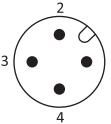


OS50 SERIES

ARTICLE PROPERTIES

SENSOR TYPE	Photoelectric sensor	CONNECTION TYPES (see table)
SIZE	See dimensions	- Cable PVC, 0.34 mm², 2 m** - M12 connector
OPERATING DISTANCE	See table	
DETECTION MODE	Opposed, Retro-reflective, Polarized retro-reflective, Diffused	

** Other cable lengths are available on request

TECHNICAL DATA

OPERATING VOLTAGE	10 ... 30 V DC (NPN, PNP), 24 ... 240 V AC/DC (relay type)	REVERSE POLARITY PROTECTION	Yes
RIPPLE VOLTAGE	≤ 10 %	OVERLOAD RESISTANCE	Yes
LASER CLASS	Red laser: 650 nm / class 1 Red light: 650 nm Infrared light: 940 nm	SHORT CIRCUIT PROTECTION	Yes
LIGHT SPOT SIZE	See Beam Pattern	ELECTRICAL SURGE PROTECTION	Yes, (relay type)
OUTPUT	NPN, PNP, relay	MTTF	
FREQUENCY	See table	Emitter	504 years
CURRENT CONSUMPTION	≤ 25 mA	Receiver	290 years
LOAD CURRENT	≤ 200 mA (NPN, PNP), ≤ 3 A (relay type)	Retro-reflective and diffused	284 years
HOUSING MATERIAL	PBT + ABS	Relay	29 years
VOLTAGE WITHSTANDING	1000 V/AC, 50/60 Hz, 60 s		

ENVIRONMENTAL CONDITIONS

OPERATING ENVIRONMENT HUMIDITY	35 % to 85 % RH (no condensation)	INSULATION IMPEDENCE	≥50 MΩ (500 V DC)
PROTECTION CLASS	IP67	SHOCK RESISTANCE (EN 60068-2-27)	500 m/s ² (50 G) 3 times X, Y, Z respectively
STORAGE TEMPERATURE	-25 ... +55 °C	IMPACT RESISTANCE (EN 60068-2-6)	Complex amplitude 1.5 mm 10 ... 50 Hz (2hr X, Y, Z respectively)
AMBIENT TEMPERATURE	-40 ... +70 °C	ANTI-AMBIENT LIGHT	≤ 5000 Lux

STANDARDS AND DIRECTIVES

EMC DIRECTIVE 2014/30/EU	EN IEC 60947-5-2	ROHS DIRECTIVE 2011/65/EU	EN IEC 63000
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OS50 SERIES

APPROVALS



DETECTION MODE OPPOSED

Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS50-S6 (emitter)	40 m	Infrared	—	— (WD1)	—	2 m cable	see Fig. 1
OS50-EVP6 (receiver)	40 m	—	800 Hz	NPN (WD3)	L.O + D.O	2 m cable	see Fig. 1
OS50-EVN6 (receiver)	40 m	—	800 Hz	PNP (WD4)	L.O + D.O	2 m cable	see Fig. 1
OS50-S6Q (emitter)	40 m	Infrared	—	— (WD2)	—	M12 connector	see Fig. 2
OS50-EVP6Q (receiver)	40 m	—	800 Hz	NPN (WD5)	L.O + D.O	M12 connector	see Fig. 2
OS50-EVN6Q (receiver)	40 m	—	800 Hz	PNP (WD6)	L.O + D.O	M12 connector	see Fig. 2
OS50-S5 (emitter)	40 m	Infrared	—	— (WD11)	—	2 m cable	see Fig. 1
OS50-EVR5 (receiver)	40 m	—	50 Hz	Relay(WD12)	L.O + D.O	2 m cable	see Fig. 1

DETECTION MODE OPPOSED

Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS50-S206 (emitter)	20 m	Red	—	— (WD1)	—	2 m cable	see Fig. 1
OS50-E20VP6 (receiver)	20 m	—	800 Hz	NPN (WD3)	L.O + D.O	2 m cable	see Fig. 1
OS50-E20VN6 (receiver)	20 m	—	800 Hz	PNP (WD4)	L.O + D.O	2 m cable	see Fig. 1
OS50-S206Q (emitter)	20 m	Red	—	— (WD2)	—	M12 connector	see Fig. 2
OS50-E20VP6Q (receiver)	20 m	—	800 Hz	NPN (WD5)	L.O + D.O	M12 connector	see Fig. 2
OS50-E20VN6Q (receiver)	20 m	—	800 Hz	PNP (WD6)	L.O + D.O	M12 connector	see Fig. 2
OS50-S205 (emitter)	20 m	Red	—	— (WD11)	—	2 m cable	see Fig. 1
OS50-E20VR5 (receiver)	20 m	—	50 Hz	Relay(WD12)	L.O + D.O	2 m cable	see Fig. 1

