

## WTT12 PowerProx

MultiTask photoelectric proximity sensor with a wide variety of application possibilities

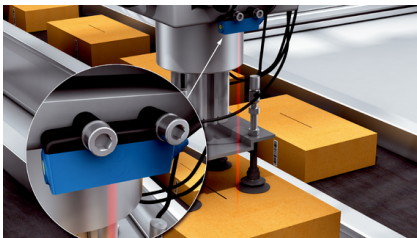
**SICK**  
Sensor Intelligence.

## Advantages

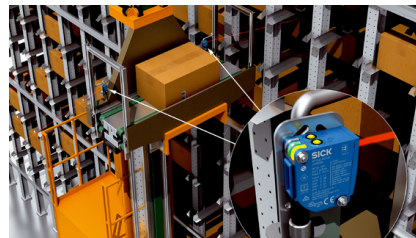


## Large sensing range in a small housing

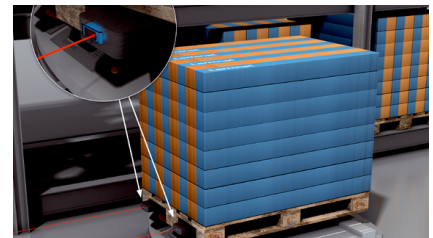
The PowerProx detects large areas at a maximum distance of up to 4 m. The sensors are resistant to background reflections and therefore offer maximum reliability. In addition, the compact housing makes the PowerProx a space-saving detection solution for large distances.



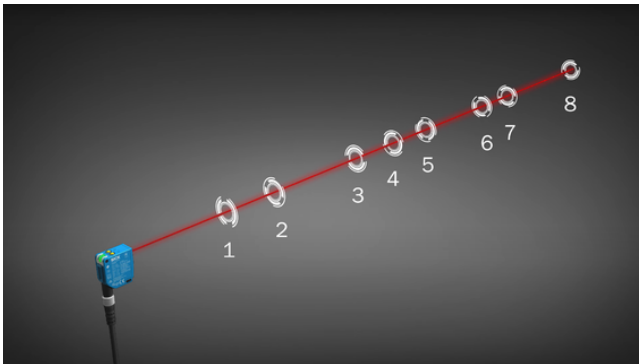
The ideal solution for space-saving use in grippers and robotic elements



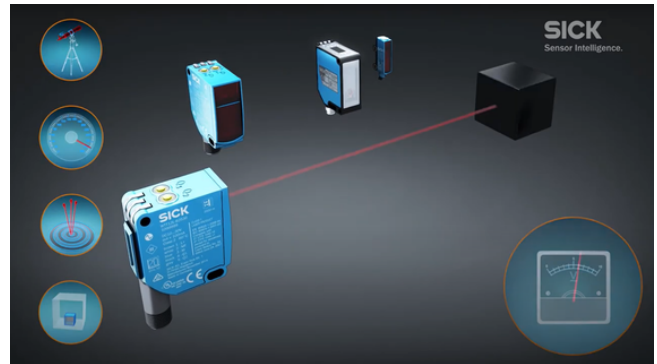
Top performance for occupied bay and clearance detection thanks to IO-Link and up to eight switching points



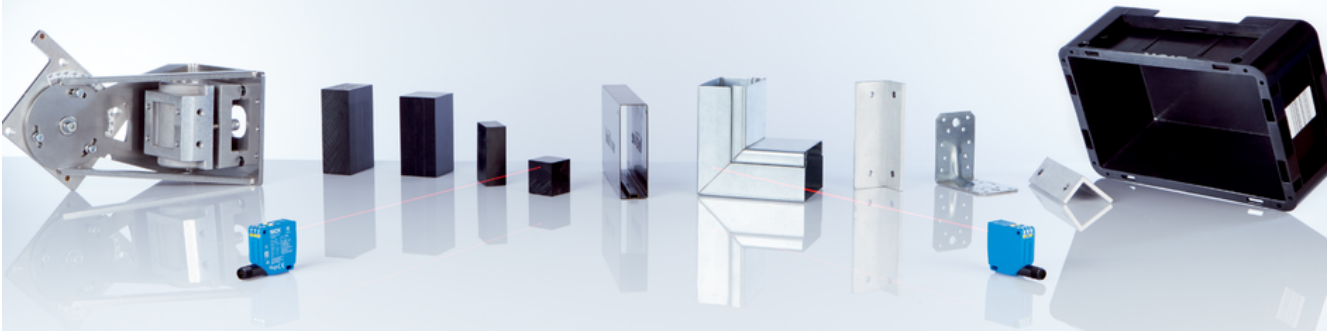
High performance even in tight spaces: Perfect for compact AGV applications



