Photoelectric Sensors - Rectangular OS50

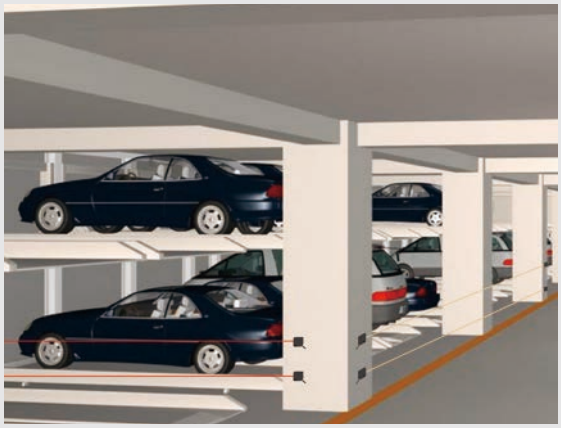
Description

Rectangular 50*50 mm; 60 m sensing range for opposed mode; 10 m sensing range for retro-reflective mode, 7 m sensing range for diffused mode; wide voltage power supply, relay output. Suitable for garage, warehousing, logistics, crane anti-collision, etc.

Features

- Multiple output modes
- Long sensing range
- Flexible mounting

Sensor Function Description



40 m opposed for ultra-long distance detection, suitable for stereo garages, warehouses, 24 ... 240 V AC and DC power supply, relay output, no need for a separate 24 V switching power supply.

Using a red LED light source that facilitates optical axis alignment, a 10 m retro-reflective detection distance and a wide lateral width rolling shutter door can also be installed.

Type

The detection distance corresponds to the reflector RB50*50-1

Detection mode	Type	Distance	Light source	Frequency	Output	Switching mode	Connection	Wiring
Opposed	OS50-S6 (emitter)	40 m	Infrared	— —	— —	— —	2 m cable	Fig. 1
	OS50-EVP6 (receiver)	40 m	— —	800 Hz	PNP	NO + NC	2 m cable	Fig. 3
	OS50-EVN6 (receiver)	40 m	— —	800 Hz	NPN	NO + NC	2 m cable	Fig. 4
	OS50-S6Q (emitter)	40 m	Infrared	— —	— —	— —	M12 connector	Fig. 2
	OS50-EVP6Q (receiver)	40 m	— —	800 Hz	PNP	NO + NC	M12 connector	Fig. 5
	OS50-EVN6Q (receiver)	40 m	— —	800 Hz	NPN	NO + NC	M12 connector	Fig. 6
	OS50-S5 (emitter)	40 m	Infrared	— —	— —	— —	2 m cable	Fig. 11
	OS50-EVR (receiver)	40 m	— —	50 Hz	Relay	NO + NC	2 m cable	Fig. 12
	OS50-S206 (emitter)	20 m	Red	— —	— —	— —	2 m cable	Fig. 1
	OS50-E20VP6 (receiver)	20 m	— —	800 Hz	PNP	NO + NC	2 m cable	Fig. 3
	OS50-E20VN6 (receiver)	20 m	— —	800 Hz	NPN	NO + NC	2 m cable	Fig. 4
	OS50-S206Q (emitter)	20 m	Red	— —	— —	— —	M12 connector	Fig. 2
	OS50-E20VP6Q (receiver)	20 m	— —	800 Hz	PNP	NO + NC	M12 connector	Fig. 5
	OS50-E20VN6Q (receiver)	20 m	— —	800 Hz	NPN	NO + NC	M12 connector	Fig. 6
	OS50-S205 (emitter)	20 m	Red	— —	— —	— —	2 m cable	Fig. 11
	OS50-E20VR5 (receiver)	20 m	— —	50 Hz	Relay	NO + NC	2 m cable	Fig. 12
	OS50-SL6 (emitter)	60 m	Laser	— —	— —	— —	2 m cable	Fig. 1
	OS50-ELVP6 (receiver)	60 m	— —	800 Hz	PNP	NO + NC	2 m cable	Fig. 3
	OS50-ELVN6 (receiver)	60 m	— —	800 Hz	NPN	NO + NC	2 m cable	Fig. 4
	OS50-SL6Q (emitter)	60 m	Laser	— —	— —	— —	M12 connector	Fig. 2
	OS50-ELVP6Q (receiver)	60 m	— —	800 Hz	PNP	NO + NC	M12 connector	Fig. 5
	OS50-ELVN6Q (receiver)	60 m	— —	800 Hz	NPN	NO + NC	M12 connector	Fig. 6
	OS50-SL5 (emitter)	60 m	Laser	— —	— —	— —	2 m cable	Fig. 11
	OS50-ELVR5 (receiver)	60 m	— —	50 Hz	Relay	NO + NC	2 m cable	Fig. 12
Retro-reflective	OS50-RVP6	10 m	Red	800 Hz	PNP	NO + NC	2 m cable	Fig. 3
	OS50-RVN6	10 m	Red	800 Hz	NPN	NO + NC	2 m cable	Fig. 4
	OS50-RVP6Q	10 m	Red	800 Hz	PNP	NO + NC	M12 connector	Fig. 5
	OS50-RVN6Q	10 m	Red	800 Hz	NPN	NO + NC	M12 connector	Fig. 6
	OS50-RVR5	10 m	Red	50 Hz	Relay	NO + NC	2 m cable	Fig. 12
Polarized Retro-reflective	OS50-RPVP6	6 m	Red	800 Hz	PNP	NO + NC	2 m cable	Fig. 3
	OS50-RPVN6	6 m	Red	800 Hz	NPN	NO + NC	2 m cable	Fig. 4
	OS50-RPVP6Q	6 m	Red	800 Hz	PNP	NO + NC	M12 connector	Fig. 5
	OS50-RPVN6Q	6 m	Red	800 Hz	NPN	NO + NC	M12 connector	Fig. 6
	OS50-RPVR5	6 m	Red	50 Hz	Relay	NO + NC	2 m cable	Fig. 12

