Male connector M12, 4-pin	WL12-3V2431	1041537

<sup>1)</sup> Do not bend below 0 °C.

Switching mode	Switching output	Connection type	Type	Part no.
Light/dark switching	NPN	Cable, 4-wire, 2 m <sup>1)</sup>	WL12-3N1131	1041441
			WL12-3N1141	1041447
		Cable, 4-wire, 3 m <sup>1)</sup>	WL12-3N1731	1041442
		Cable, 4-wire, 5 m <sup>1)</sup>	WL12-3N1230S33	1044110
		Male connector M12, 4-pin	WL12-3N2431	1041440
			WL12-3N2431T01	1041443
			WL12-3N2441	1041446
	PNP	Cable, 4-wire, 2 m <sup>1)</sup>	WL12-3P1131	1041437
			WL12-3P1141	1041445
		Cable, 4-wire, 3 m <sup>1)</sup>	WL12-3P1731	1041438
		Male connector M12, 4-pin	WL12-3P2431	1041436
			WL12-3P2431S43	1044113
			WL12-3P2431T01	1041439
			WL12-3P2441	1041444

<sup>1)</sup> Do not bend below 0 °C.

- **Sensing range max.:** 0 m ... 2 m
- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** Without reflector minimum distance (autocollimation/coaxial optics)
- **Switching mode:** Light/dark switching
- **Light source:** LED
- **Type of light:** visible red light
- **Housing:** rectangular

Switching output	Connection type	Type	Part no.
NPN	Cable, 4-wire, 2 m <sup>1)</sup>	WL12-3N1151	1041451
		WL12-3N1161	1041455
	Male connector M12, 4-pin	WL12-3N2451	1041450
		WL12-3N2461	1041454
PNP	Cable, 4-wire, 2 m <sup>1)</sup>	WL12-3P1151	1041449
		WL12-3P1161	1041453
	Male connector M12, 4-pin	WL12-3P2451	1041448
		WL12-3P2451P01	1044118
		WL12-3P2461	1041452
PNP, NPN	Male connector M12, 5-pin	WL12G-3B2531S37	1044111

<sup>1)</sup> Do not bend below 0 °C.

- **Sensing range max.:** 0.15 m ... 10 m
- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** With minimum distance to reflector (dual lens system)
- **Switching mode:** Light/dark switching
- **Switching output:** PNP

Light source	Type of light	Connection type	Housing	Type	Part no.
LED	Visible red light	Male connector M12, 4-pin	Rectangular	WL12-3P2432S01	1059691

- **Sensing range max.:** 0 m ... 5 m
- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** Without reflector minimum distance (autocollimation/coaxial optics)
- **Switching mode:** Light/dark switching
- **Switching output:** PNP
- **Light source:** PinPoint LED
- **Type of light:** visible red light
- **Connection type:** male connector M12, 4-pin
- **Housing:** rectangular

Type	Part no.
WL12C-3P2432A00	1067774
WL12C-3P2432A70	1067775
WL12C-3P2432A71	1067776
WL12C-3P2432A91	1067777

- **Sensing range max.:** 0 m ... 20 m
- **Functional principle:** Through-beam photoelectric sensor
- **Housing:** rectangular

Switching mode	Switching output	Light source	Type of light	Connection type	Type	Part no.
Dark switching	PNP	LED	Infrared light	Cable, 4-wire, 2 m <sup>1)</sup>	WSE12-3V1111S01	1058190
					WSE12-3V1111S04	1064466
			Visible red light	Cable, 4-wire, 2 m <sup>1)</sup>	WSE12-3P1131S03	1064450
					WSE12-3V1131S02	1058191

<sup>1)</sup> Do not bend below 0 °C.