Distance values with millimeter precision and up to eight switching points are available for the automation process via IO-Link



The PowerProx also delivers analog distance data for precise control in mounting technology

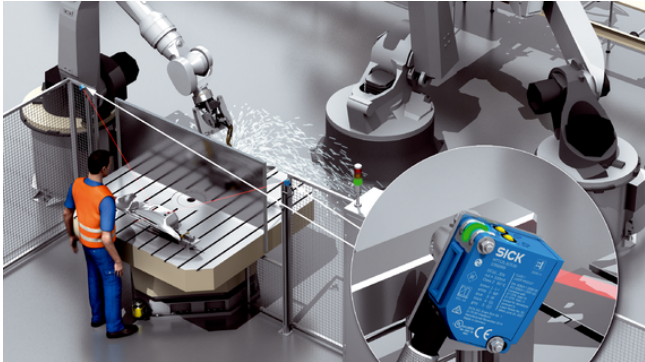


### Exact detection results in any position

More power isn't possible: The PowerProx achieves outstanding detection results thanks to excellent optics and beam paths. Extreme angles and changing object surfaces are also no problem. The receiver elements of the photoelectric sensor are resistant to background reflections and ambient light.



Ideal for use in mounting technology thanks to precise detection and distance measurement



Reliable quality control thanks to high repeatability - even if the surface quality changes

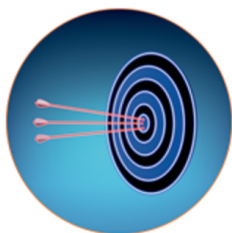


**Very high precision: The PowerProx delivers reliable detection results even with jet-black, glossy or changing object surfaces as well as very small and flat objects**



## Adapted specialists for any application

Everything under one “roof”: With the PowerProx, high-precision time-of-flight technology is now available for a wide spectrum of applications for the first time. The reliable detection of very small objects, fast processes or detection over large sensing ranges is no problem for the PowerProx. Corresponding variants offer maximum detection reliability for objects with strongly reflective surfaces. And when space is tight, the very compact WTT2SL and WTT4SL variants ensure maximum performance in a miniature format.



Precisely detects the smallest objects, pockets or recesses



Quick signal processing and high switching frequency for quick processes



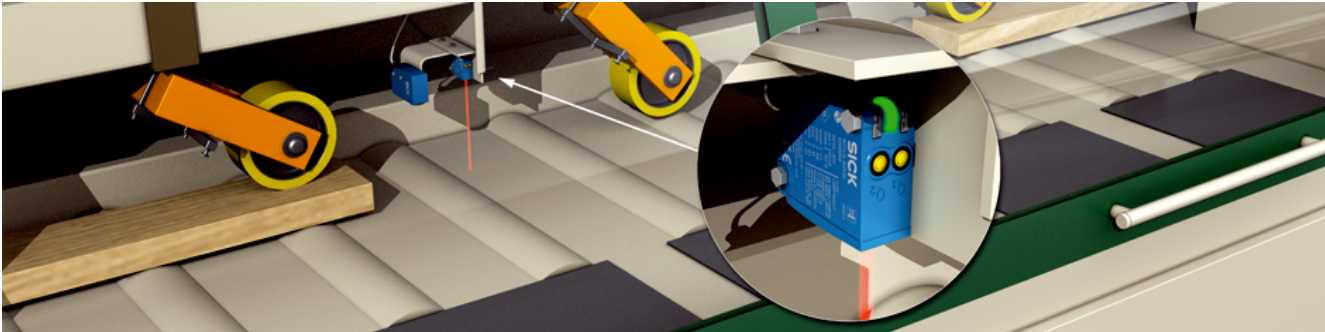
With an up to 4 m sensing range, the PowerProx keeps a close eye on even far-away objects



