



## WTT190 PowerProx

High-performance MultiTask photoelectric proximity sensor in a small housing

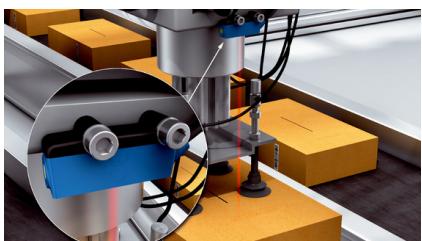
**SICK**  
Sensor Intelligence.

## 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.



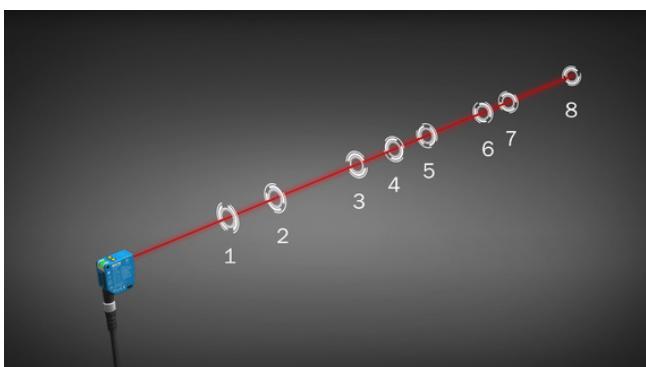
The ideal solution for space-saving use in grippers and robotic elements



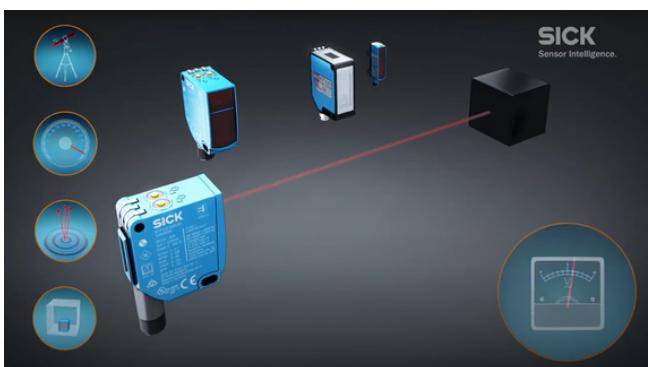
Top performance for occupied bay and clearance detection thanks to IO-Link and up to eight switching points



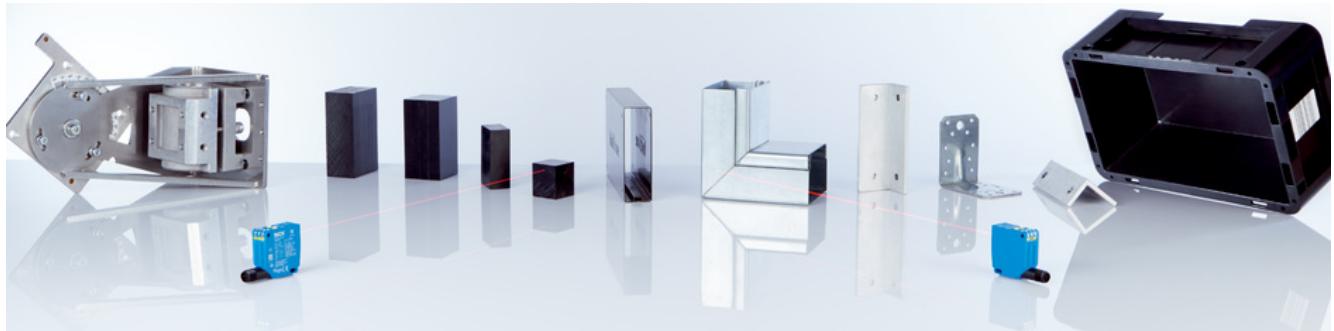
High performance even in tight spaces: Perfect for compact AGV applications