DETECTION MODE OPPOSED

Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS50-SL6 (emitter)	60 m	Laser	—	— (WD1)	—	2 m cable	see Fig. 1
OS50-ELVP6 (receiver)	60 m	—	800 Hz	NPN (WD3)	L.O + D.O	2 m cable	see Fig. 1
OS50-ELVN6 (receiver)	60 m	—	800 Hz	PNP (WD4)	L.O + D.O	2 m cable	see Fig. 1
OS50-SL6Q (emitter)	60 m	Laser	—	— (WD2)	—	M12 connector	see Fig. 2
OS50-ELVP6Q (receiver)	60 m	—	800 Hz	NPN (WD5)	L.O + D.O	M12 connector	see Fig. 2
OS50-ELVN6Q (receiver)	60 m	—	800 Hz	PNP (WD6)	L.O + D.O	M12 connector	see Fig. 2
OS50-SL5 (emitter)	60 m	Laser	—	— (WD11)	—	2 m cable	see Fig. 1
OS50-ELVR5 (receiver)	60 m	—	50 Hz	Relay(WD12)	L.O + D.O	2 m cable	see Fig. 1

OS50 SERIES

DETECTION MODE RETRO-REFLECTIVE

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

Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS50-RVP6	10 m	Red	800 Hz	NPN (WD3)	L.O + D.O	2 m cable	see Fig. 1
OS50-RVN6	10 m	Red	800 Hz	PNP (WD4)	L.O + D.O	2 m cable	see Fig. 1
OS50-RVP6Q	10 m	Red	800 Hz	NPN (WD5)	L.O + D.O	M12 connector	see Fig. 2
OS50-RVN6Q	10 m	Red	800 Hz	PNP (WD6)	L.O + D.O	M12 connector	see Fig. 2
OS50-RVR5	10 m	Red	50 Hz	Relay (WD12)	L.O + D.O	2 m cable	see Fig. 1

DETECTION MODE POLARIZED RETRO-REFLECTIVE

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

Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS50-RPVP6	6 m	Red	800 Hz	NPN (WD3)	L.O + D.O	2 m cable	see Fig. 1
OS50-RPVN6	6 m	Red	800 Hz	PNP (WD4)	L.O + D.O	2 m cable	see Fig. 1
OS50-RPVP6Q	6 m	Red	800 Hz	NPN (WD5)	L.O + D.O	M12 connector	see Fig. 2
OS50-RPVN6Q	6 m	Red	800 Hz	PNP (WD6)	L.O + D.O	M12 connector	see Fig. 2
OS50-RPVR5	6 m	Red	50 Hz	Relay (WD12)	L.O + D.O	2 m cable	see Fig. 1

DETECTION MODE DIFFUSED

Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS50-K1000VP6	1000 mm	Red	800 Hz	NPN (WD7)	L.O + D.O	2 m cable	see Fig. 1
OS50-K1000VN6	1000 mm	Red	800 Hz	PNP (WD8)	L.O + D.O	2 m cable	see Fig. 1
OS50-K1000VP6Q	1000 mm	Red	800 Hz	NPN (WD9)	L.O + D.O	M12 connector	see Fig. 2
OS50-K1000VN6Q	1000 mm	Red	800 Hz	PNP (WD10)	L.O + D.O	M12 connector	see Fig. 2
OS50-K1000VR5	1000 mm	Red	50 Hz	Relay (WD12)	L.O + D.O	2 m cable	see Fig. 1

DETECTION MODE DIFFUSED

Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS50-K2500VP6	2500 mm	Infrared	800 Hz	NPN (WD7)	L.O + D.O	2 m cable	see Fig. 1
OS50-K2500VN6	2500 mm	Infrared	800 Hz	PNP (WD8)	L.O + D.O	2 m cable	see Fig. 1
OS50-K2500VP6Q	2500 mm	Infrared	800 Hz	NPN (WD9)	L.O + D.O	M12 connector	see Fig. 2
OS50-K2500VN6Q	2500 mm	Infrared	800 Hz	PNP (WD10)	L.O + D.O	M12 connector	see Fig. 2
OS50-K2500VR5	2500 mm	Infrared	50 Hz	Relay (WD12)	L.O + D.O	2 m cable	see Fig. 1