**Maximum flexibility: The PowerProx has the right sensor solution for any range of applications, no matter whether very fast, accurate detection or detection at large sensing ranges is required**

## Reliable detection at high speeds

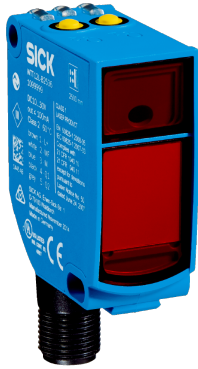
Processes are getting faster and faster in countless industries. The high switching frequency and quick signal processing of the PowerProx enables powerful detection even at high tempos. In doing so, the photoelectric sensor laser beam detects even high-gloss or jet-black objects at large detection angles.



Edge detection in high speed applications due to switching frequencies of up to 1,000 Hz and the high-precision laser beam



**Very fast tempo: The PowerProx reliably detects objects and edges with nearly no delay, even at high process speeds in production and logistics.**



## Technical data overview

<b>Resolution</b>	≥ 1 mm
<b>Response time</b>	≤ 5 ms 0.5 ms ... 16.7 ms (depending on type)
<b>Switching frequency</b>	1,000 Hz 30 Hz 100 Hz <sup>1)</sup>
-	
<b>IO-Link</b>	✓, COM2 (38,4 kBaud)
<b>Enclosure rating</b>	IP67

<sup>1)</sup> Is not valid for object with < 15% remission at distances > 1.800 mm.



## Product description

WTT12 PowerProx photoelectric proximity sensors are characterized by their wide variety of application possibilities. While the PowerProx Distance sensor variant impresses with its reliable object detection at a sensing distance of up to 3.8 m, PowerProx Precision can detect even very small objects. PowerProx Speed sensors impress with their short response time and high switching frequency. These sensor variants are especially suitable for precise object detection at high speeds. Each variant is available in a special version for the detection, in particular, of shiny objects. All WTT12 sensors are based on time-of-flight technology and can be easily adjusted via potentiometer or a teach-in button.

## At a glance

- Compact housing design (20 mm x 49.6 mm x 44.2 mm) with sensing distances up to 3.8 m
- Various sensor variants for specific applications
- Potentiometer or teach-in button and well visible, uniform light spot
- Switching frequency up to 1,000 Hz and time-of-flight technology
- Facilities for connecting via analog output and IO-Link interface

## Your benefits

- High flexibility when designing machines thanks to space-saving mounting possibilities
- High flexibility thanks to wide variety of application possibilities
- High user-friendliness through easy sensor adjustment and precise sensor alignment
- Reliable object detection even with shiny or jet-black surfaces and background reflections

## Ordering information

Other models and accessories → [www.sick.com/WTT12\\_PowerProx](http://www.sick.com/WTT12_PowerProx)

- **Sub product family:** PowerProx Safety
- **Analog output:** -
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Absence of reference object or reference surface

Switching mode	Switching output	Type of light	Adjustment	Connection type	Type	Part no.
Light switching	Push-pull: PNP/NPN	Visible red light	Teach-in button	Male connector M12, 5-pin	WTT12S-C2569	1136898

- **Sub product family:** PowerProx Safety
- **Analog output:** -
- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Object between sensor and reference object or reference surface

Switching mode	Switching output	Type of light	Adjustment	Connection type	Type	Part no.
Light switching	Push-pull: PNP/NPN	Visible red light	Teach-in button	Male connector M12, 5-pin	WTT12S-M2569	1136647

- **Sub product family:** PowerProx Speed Shiny
- **Analog output:** -
- **Functional principle:** Photoelectric proximity sensor
- **Number of switching outputs (type):** Q<sub>1</sub>, Q<sub>2</sub>
- **Functional principle detail:** Background suppression, Optical time-of-flight
- **Switching mode:** Light switching
- **Sensing range max.:** 50 mm ... 1,600 mm
- **Switching output:** push-pull: PNP/NPN
- **Type of light:** visible red light
- **Connection type:** male connector M12, 5-pin