Type

The detection distance corresponds to the reflector RB50*50-1

Detection mode	Type	Distance	Light source	Frequency	Output	Switching mode	Connection	Wiring
Diffused	OS50-K1000VP6	1000 mm	Red	800 Hz	PNP	NO + NC	2 m cable	Fig. 7
	OS50-K1000VN6	1000 mm	Red	800 Hz	NPN	NO + NC	2 m cable	Fig. 8
	OS50-K1000VP6Q	1000 mm	Red	800 Hz	PNP	NO + NC	M12 connector	Fig. 9
	OS50-K1000VN6Q	1000 mm	Red	800 Hz	NPN	NO + NC	M12 connector	Fig. 10
	OS50-K1000VR5	1000 mm	Red	50 Hz	Relay	NO + NC	2 m cable	Fig. 12
	OS50-K2500VP6	2500 mm	Infrared	800 Hz	PNP	NO + NC	2 m cable	Fig. 7
	OS50-K2500VN6	2500 mm	Infrared	800 Hz	NPN	NO + NC	2 m cable	Fig. 8
	OS50-K2500VP6Q	2500 mm	Infrared	800 Hz	PNP	NO + NC	M12 connector	Fig. 9
	OS50-K2500VN6Q	2500 mm	Infrared	800 Hz	NPN	NO + NC	M12 connector	Fig. 10
	OS50-K2500VR5	2500 mm	Infrared	50 Hz	Relay	NO + NC	2 m cable	Fig. 12
	OS50-K3500VP6	3500 mm	Infrared laser	800 Hz	PNP	NO + NC	2 m cable	Fig. 7
	OS50-K3500VN6	3500 mm	Infrared laser	800 Hz	NPN	NO + NC	2 m cable	Fig. 8
	OS50-K3500VP6Q	3500 mm	Infrared laser	800 Hz	PNP	NO + NC	M12 connector	Fig. 9
	OS50-K3500VN6Q	3500 mm	Infrared laser	800 Hz	NPN	NO + NC	M12 connector	Fig. 10
	OS50-K3500VR5	3500 mm	Infrared laser	50 Hz	Relay	NO + NC	2 m cable	Fig. 12
	OS50-K7000VP6	7000 mm	Infrared laser	800 Hz	PNP	NO + NC	2 m cable	Fig. 7
	OS50-K7000VN6	7000 mm	Infrared laser	800 Hz	NPN	NO + NC	2 m cable	Fig. 8
	OS50-K7000VP6Q	7000 mm	Infrared laser	800 Hz	PNP	NO + NC	M12 connector	Fig. 9
	OS50-K7000VN6Q	7000 mm	Infrared laser	800 Hz	NPN	NO + NC	M12 connector	Fig. 10
	OS50-K7000VR5	7000 mm	Infrared laser	50 Hz	Relay	NO + NC	2 m cable	Fig. 12