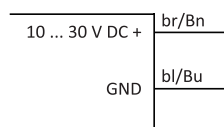
OS50 SERIES

DETECTION MODE DIFFUSED

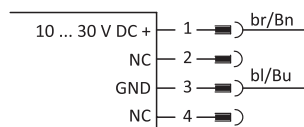
Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS50-K3500VP6	3500 mm	Infrared laser	800 Hz	NPN (WD7)	L.O + D.O	2 m cable	see Fig. 1
OS50-K3500VN6	3500 mm	Infrared laser	800 Hz	PNP (WD8)	L.O + D.O	2 m cable	see Fig. 1
OS50-K3500VP6Q	3500 mm	Infrared laser	800 Hz	NPN (WD9)	L.O + D.O	M12 connector	see Fig. 2
OS50-K3500VN6Q	3500 mm	Infrared laser	800 Hz	PNP (WD10)	L.O + D.O	M12 connector	see Fig. 2
OS50-K3500VR5	3500 mm	Infrared laser	50 Hz	Relay (WD12)	L.O + D.O	2 m cable	see Fig. 1
OS50-K7000VP6	7000 mm	Infrared laser	800 Hz	NPN (WD7)	L.O + D.O	2 m cable	see Fig. 1
OS50-K7000VN6	7000 mm	Infrared laser	800 Hz	PNP (WD8)	L.O + D.O	2 m cable	see Fig. 1
OS50-K7000VP6Q	7000 mm	Infrared laser	800 Hz	NPN (WD9)	L.O + D.O	M12 connector	see Fig. 2
OS50-K7000VN6Q	7000 mm	Infrared laser	800 Hz	PNP (WD10)	L.O + D.O	M12 connector	see Fig. 2
OS50-K7000VR5	7000 mm	Infrared laser	50 Hz	Relay (WD12)	L.O + D.O	2 m cable	see Fig. 1