Switching mode	Switching output	Light source	Type of light	Connection type	Type	Part no.
Light/dark switching	NPN	LED	Visible red light	Cable, 4-wire, 2 m <sup>1)</sup>	WSE12-3N1131	1041463
				Male connector M12, 4-pin	WSE12-3N2431	1041462
	PNP	LED	Infrared light	Cable, 4-wire, 2 m <sup>1)</sup>	WSE12-3P1111	1041464
				Male connector M12, 4-pin	WSE12-3P2411T01	1041465
			Visible red light	Cable, 4-wire, 2 m <sup>1)</sup>	WSE12-3P1131	1041460
				Male connector M12, 4-pin	WSE12-3P2431	1041459
					WSE12-3P2431T01	1041461
		PinPoint LED	Visible red light	Male connector M12, 4-pin	WSE12C-3P2430A00	1067780
					WSE12C-3P2430A71	1067782
					WSE12C-3P2430A72	1098510
					WSE12C-3P2430A91	1067783

<sup>1)</sup> Do not bend below 0 °C.

- **Sensing range max.:** 0 m ... 1.7 m
- **Functional principle:** Through-beam photoelectric sensor
- **Switching mode:** Light/dark switching
- **Switching output:** PNP
- **Light source:** LED
- **Type of light:** visible red light
- **Housing:** rectangular

Connection type	Type	Part no.
Cable, 4-wire, 2 m <sup>1)</sup>	WSE12-3P1131S18	1044119
Male connector M12, 4-pin	WSE12-3P2431S40	1044121

<sup>1)</sup> Do not bend below 0 °C.

- **Sensing range max.:** 0 m ... 5 m
- **Functional principle:** Through-beam photoelectric sensor
- **Switching mode:** Light/dark switching
- **Light source:** LED
- **Type of light:** Infrared light
- **Connection type:** male connector M12, 4-pin
- **Housing:** rectangular

Switching output	Type	Part no.
NPN	WSE12-3N2411S37	1045357
PNP	WSE12-3P2411S36	1044120



- **Sensing range max.:** 0 m ... 80 m
- **Functional principle:** Through-beam photoelectric sensor
- **Light source:** laser
- **Type of light:** visible red light
- **Connection type:** male connector M12, 4-pin
- **Housing:** rectangular

Switching mode	Switching output	Type	Part no.
-	NPN	WS/WE12L-2N430	1018255
		WS/WE12L-2N430A01	1018478
	PNP	WS/WE12L-2P410A03	1023059
		WS/WE12L-2P410S02	1028481
		WS/WE12L-2P430	1018254
		WS/WE12L-2P430A01	1018476
		WS/WE12L-2P430P01	1065516
		WS/WE12L-2P431	1047960
Light switching, Dark switching	NPN	WS/WE12L-2N410A04	1023060

- **Sensing range max.:** 0 m ... 10 m
- **Functional principle:** Through-beam photoelectric sensor
- **Light source:** laser
- **Type of light:** visible red light
- **Connection type:** male connector M12, 4-pin
- **Housing:** rectangular

Switching mode	Switching output	Type	Part no.
-	NPN	WS/WE12L-2N410	1018257
Light/dark switching	Push-pull: PNP/NPN	WS/WE12L-2P410	1018256

- **Sensing range max.:** 0 m ... 25 m
- **Functional principle:** Through-beam photoelectric sensor

Switching output	Light source	Type of light	Connection type	Housing	Type	Part no.
PNP	Laser	Visible red light	Male connector M12, 4-pin	Rectangular	WS/WE12L-2P430S01	1025709

- **Sensing range max.:** 0 m ... 4 m
- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** Without reflector minimum distance (autocollimation/coaxial optics)
- **Housing:** rectangular

Switching mode	Switching output	Light source	Type of light	Connection type	Type	Part no.
Dark switching	PNP	LED	Visible red light	Male connector M12, 4-pin	WL12G-302431S47	1044114
		PinPoint LED	Visible red light	Cable with connector MOLEX MINI-FIT, 3-pin, 250 mm	WL12G-3F3072S06	1053543
Light switching	PNP	LED	Infrared light	Male connector M12, 5-pin	WL12G-3P2582P01	1053549
					WL12G-3P2582S10	1053544