Technical Data

Operating voltage	10 ... 30 V DC (NPN, PNP); 24 ... 240 V AC/DC (relay type)
Light source	Red laser (650 nm) / class 1
Response time	Max, 2 ms (NPN, PNP); max, 30 ms (relay type)
No-load current	≤ 25 mA
Load current	≤ 200 mA (NPN, PNP); ≤ 3 A (relay type)
Protection circuit	Electrical surge, reverse polarity protection, short circuit protection, electrical surge protection (relay type)
Distance adjustment	Adjustable, with single-turn knob
Output type	NPN, PNP, Relay
Switch mode	NO + NC
Ambient temperature	-25 ... +55 °C
Operating environment humidity	35% to 85%RH (no condensation)
Spot size	4.5 cm (1.2 m), 7 cm (2.4 m), 9 cm (3.5 m)@OS50-K3500
Voltage resistance	1000 V/AC 50/60 Hz 60 s
Insulation impedence	≥ 50 MΩ (500 V DC)
Shock resistance	Complex amplitude 1.5 mm 10 ... 50 Hz (2hr X, Y, Z respectively)
Impact resistance	500 m/s^2 (50 G) 3 times X, Y, Z respectively
Protection class	IP67
Housing material	PBT + ABS
Accessories	Mounting bracket (all types) EOS50-1, reflector RB50*50-1 (only for retro-reflective and polarized retro-reflective)