WIRING DIAGRAMS

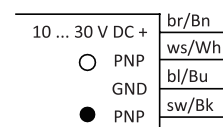
WD1 Emitter



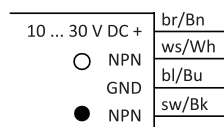
WD2 Emitter



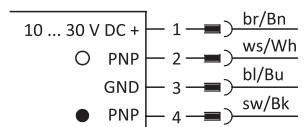
WD3 PNP / Light on | Dark on



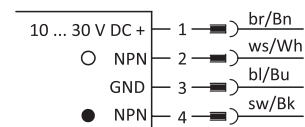
WD4 NPN / Light on | Dark on



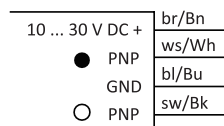
WD5 PNP / Light on | Dark on



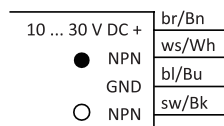
WD6 NPN / Light on | Dark on



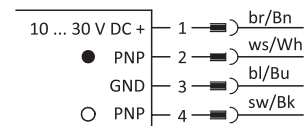
WD7 PNP / Light on | Dark on



WD8 NPN / Light on | Dark on



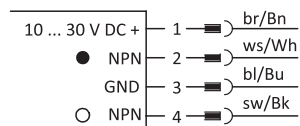
