



W45

Detect products at a distance beyond what the eye can see

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Technical data overview

Dimensions (W x H x D)	60 mm x 105 mm x 105 mm
Sensing range max.	200 mm ... 2,000 mm ¹⁾ 200 mm ... 1,000 mm ¹⁾ 1 m ... 55 m ²⁾ 0 m ... 350 m 0 m ... 35 m ³⁾
Light source	LED
Type of light	Infrared light / visible red light (depending on type)
Enclosure rating	IP67 IP65
Housing material	Metal
Adjustment	Potentiometer

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033).

²⁾ OP60-00.

³⁾ Valid only for ambient temperature.

Product description

The W45 sensor family offers the highest level of operational security at 100 m among standard photoelectric sensors. These sensors are enclosed in a rugged metal housing for harsh industrial environments and long service life. When combined with optional front lens heating, the W45 becomes an ideal choice for long-range outdoor applications.

All versions are equipped with adjustable time delays for individual application flexibility, which reduces the number of stocked part numbers. Variants with DC voltage and universal AC/DC voltage are available.

Special variants have been developed to detect high temperature targets such as glowing steel (> 800 °C).

At a glance

- Long sensing range with a high operating reserve
- Rugged metal housing
- Optional: Powerful front lens heating
- Optional test input, time delays and alarm output
- Variants for 10 - 60 V DC or 24 - 240 V DC / 24 - 240 V AC voltage supply

Your benefits

- Reliable continuous operation due to high operating reserves
- Very large sensing distance
- Rugged metal housing ensures a long service life in harsh industrial environments
- Front lens heating prevents condensation and frost for reliable operation in outdoor applications
- Multiple functions for simpler integration of individual systems
- Variants DC voltage and universal AC/DC voltage provides installation flexibility due to same housing

Ordering information

Other models and accessories → www.sick.com/W45

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression
- **Light source:** LED
- **Voltage type:** AC/DC
- **Switching mode:** Light/dark switching
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
200 mm ... 2,000 mm	Relay	Potentiometer	Connector Hirschmann, 6-pin	WT45-R650	1009113
				WT45-R660	1009112
			Terminal connection with PG13,5, 6-pin	WT45-R250	1009118
				WT45-R260	1009107

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** 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.
200 mm ... 2,000 mm	NPN	Potentiometer	Terminal connection with PG13,5, 6-pin	WT45-N250	1009116
				WT45-N260	1009109
	PNP	Potentiometer	Terminal connection with PG13,5, 6-pin	WT45-P250	1009117
				WT45-P260	1009108

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

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
200 mm ... 1,000 mm	PNP	Potentiometer	Terminal connection with PG13,5, 6-pin	WT45-P200S03	1015316

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression
- **Light source:** LED
- **Voltage type:** AC/DC
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
200 mm ... 1,000 mm	Relay	Potentiometer	Terminal connection with PG13,5, 6-pin	WT45-R200S04	1015317

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** Dual lens
- **Light source:** LED
- **Voltage type:** AC/DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
1 m ... 55 m	Relay	Potentiometer	Connector Hirschmann, 6-pin	WL45-R650	1008836
				WL45-R660	1008832
			Terminal connection with PG13,5, 6-pin	WL45-R250	1008841
				WL45-R260	1008562

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

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
1 m ... 55 m	NPN	Potentiometer	Connector Hirschmann, 6-pin	WL45-N650	1008838
				WL45-N660	1008830
			Terminal connection with PG13,5, 6-pin	WL45-N250	1008839
				WL45-N260	1008669
	PNP	Potentiometer	Connector Hirschmann, 6-pin	WL45-P650	1008837
				WL45-P660	1008831
			Terminal connection with PG13,5, 6-pin	WL45-P250	1008840
				WL45-P260	1008668

- **Sensor 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 ... 350 m	NPN	Potentiometer	Connector Hirschmann, 6-pin	WS/WE45-N650	1010986
				Terminal connection with PG13,5, 6-pin	WS/WE45-N250
			WS/WE45-N250S02		1016799
			WS/WE45-N260	1010984	
	PNP	Potentiometer	Connector Hirschmann, 6-pin	WS/WE45-P660	1010989
				Terminal connection with PG13,5, 6-pin	WS/WE45-P250
WS/WE45-P260	1010985				

- **Sensor principle:** Through-beam photoelectric sensor
- **Light source:** LED
- **Voltage type:** AC/DC
- **Switching mode:** Light/dark switching
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 350 m	Relay	Potentiometer	Connector Hirschmann, 6-pin	WS/WE45-R650	1010996
				WS/WE45-R660	1010997
			Terminal connection with PG13,5, 6-pin	WS/WE45-R250	1010994
				WS/WE45-R260	1010995

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

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 35 m	PNP	Potentiometer	Terminal connection with PG13,5, 6-pin	WS/WE45-P260S01	1016031

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