Adjustment	Type	Part no.
Potentiometer	WTT12L-B2516	1082420
Teach-in button	WTT12L-B2513	1082416
Cable, Teach-in button	WTT12LC-B2513	1082413

- **Sub product family:** PowerProx Speed Shiny
- **Analog output:** 4 mA ... 20 mA / 0 V ... 10 V / switchable
- **Functional principle:** Photoelectric proximity sensor
- **Number of switching outputs (type):** Q<sub>1</sub>
- **Functional principle detail:** Background suppression, Optical time-of-flight
- **Switching mode:** Light switching
- **Sensing range max.:** 50 mm ... 1,600 mm

Switching output	Type of light	Adjustment	Connection type	Type	Part no.
Push-pull: PNP/NPN	Visible red light	Teach-in button	Male connector M12, 5-pin	WTT12L-A2513	1082476

- **Sub product family:** PowerProx Precision Shiny
- **Analog output:** -
- **Functional principle:** Photoelectric proximity sensor
- **Number of switching outputs (type):** Q<sub>1</sub> / Q
- **Functional principle detail:** Background suppression, Optical time-of-flight
- **Switching mode:** Light/dark switching
- **Sensing range max.:** 50 mm ... 1,400 mm

Switching output	Type of light	Adjustment	Connection type	Type	Part no.
Push-pull: PNP/NPN	Visible red light	Teach-in button	Male connector M12, 5-pin	WTT12L-B2522	1085283

- **Sub product family:** PowerProx Precision Shiny
- **Analog output:** -
- **Functional principle:** Photoelectric proximity sensor
- **Number of switching outputs (type):** Q<sub>1</sub>, Q<sub>2</sub>
- **Functional principle detail:** Background suppression, Optical time-of-flight
- **Switching mode:** Light switching
- **Sensing range max.:** 50 mm ... 1,400 mm
- **Switching output:** push-pull: PNP/NPN
- **Type of light:** visible red light
- **Connection type:** male connector M12, 5-pin

Adjustment	Type	Part no.
Potentiometer	WTT12L-B2526	1082419
Teach-in button	WTT12L-B2523	1082417
Cable, Teach-in button	WTT12LC-B2523	1082414

- **Sub product family:** PowerProx Precision Shiny
- **Analog output:** 4 mA ... 20 mA / 0 V ... 10 V / switchable
- **Functional principle:** Photoelectric proximity sensor
- **Number of switching outputs (type):** Q<sub>1</sub>
- **Functional principle detail:** Background suppression, Optical time-of-flight
- **Switching mode:** Light switching
- **Sensing range max.:** 50 mm ... 1,400 mm

Switching output	Type of light	Adjustment	Connection type	Type	Part no.
Push-pull: PNP/NPN	Visible red light	Teach-in button	Male connector M12, 5-pin	WTT12L-A2523	1082477



- **Sub product family:** PowerProx Speed
- **Analog output:** -
- **Functional principle:** Photoelectric proximity sensor
- **Number of switching outputs (type):** Q, /Q
- **Functional principle detail:** Background suppression, Optical time-of-flight
- **Switching mode:** Light/dark switching
- **Sensing range max.:** 50 mm ... 2,500 mm
- **Switching output:** push-pull: PNP/NPN
- **Type of light:** visible red light

Adjustment	Connection type	Type	Part no.
Potentiometer	Cable with plug M12, 5-pin, 0.3 m <sup>1)</sup>	WTT12L-B3531	1072612
	Cable, 5-wire, 2 m <sup>1)</sup>	WTT12L-B1531	1072606
	Male connector M12, 5-pin	WTT12L-B2531	1072609
Teach-in button	Cable with plug M12, 5-pin, 0.3 m <sup>1)</sup>	WTT12L-B3532	1072638
	Cable, 5-wire, 2 m <sup>1)</sup>	WTT12L-B1532	1072632
	Male connector M12, 5-pin	WTT12L-B2532	1072635

<sup>1)</sup> Do not bend below 0 °C.