Wiring

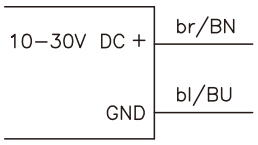


Fig. 1

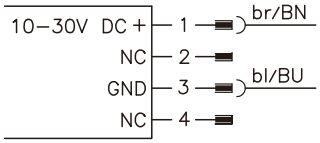


Fig. 2

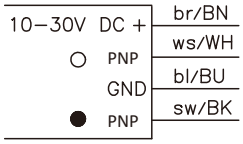


Fig. 3

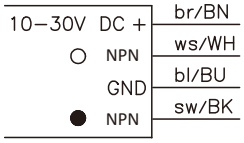


Fig. 4

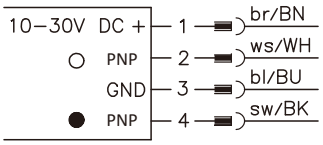


Fig. 5

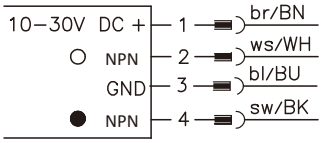


Fig. 6

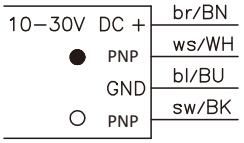


Fig. 7

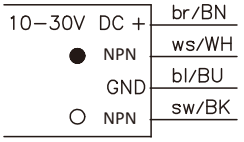


Fig. 8

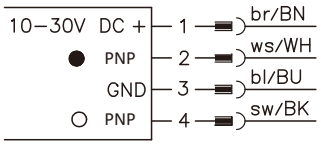


Fig. 9

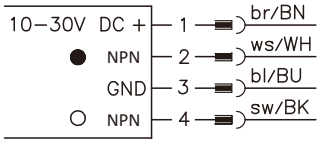


Fig. 10

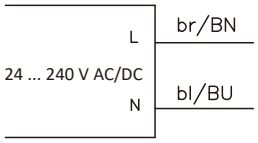


Fig. 11

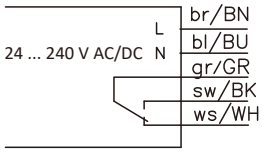
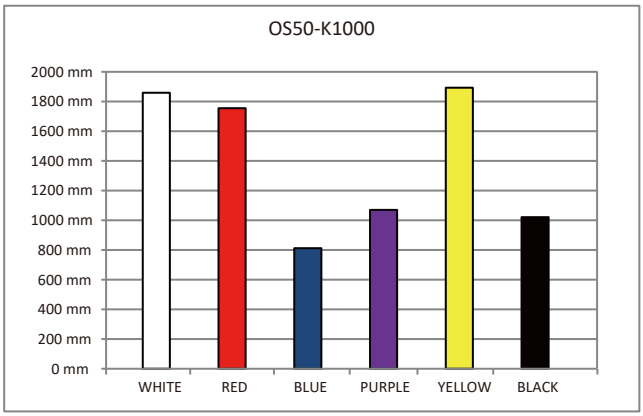
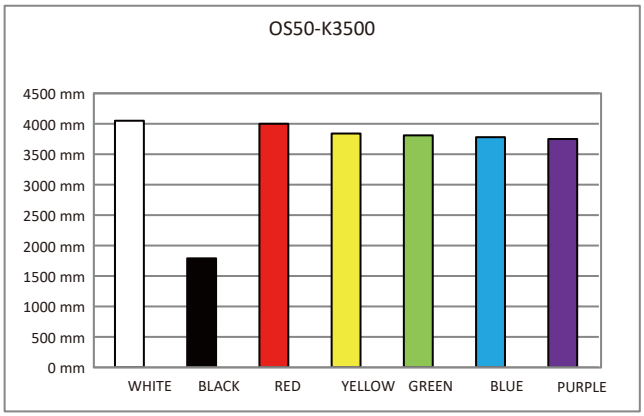
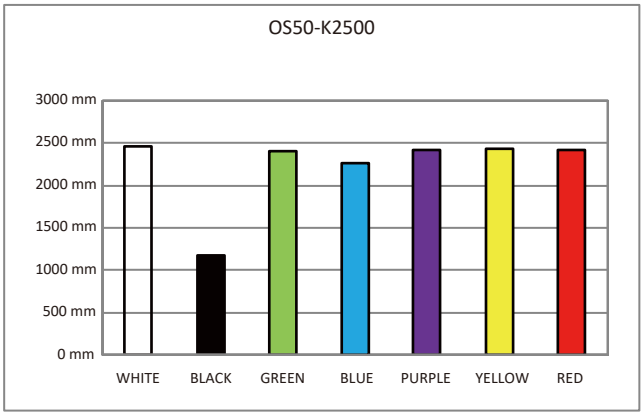