WD9 PNP / Light on | Dark on



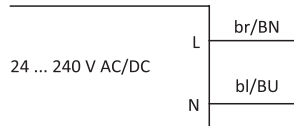
OS50 SERIES

WIRING DIAGRAMS

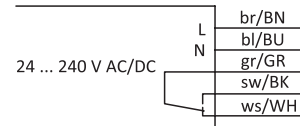
WD10 NPN / Light on | Dark on



WD11 Emitter

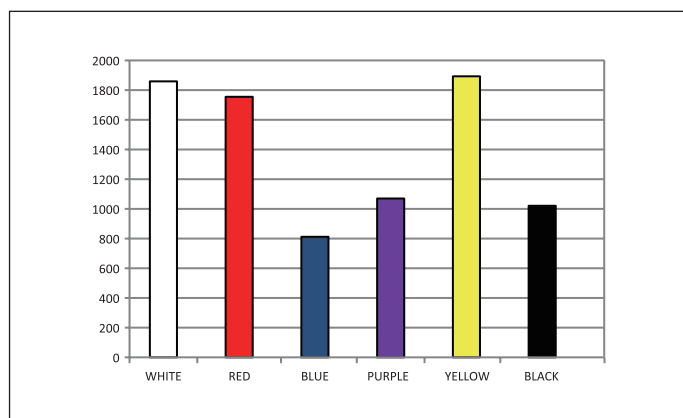


WD12 Relay / Light on | Dark on

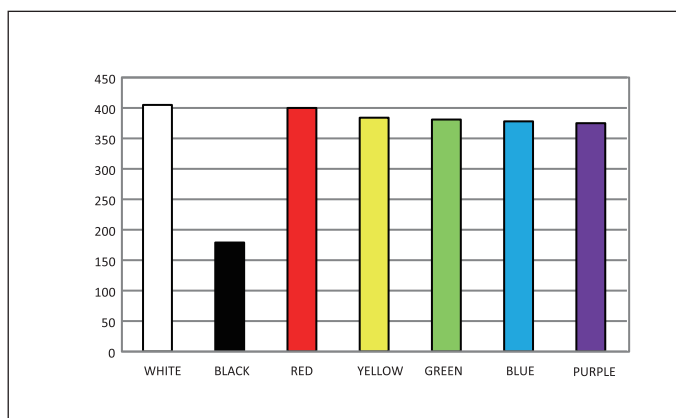


ATTENUATION FIGURE

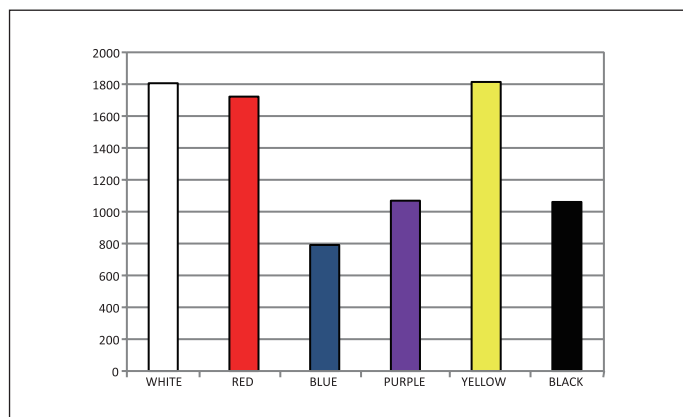
OS50-K1000VP6



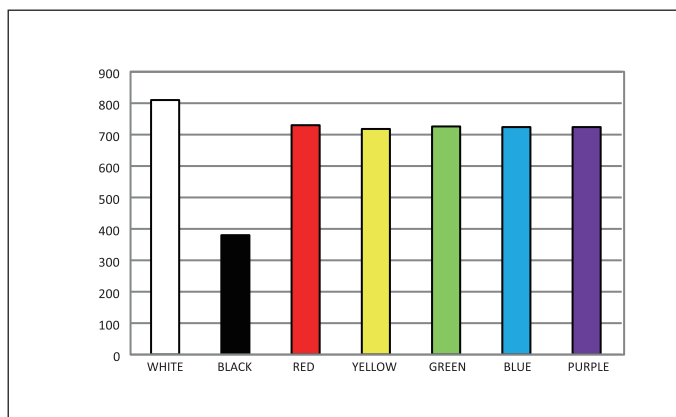
OS50-K3500VP6



OS50-K1000VR5



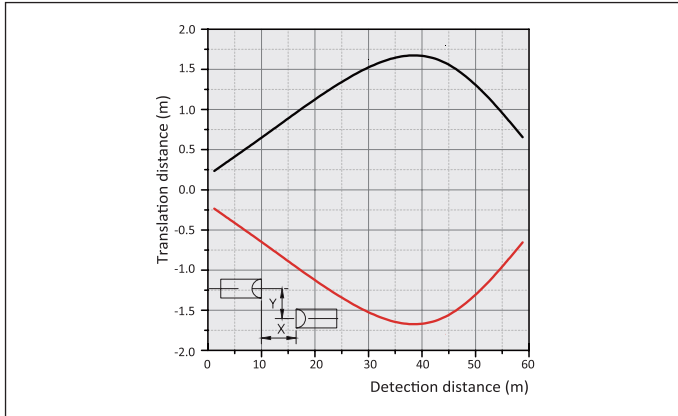
OS50-K7000VR5



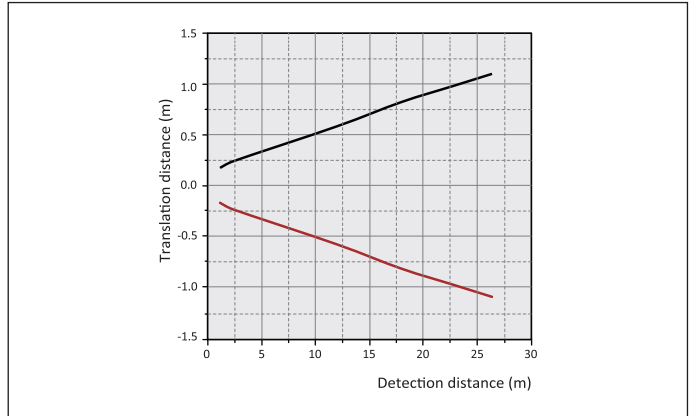