- **Sub product family:** PowerProx Speed
- **Analog output:** -
- **Functional principle:** Photoelectric proximity sensor
- **Number of switching outputs (type):** Q<sub>1</sub>, Q<sub>2</sub>
- **Functional principle detail:** Background suppression, Optical time-of-flight
- **Switching mode:** Light switching
- **Switching output:** push-pull: PNP/NPN

Sensing range max.	Type of light	Adjustment	Connection type	Type	Part no.	
50 mm ... 2,500 mm	Infrared light	Teach-in button	Male connector M12, 5-pin	WTT12L-B2573	1091987	
				WTT12L-B3536	1072620	
	Visible red light	Potentiometer	Cable with plug M12, 5-pin, 0.3 m <sup>1)</sup>	WTT12L-B3538	1072629	
				Cable, 5-wire, 2 m <sup>1)</sup>	WTT12L-B1536	1072615
				Male connector M12, 5-pin	WTT12L-B2536	1072618
				WTT12L-B2538	1072626	
		Teach-in button	Cable with plug M12, 5-pin, 0.3 m <sup>1)</sup>	WTT12L-B3537	1072655	
				Cable, 5-wire, 2 m <sup>1)</sup>	WTT12L-B1533	1072641
			Male connector M12, 5-pin	WTT12L-B1537	1072649	
				WTT12L-B2533	1072531	
	Cable, Teach-in button	Cable with plug M12, 5-pin, 348 mm	WTT12L-B2537	1072652		
			WTT12LC-B3533	1124550		
	75 mm ... 1,300 mm	Visible red light	Cable, Teach-in button	Male connector M12, 5-pin	WTT12LC-B2533	1072658
					WTT12LC-B2533S02	1080611

<sup>1)</sup> Do not bend below 0 °C.

- **Sub product family:** PowerProx Speed
- **Analog output:** 4 mA ... 20 mA / 0 V ... 10 V / switchable
- **Functional principle:** Photoelectric proximity sensor
- **Number of switching outputs (type):** Q<sub>1</sub>
- **Functional principle detail:** Background suppression, Optical time-of-flight
- **Switching mode:** Light switching
- **Sensing range max.:** 50 mm ... 2,500 mm

Switching output	Type of light	Adjustment	Connection type	Type	Part no.
Push-pull: PNP/NPN	Visible red light	Teach-in button	Male connector M12, 5-pin	WTT12L-A2533	1082472

- **Sub product family:** PowerProx Distance Shiny
- **Analog output:** -
- **Functional principle:** Photoelectric proximity sensor
- **Number of switching outputs (type):** Q<sub>1</sub> / Q
- **Functional principle detail:** Background suppression, Optical time-of-flight
- **Switching mode:** Light/dark switching
- **Sensing range max.:** 50 mm ... 2,200 mm

Switching output	Type of light	Adjustment	Connection type	Type	Part no.
Push-pull: PNP/NPN	Visible red light	Teach-in button	Male connector M12, 5-pin	WTT12L-B2502S06	1090895

- **Sub product family:** PowerProx Distance Shiny
- **Analog output:** -
- **Functional principle:** Photoelectric proximity sensor
- **Number of switching outputs (type):** Q<sub>1</sub>, Q<sub>2</sub>
- **Functional principle detail:** Background suppression, Optical time-of-flight
- **Switching mode:** Light switching
- **Switching output:** push-pull: PNP/NPN
- **Type of light:** visible red light
- **Connection type:** male connector M12, 5-pin

Sensing range max.	Adjustment	Type	Part no.
50 mm ... 1,800 mm	Potentiometer	WTT12L-B2556	1082418
	Teach-in button	WTT12L-B2553	1082415
		WTT12L-B2553S28	1121743
	Cable, Teach-in button	WTT12LC-B2553	1082412
50 mm ... 2,200 mm	Teach-in button	WTT12L-B2503S05	1088544
	Cable, Teach-in button	WTT12LC-B2553S25	1117934

- **Sub product family:** PowerProx Distance Shiny
- **Analog output:** 4 mA ... 20 mA / 0 V ... 10 V / switchable
- **Functional principle:** Photoelectric proximity sensor
- **Number of switching outputs (type):** Q<sub>1</sub>
- **Functional principle detail:** Background suppression, Optical time-of-flight
- **Switching mode:** Light switching
- **Sensing range max.:** 50 mm ... 1,800 mm