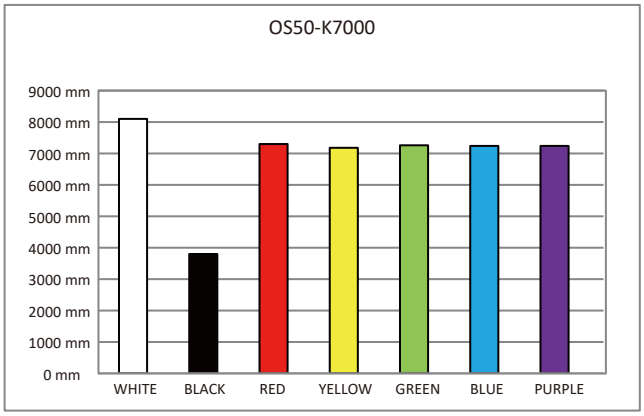
Fig. 12

Attenuation Figure

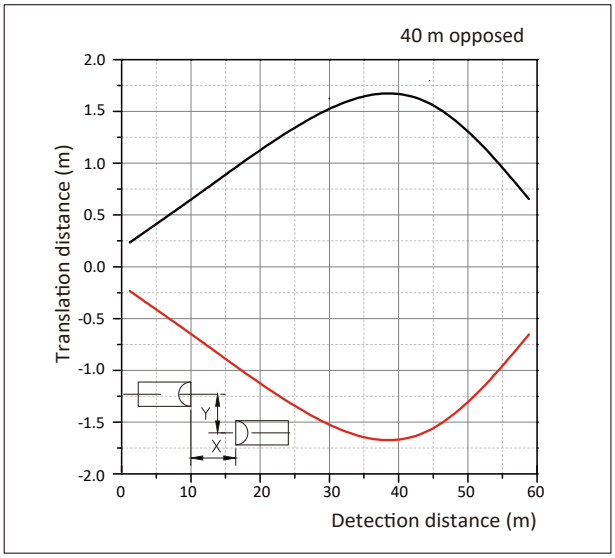


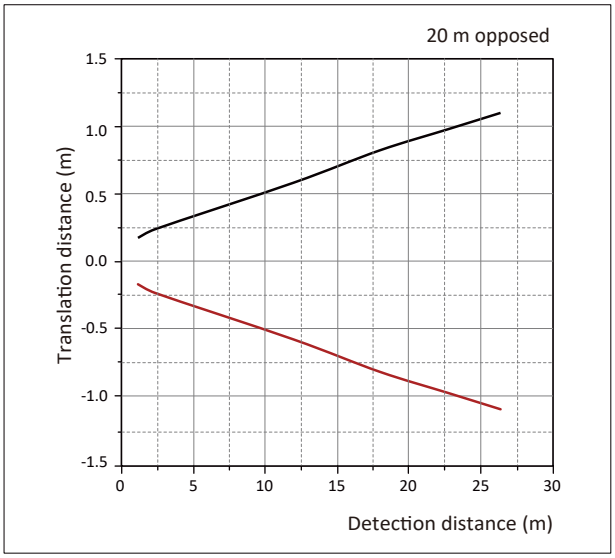


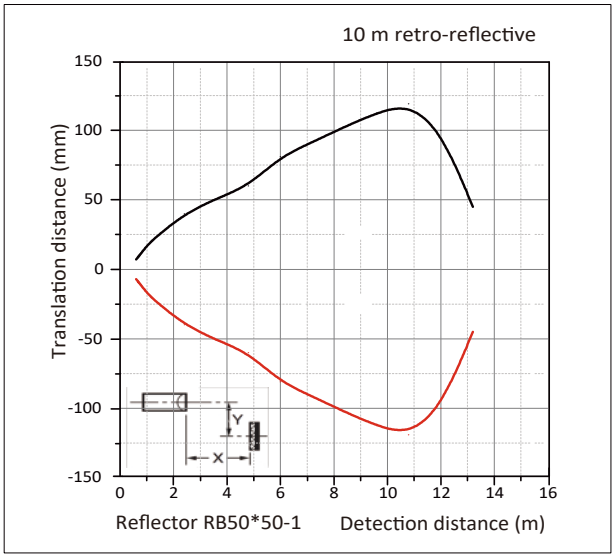


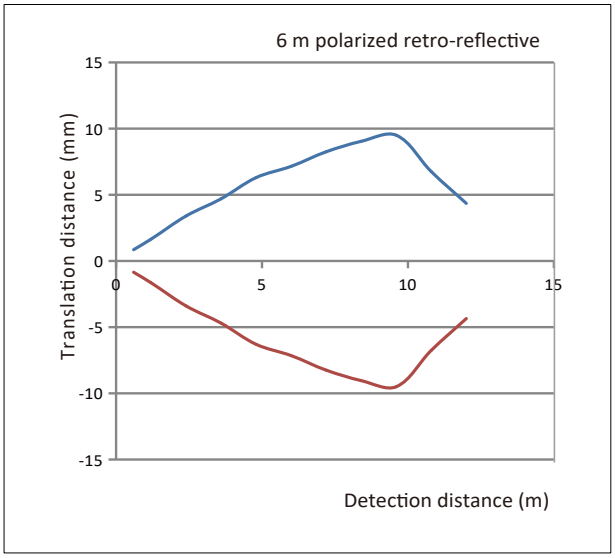


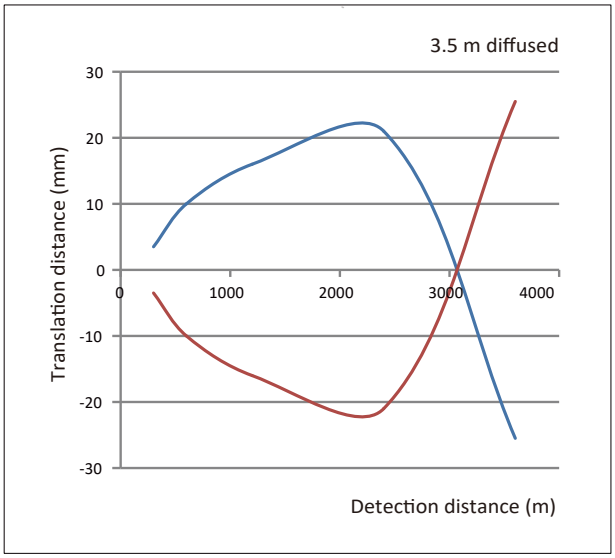