OS50 SERIES

TRANSLATION CHARACTERISTIC CURVE

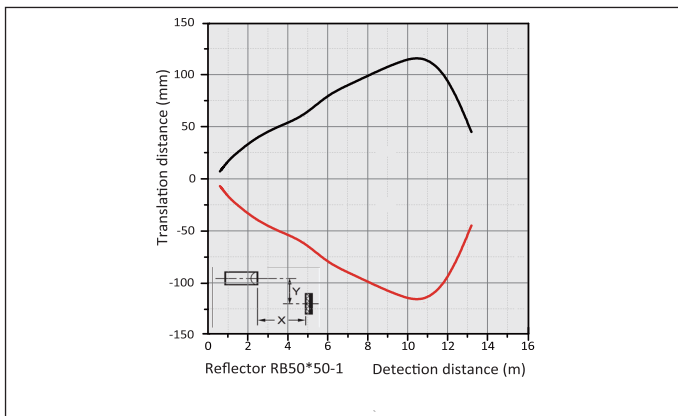
40 m opposed



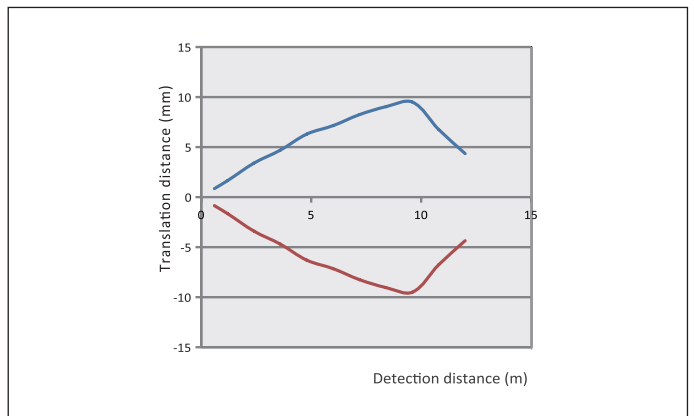
20 m opposed



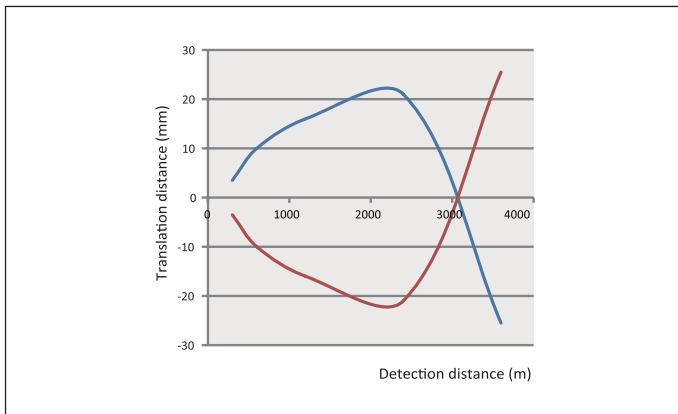
10 m retro-reflective



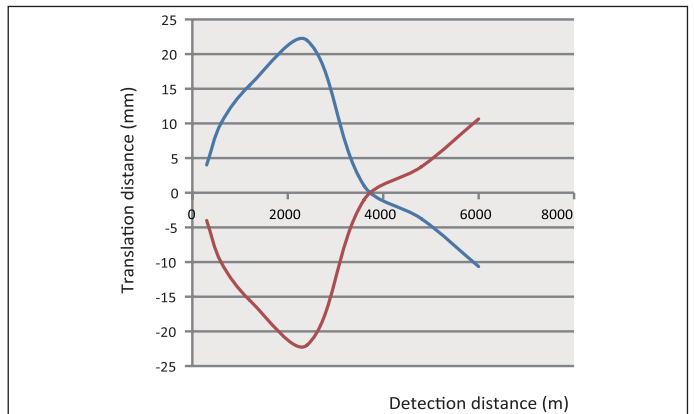
6 m polarized retro-reflective



3.5 m diffused



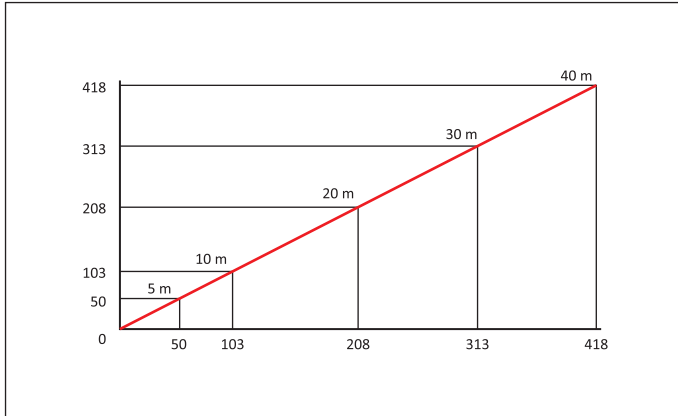
7 m diffused



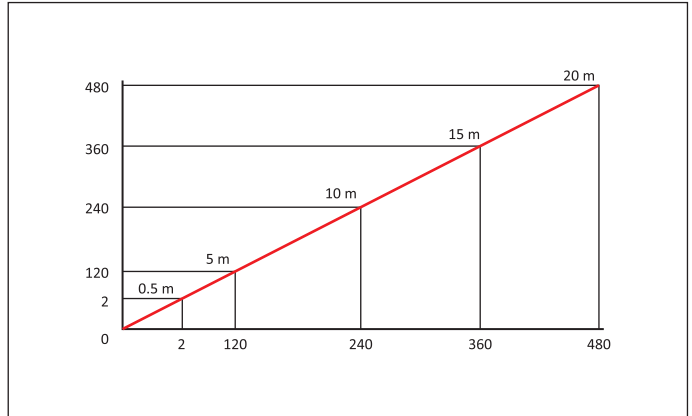
OS50 SERIES

BEAM PATTERN

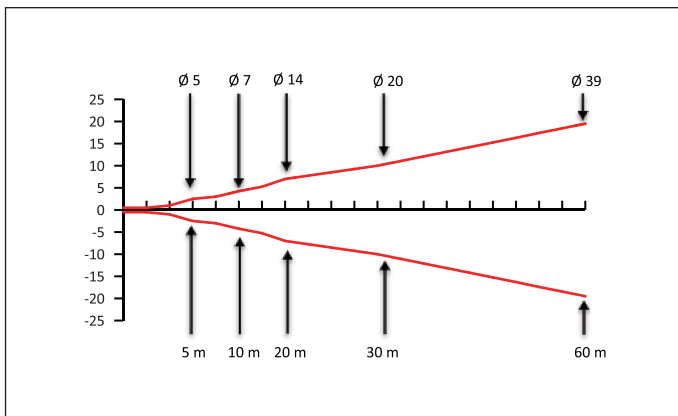
OS50-S6/S5 (cm)



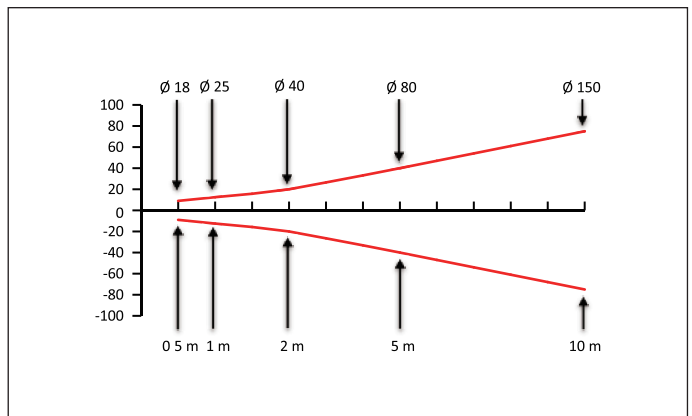
OS50-206/205 (mm)