Switching output	Type of light	Adjustment	Connection type	Type	Part no.
Push-pull: PNP/NPN	Visible red light	Teach-in button	Male connector M12, 5-pin	WTT12L-A2553	1082475

- **Sub product family:** PowerProx Distance
- **Analog output:** -
- **Functional principle:** Photoelectric proximity sensor
- **Number of switching outputs (type):** Q, /Q
- **Functional principle detail:** Background suppression, Optical time-of-flight
- **Switching mode:** Light/dark switching
- **Sensing range max.:** 50 mm ... 3,800 mm
- **Switching output:** push-pull: PNP/NPN
- **Type of light:** visible red light

Adjustment	Connection type	Type	Part no.
Potentiometer	Cable with plug M12, 5-pin, 0.3 m <sup>1)</sup>	WTT12L-B3561	1072614
	Cable, 5-wire, 2 m <sup>1)</sup>	WTT12L-B1561	1072608
	Male connector M12, 5-pin	WTT12L-B2561	1072611
Teach-in button	Cable with plug M12, 5-pin, 0.3 m <sup>1)</sup>	WTT12L-B3562	1072640
	Cable, 5-wire, 2 m <sup>1)</sup>	WTT12L-B1564	1094007
		WTT12L-B1562	1072634
	Male connector M12, 5-pin	WTT12L-B2562	1072637
Cable, Teach-in button	Cable with plug M12, 5-pin, 0.3 m <sup>1)</sup>	WTT12L-B3564S18	1108354

<sup>1)</sup> Do not bend below 0 °C.

- **Sub product family:** PowerProx Distance
- **Analog output:** -
- **Functional principle:** Photoelectric proximity sensor
- **Number of switching outputs (type):** Q<sub>1</sub>, Q<sub>2</sub>
- **Functional principle detail:** Background suppression, Optical time-of-flight
- **Switching mode:** Light switching
- **Sensing range max.:** 50 mm ... 3,800 mm
- **Switching output:** push-pull: PNP/NPN

Type of light	Adjustment	Connection type	Type	Part no.
Infrared light	Teach-in button	Male connector M12, 5-pin	WTT12L-B2593	1091984

<sup>1)</sup> Do not bend below 0 °C.

Type of light	Adjustment	Connection type	Type	Part no.
Visible red light	Potentiometer	Cable with plug M12, 5-pin, 0.3 m <sup>1)</sup>	WTT12L-B3566	1072622
			WTT12L-B3568	1072631
		Cable, 5-wire, 2 m <sup>1)</sup>	WTT12L-B1566	1072617
			WTT12L-B1568	1072625
		Male connector M12, 5-pin	WTT12L-B2566	1072619
			WTT12L-B2568	1072628
	Teach-in button	Cable with plug M12, 5-pin, 0.3 m <sup>1)</sup>	WTT12L-B3563	1072648
			WTT12LC-B3563	1090607
			WTT12L-B3567	1072657
		Cable, 5-wire, 2 m <sup>1)</sup>	WTT12L-B1563	1072643
			WTT12L-B1567	1072651
		Male connector M12, 5-pin	WTT12L-B2563	1072645
			WTT12L-B2567S13	1100200
			WTT12L-B2567	1072654
			WTT12LC-B1563	1103602
	Cable, Teach-in button	Male connector M12, 5-pin	WTT12LC-B2563S11	1098031
			WTT12LC-B2563S12	1098032
			WTT12LC-B2563S15	1103345
			WTT12LC-B2563S21	1108976
			WTT12LC-B2563	1072532

<sup>1)</sup> Do not bend below 0 °C.

- **Sub product family:** PowerProx Distance
- **Analog output:** 4 mA ... 20 mA / 0 V ... 10 V / switchable
- **Functional principle:** Photoelectric proximity sensor
- **Number of switching outputs (type):** Q<sub>1</sub>
- **Functional principle detail:** Background suppression, Optical time-of-flight
- **Switching mode:** Light switching
- **Sensing range max.:** 50 mm ... 3,800 mm
- **Switching output:** push-pull: PNP/NPN
- **Type of light:** visible red light
- **Adjustment:** Teach-in button

Connection type	Type	Part no.
Cable, 5-wire, 2 m <sup>1)</sup>	WTT12L-A1563	1128481
Male connector M12, 5-pin	WTT12L-A2563	1082474
	WTT12L-A2563S29	1124065

<sup>1)</sup> Do not bend below 0 °C.