Translation Characteristic Curve

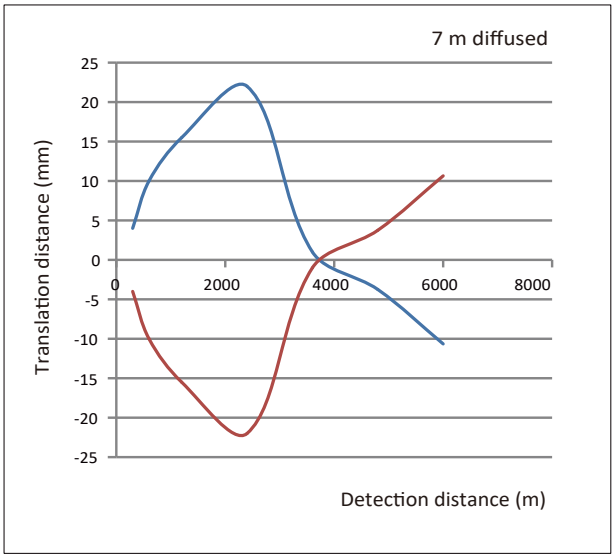






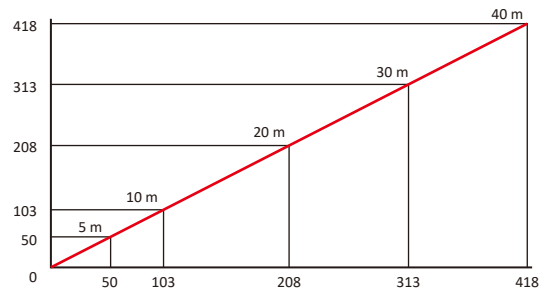




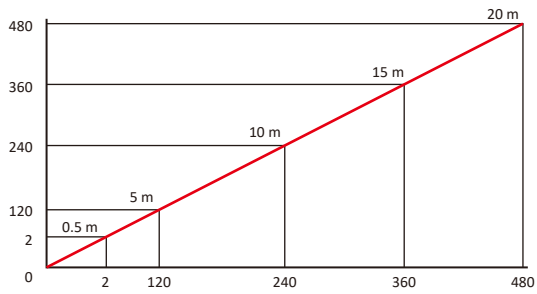


Beam Pattern

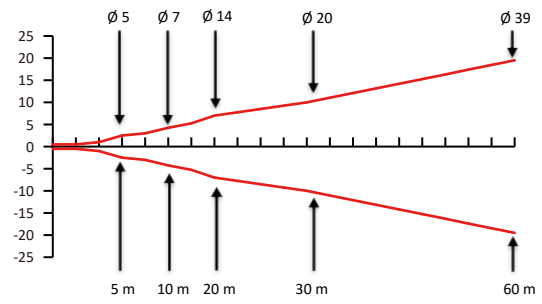
OS50-S6/S5 (cm)