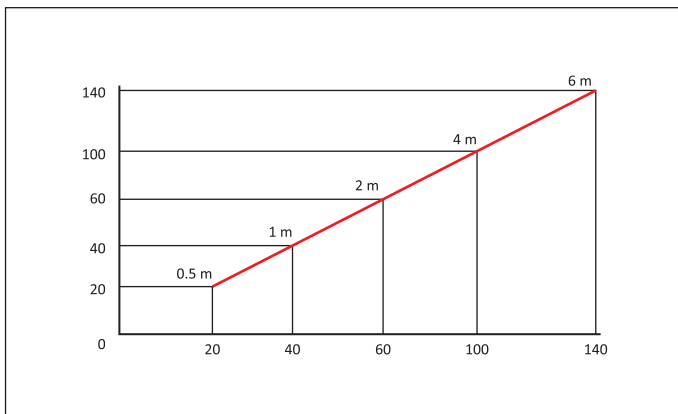
OS50-SL6/SL5 (mm)



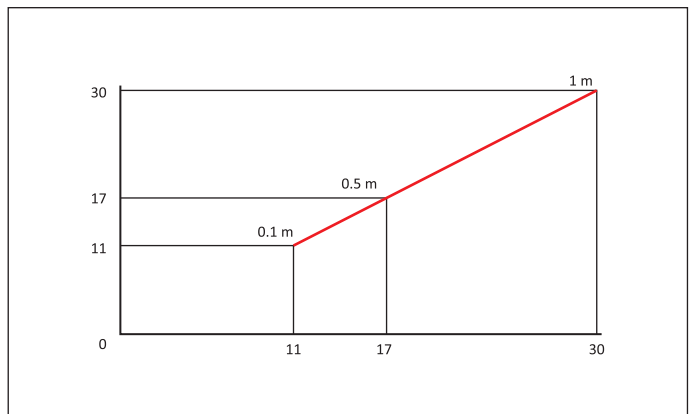
OS50-R (mm)



OS50-RP (mm)



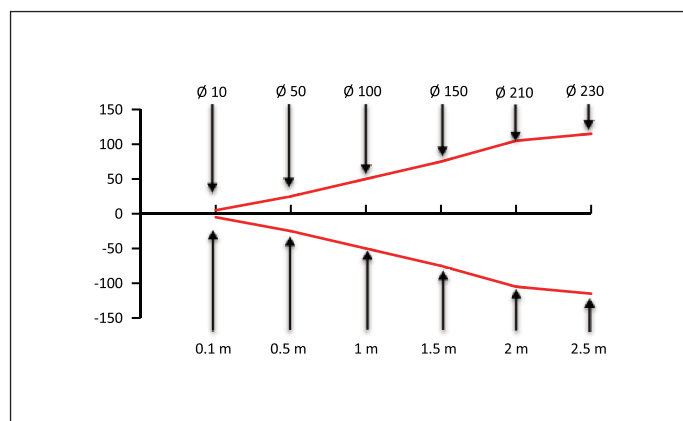
OS50-K1000 (mm)