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

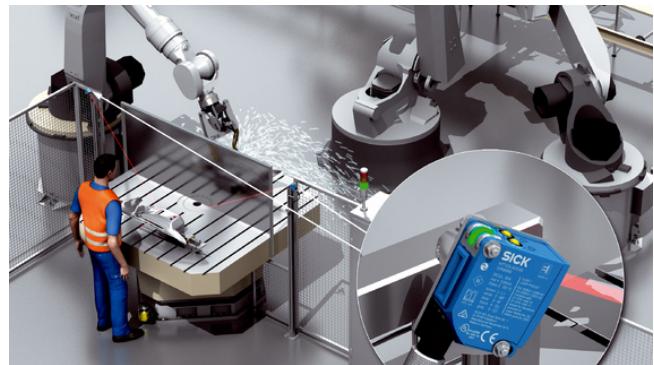


## Exact detection results in any position

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

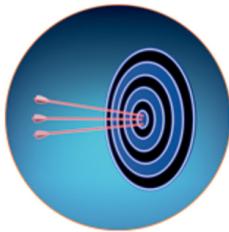


**Very high precision: The PowerProx delivers reliable detection results even with jet-black, glossy or changing object surfaces as well as very small and flat objects**



## 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



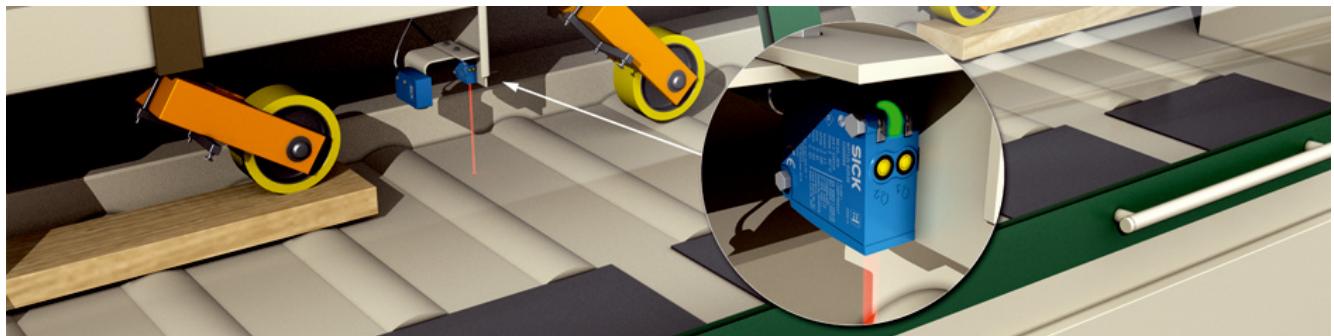
With an up to 4 m sensing range, the PowerProx keeps a close eye on even far-away objects



**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>	≥ 2,000 µm
<b>Response time</b>	0.6 ms, 0.8 ms, 1 ms, 1.8 ms, 3.4 ms, 6.6 ms, 13 ms, 25.8 ms, 51.4 ms, 102.6 ms 0.5 ms ... 102.6 ms (depends on variant)
<b>Switching frequency</b>	1,000 Hz 833 Hz 500 Hz 147 Hz 38 Hz 10 Hz 625 Hz 278 Hz 76 Hz 19 Hz 4.9 Hz <sup>1)</sup>
-	
<b>IO-Link</b>	✓, COM3 (230,4 kBaud)
<b>Enclosure rating</b>	IP67

<sup>1)</sup> Can be set via a mean value filter (AVG1, AVG4, AVG16, AVG64, AVG256).

## Product description

Despite their small sensor housing, the WTT190 PowerProx MultiTask photoelectric proximity sensors feature an impressive sensing distance of up to 3.0 m and a switching frequency of up to 1,000 Hz. The sensors detect objects precisely and reliably based on time-of-flight technology. Various connection types and a choice of one or two separately adjustable switching thresholds open up a wide variety of application possibilities. The portfolio is supplemented by a variant with analog output and IO-Link interface. Adjustment of the sensors is easy and occurs via a potentiometer or the display.