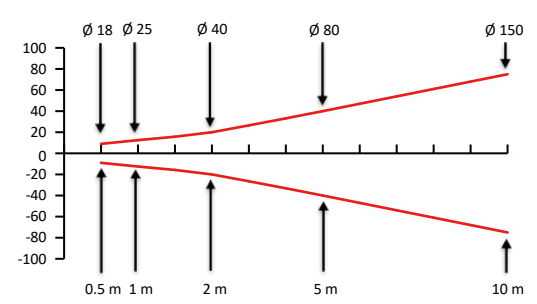
OS50-206/205 (mm)



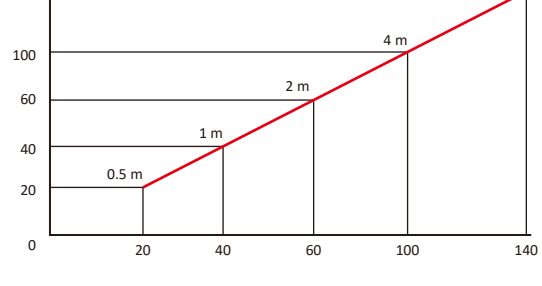
OS50-SL6/SL5 (mm)



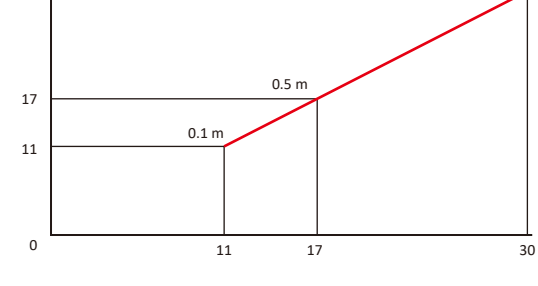
OS50-R (mm)



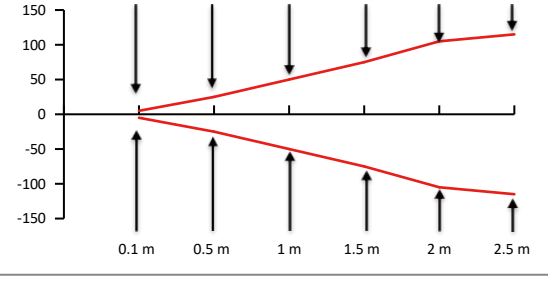
OS50-RP (mm)



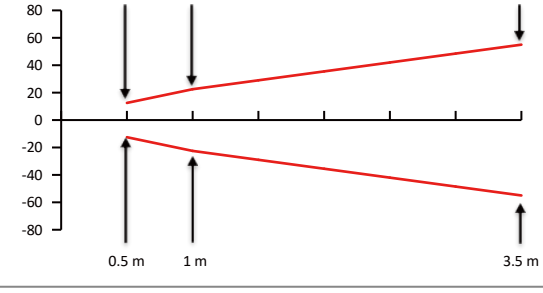
OS50-K1000 (mm)



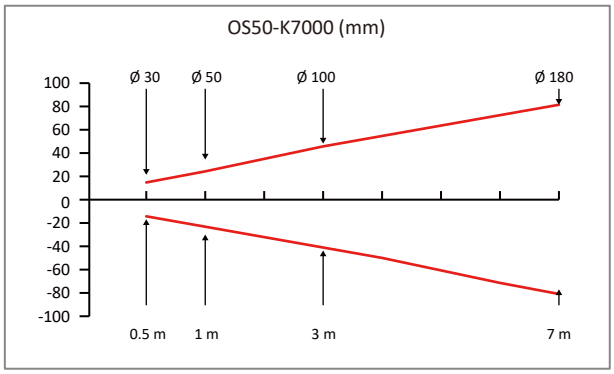
OS50-K2500 (mm)



OS50-K3500 (mm)