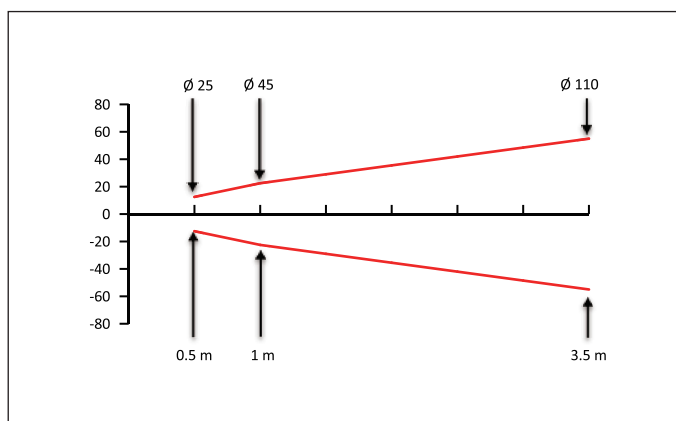
OS50 SERIES

BEAM PATTERN

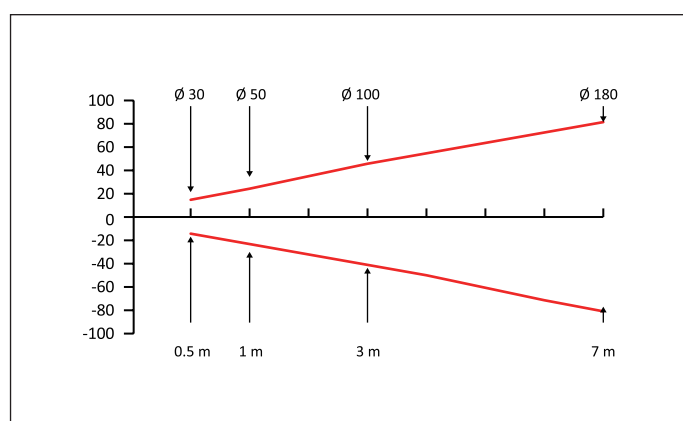
OS50-K2500 (mm)



OS50-K3500 (mm)



OS50-K7000 (mm)



OS50 SERIES

DIMENSIONS

Fig. 1 OS50 with cable

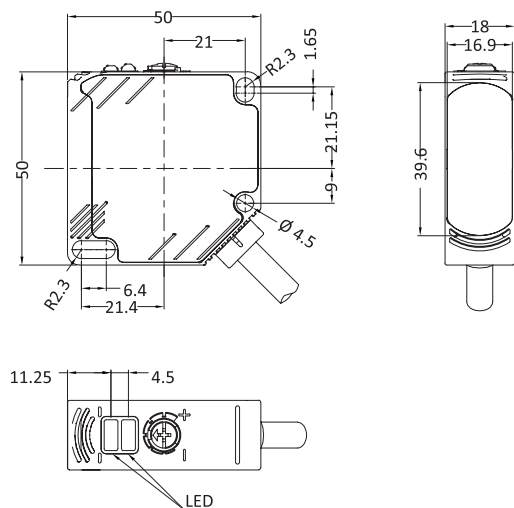
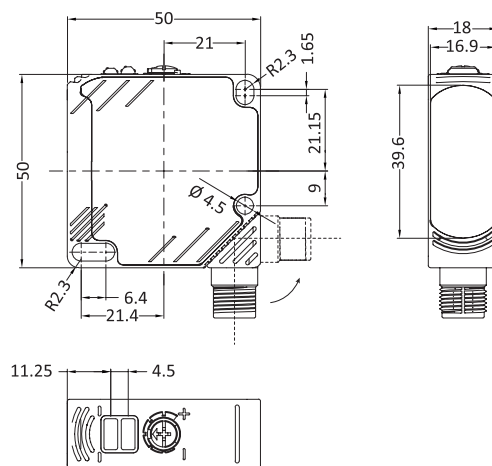
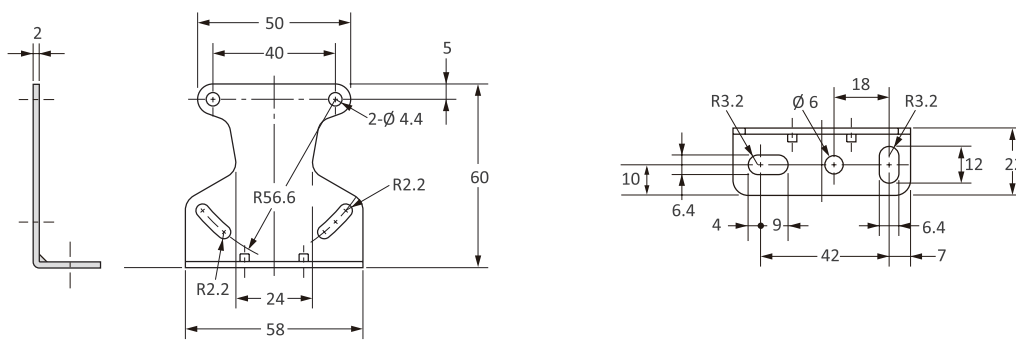


Fig. 2 OS50 with M12 connector



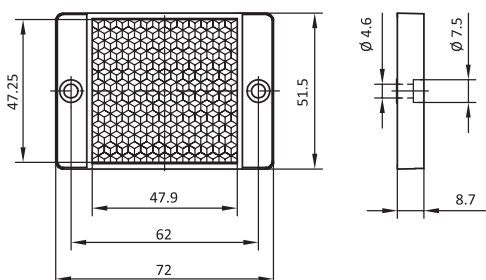
MOUNTING BRACKET (STANDARD)

EOS50-1



REFLECTOR

RB50x50-1 (standard)



OS50 SERIES

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