- **Sub product family:** PowerProx Precision
- **Analog output:** -
- **Functional principle:** Photoelectric proximity sensor
- **Number of switching outputs (type):** Q, /Q
- **Functional principle detail:** Background suppression, Optical time-of-flight
- **Switching mode:** Light/dark switching
- **Sensing range max.:** 50 mm ... 1,800 mm
- **Switching output:** push-pull: PNP/NPN
- **Type of light:** visible red light

Adjustment	Connection type	Type	Part no.
Potentiometer	Cable with plug M12, 5-pin, 0.3 m <sup>1)</sup>	WTT12L-B3541	1072613
	Cable, 5-wire, 2 m <sup>1)</sup>	WTT12L-B1541	1072607
	Male connector M12, 5-pin	WTT12L-B2541	1072610
Teach-in button	Cable with plug M12, 5-pin, 0.3 m <sup>1)</sup>	WTT12L-B3542	1072639
	Cable, 5-wire, 2 m <sup>1)</sup>	WTT12L-B1542	1072633
	Male connector M12, 5-pin	WTT12L-B2542	1072636

<sup>1)</sup> Do not bend below 0 °C.

- **Sub product family:** PowerProx Precision
- **Analog output:** -
- **Functional principle:** Photoelectric proximity sensor
- **Number of switching outputs (type):** Q<sub>1</sub>, Q<sub>2</sub>
- **Functional principle detail:** Background suppression, Optical time-of-flight
- **Switching mode:** Light switching
- **Sensing range max.:** 50 mm ... 1,800 mm
- **Switching output:** push-pull: PNP/NPN

Type of light	Adjustment	Connection type	Type	Part no.
Infrared light	Teach-in button	Male connector M12, 5-pin	WTT12L-B2583	1091989

<sup>1)</sup> Do not bend below 0 °C.

Type of light	Adjustment	Connection type	Type	Part no.
Visible red light	Potentiometer	Cable with plug M12, 5-pin, 0.3 m <sup>1)</sup>	WTT12L-B3546	1072621
			WTT12L-B3548	1072630
		Cable, 5-wire, 2 m <sup>1)</sup>	WTT12L-B1546	1072616
			WTT12L-B1548	1072624
		Male connector M12, 5-pin	WTT12L-B2546	1072530
			WTT12L-B2548	1072627
	Teach-in button	Cable with plug M12, 5-pin, 0.3 m <sup>1)</sup>	WTT12L-B3543	1072647
			WTT12L-B3547	1072656
		Cable, 5-wire, 2 m <sup>1)</sup>	WTT12L-B1543	1072642
			WTT12L-B1547	1072650
		Male connector M12, 5-pin	WTT12L-B2543	1072644
			WTT12L-B2547	1072653
	Cable, Teach-in button	Male connector M12, 5-pin	WTT12LC-B2543B01	1091309
			WTT12LC-B2543S23	1115431
			WTT12LC-B2543	1072659

<sup>1)</sup> Do not bend below 0 °C.

- **Sub product family:** PowerProx Precision
- **Analog output:** 4 mA ... 20 mA / 0 V ... 10 V / switchable
- **Functional principle:** Photoelectric proximity sensor
- **Number of switching outputs (type):** Q<sub>1</sub>
- **Functional principle detail:** Background suppression, Optical time-of-flight
- **Switching mode:** Light switching
- **Sensing range max.:** 50 mm ... 1,800 mm
- **Switching output:** push-pull: PNP/NPN
- **Type of light:** visible red light
- **Adjustment:** Teach-in button

Connection type	Type	Part no.
Cable with plug M12, 5-pin, 0.3 m <sup>1)</sup>	WTT12L-A3543	1095504
Male connector M12, 5-pin	WTT12L-A2543	1082473
	WTT12L-A2543S09	1093543

<sup>1)</sup> 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:

Contacts and other locations –[www.sick.com](http://www.sick.com)