## At a glance

- Compact housing design (174 mm x 456 mm x 347 mm) with flexible sensing distance (200 mm to 3 m)
- Potentiometer or display with teach-in button and well visible, uniform light spot
- Minimum distance between object and background: 15 mm to 175 mm
- Switching frequency up to 1,000 Hz and time-of-flight technology
- Laser class 1
- Variant with analog output and IO-Link interface available

## Your benefits

- High flexibility when designing machines thanks to space-saving mounting possibilities
- High user-friendliness through easy sensor adjustment and precise sensor alignment
- High flexibility thanks to wide variety of application possibilities
- Reliable object detection even with shiny or jet-black surfaces and background reflections
- No expensive laser protection measures and no specially trained personnel are required

## Ordering information

Other models and accessories → [www.sick.com/WTT190\\_PowerProx](http://www.sick.com/WTT190_PowerProx)

- **Product version:** PowerProx Small
- **Analog output:** -
- **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/dark switching
- **Sensing range max.:** 200 mm ... 2,500 mm
- **Type of light:** visible red light
- **Adjustment:** Potentiometer

Switching output	Connection type	Type	Part no.
NPN	Cable, 4-wire, 2 m <sup>1)</sup>	WTT190L-N1131	6055960
	Cable with plug M12, 5-pin, 0.3 m <sup>1)</sup>	WTT190L-N3531	6055961
	Male connector M8, 4-pin	WTT190L-N2231	6055959
PNP	Cable, 4-wire, 2 m <sup>1)</sup>	WTT190L-P1131	6055954
	Cable with plug M12, 5-pin, 0.3 m <sup>1)</sup>	WTT190L-P3531	6055955
	Male connector M8, 4-pin	WTT190L-P2231	6055953

<sup>1)</sup> Do not bend below 0 °C.

- **Product version:** PowerProx Small
- **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/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
200 mm ... 2,500 mm	NPN	Potentiometer	Cable with plug M12, 5-pin, 0.3 m <sup>1)</sup>	WTT190L-N3536	6055964
			Cable, 5-wire, 2 m <sup>1)</sup>	WTT190L-N1536	6055963
			Male connector M8, 4-pin	WTT190L-N2236	6055962
	PNP	Potentiometer	Cable with plug M12, 5-pin, 0.3 m <sup>1)</sup>	WTT190L-P3536	6055958
			Cable, 5-wire, 2 m <sup>1)</sup>	WTT190L-P1536	6055957
			Male connector M8, 4-pin	WTT190L-P2236	6055956
200 mm ... 3,000 mm	PNP, NPN	Teach-in button	Male connector M8, 4-pin	WTT190L-K2233	6062141

<sup>1)</sup> Do not bend below 0 °C.

- **Product version:** PowerProx Small
- **Analog output:** -
- **Functional principle:** Photoelectric proximity sensor
- **Number of switching outputs (type):** Q<sub>1</sub>, Q<sub>2</sub>, Q<sub>3</sub>
- **Functional principle detail:** Background suppression, Optical time-of-flight
- **Switching mode:** Light/dark switching
- **Sensing range max.:** 200 mm ... 3,000 mm
- **Switching output:** 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>	WTT190L-K3534	6062143
Cable, 5-wire, 2 m <sup>1)</sup>	WTT190L-K1534	6062142

<sup>1)</sup> Do not bend below 0 °C.

- **Product version:** PowerProx Small
- **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/dark switching
- **Sensing range max.:** 200 mm ... 3,000 mm
- **Switching output:** 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>	WTT190L-A3532	6062146
Cable, 5-wire, 2 m <sup>1)</sup>	WTT190L-A1532	6062145
Male connector M8, 4-pin	WTT190L-A2232	6062144

<sup>1)</sup> Do not bend below 0 °C.

- **Product version:** PowerProx Small
- **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, distance value
- **Switching mode:** Light/dark switching
- **Sensing range max.:** 200 mm ... 3,000 mm

Switching output	Type of light	Adjustment	Connection type	Type	Part no.
Push-pull: PNP/NPN	Visible red light	Teach-in button	Male connector M8, 4-pin	WTT190LC-B2233A00	6067745

## 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)