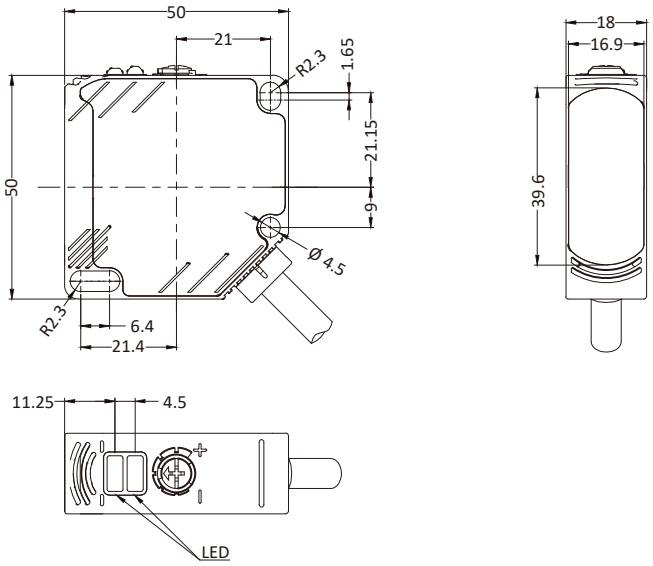


Beam Pattern

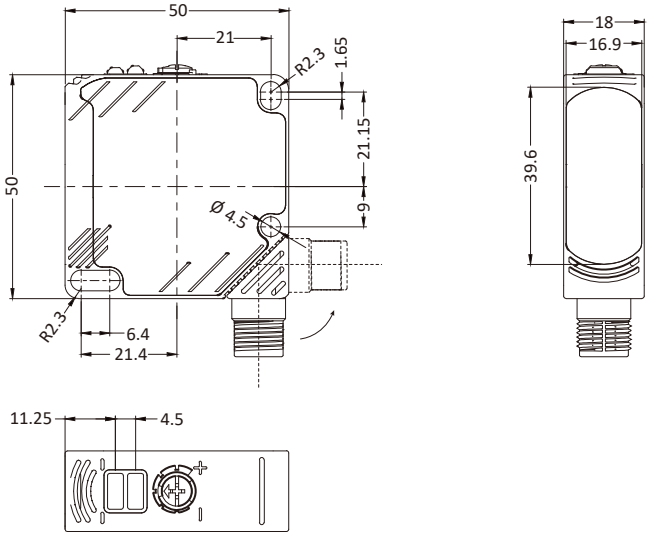


Dimensions

Cable

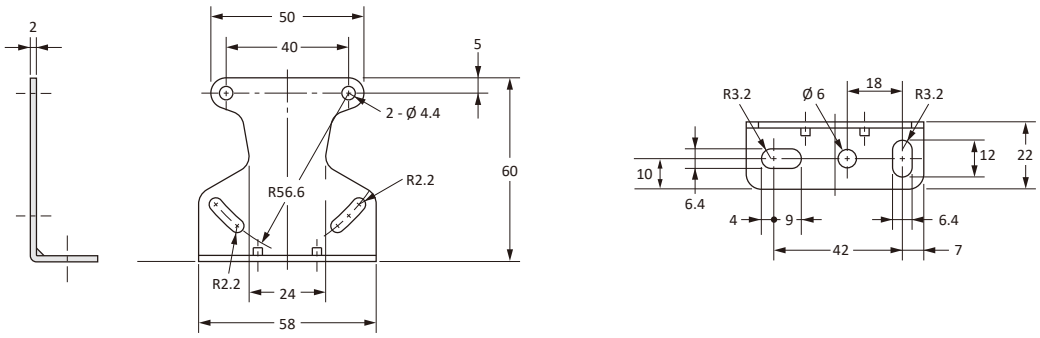


M12 connector



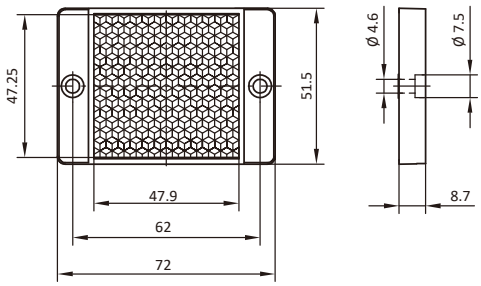
Mounting Bracket (Standard)

EOS50-1



Reflector

RB50x50-1 (standard)



RB50x50 (optional)