Switching mode	Switching output	Light source	Type of light	Connection type	Type	Part no.
Light switching, Dark switching	PNP, NPN	LED	Visible red light	Male connector M12, 5-pin	WL12G-3B2531	1041456
					WL12G-3B2531T01	1041458
Light/dark switching	NPN	PinPoint LED	Visible red light	Male connector M12, 5-pin	WL12G-3N2572	1053530
					WL12G-3W2572	1053538
	PNP	LED	Infrared light	Male connector M12, 5-pin	WL12G-3P2582	1053536
			Visible red light	Male connector M12, 4-pin	WL12G-302431	1041457
		PinPoint LED	Visible red light	Male connector M12, 4-pin	WL12G-302431S51	1043879
					WL12GC-3P2472A00	1054087
					WL12GC-3P2472A70	1067778
					WL12GC-3P2472A71	1067779
					WL12GC-3P2472A91	1061063
					WL12GC-3P2472B01	1070335
				Male connector M12, 5-pin	WL12G-3K2572	1053542
					WL12G-3P2572	1053535
					WL12G-3P2572T01	1053546
					WL12G-3V2572	1053537
					WL12G-3V2572S01	1053540
					WL12G-3V2572S02	1053541

- **Sensing range max.:** 0 m ... 0.8 m
- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** Without reflector minimum distance (autocollimation/coaxial optics)
- **Switching mode:** Light/dark switching
- **Switching output:** PNP

Light source	Type of light	Connection type	Housing	Type	Part no.
LED	Visible red light	Male connector M12, 4-pin	Rectangular	WL12G-3P2472S03	1057556

- **Sensing range max.:** 0 mm ... 500 mm
- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** Without reflector minimum distance (autocollimation/coaxial optics)
- **Switching mode:** Light/dark switching
- **Switching output:** PNP, NPN

Light source	Type of light	Connection type	Housing	Type	Part no.
LED	Visible red light	Male connector M12, 5-pin	Rectangular	WL12G-3B2531S52	1044116

- **Sensing range max.:** 0 m ... 500 mm
- **Functional principle:** Photoelectric retro-reflective sensor
- **Switching mode:** Light/dark switching
- **Switching output:** PNP

Light source	Type of light	Connection type	Housing	Type	Part no.
PinPoint LED	Visible red light	Male connector M12, 5-pin	Rectangular	WL12G-3P3572S12	1053545

- **Sensing range max.:** 0 m ... 3 m
- **Functional principle:** Photoelectric retro-reflective sensor
- **Switching mode:** Light switching
- **Switching output:** PNP

Light source	Type of light	Connection type	Housing	Type	Part no.
LED	Infrared light	Male connector M12, 5-pin	Rectangular	WL12G-3P2582P04	1059645

- **Sensing range max.:** 0 m ... 4 m
- **Functional principle:** Photoelectric retro-reflective sensor
- **Switching mode:** Light switching
- **Switching output:** PNP

Light source	Type of light	Connection type	Housing	Type	Part no.
LED	Infrared light	Male connector M12, 5-pin	Rectangular	WL12G-3P2582S04	1059644

- **Sensing range max.:** 0 m ... 1.5 m
- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** Without reflector minimum distance (autocollimation/coaxial optics)
- **Switching mode:** Light switching
- **Switching output:** PNP
- **Light source:** PinPoint LED
- **Type of light:** visible red light
- **Connection type:** male connector M12, 5-pin
- **Housing:** rectangular

Type	Part no.
WL12G-3V2572S05	1069340
WL12G-3V2572S07	1069341

- **Sensing range max.:** 0 mm ... 3 m
- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** Without reflector minimum distance (autocollimation/coaxial optics)
- **Switching mode:** Light/dark switching
- **Switching output:** NPN

Light source	Type of light	Connection type	Housing	Type	Part no.
PinPoint LED	Visible red light	Male connector M12, 5-pin	Rectangular	WL12G-3N2502S08	1061751

- **Sensing range max.:** 30 mm ... 150 mm
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Foreground suppression
- **Switching mode:** Light/dark switching
- **Switching output:** PNP

Light source	Type of light	Connection type	Housing	Type	Part no.
LED	Visible red light	Male connector M12, 4-pin	Rectangular	WTF12-3P2431T01	1041407



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