



OS10S-R SERIES

ARTICLE PROPERTIES

SENSOR TYPE	Photoelectric sensor	CONNECTION TYPES (see table)	
SIZE	See dimensions	• Cable	PVC, 0.14 mm ² , 2 m**
OPERATING DISTANCE	See table	• M8 connector 3-pin, A-coded	
DETECTION MODE	Opposed, Polarized retro-reflective, BGS, Diffused	• M8 connector 4-pin, A-coded	

** Other cable lengths are available on request

TECHNICAL DATA

OPERATING VOLTAGE	10 ... 30 V DC	VOLTAGE WITHSTANDING	1000 V/AC, 50/60 Hz, 60 s
RIPPLE VOLTAGE	≤ 10 %	REVERSE POLARITY PROTECTION	Yes
LASER CLASS	Red beam 630 nm	OVERLOAD RESISTANCE	Yes
LIGHT SPOT SIZE	See beam pattern	SHORT CIRCUIT PROTECTION	Yes
OUTPUT	PNP / NPN	MTTF	
FREQUENCY	See table	• Emitter	554 years
CURRENT CONSUMPTION	24 V 25 mA	• Receiver	460 years
LOAD CURRENT	≤ 100 mA	• Retro-reflective	436 years
HOUSING MATERIAL	PC + PBT	• BGS, Diffused	268 years

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	-40 ... +70 °C	IMPACT RESISTANCE (EN 60068-2-6)	Complex amplitude 1.5 mm 10 ... 50 Hz (2hr X, Y, Z respectively)
AMBIENT TEMPERATURE	-20 ... +60 °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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OS10S-R SERIES

APPROVALS



DETECTION MODE OPPOSED

Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS10S-S6	10 m	Red	— —	— — (WD1)	— —	2 m cable	see Fig. 1
OS10S-ECN6	10 m	— —	800 Hz	NPN (WD2)	L.O / D.O	2 m cable	see Fig. 1
OS10S-ECP6	10 m	— —	800 Hz	PNP (WD3)	L.O / D.O	2 m cable	see Fig. 1
OS10S-S6Q8	10 m	Red	— —	— — (WD4)	— —	M8 connector, 4-pin	see Fig. 4
OS10S-ECN6Q8	10 m	— —	800 Hz	NPN (WD5)	L.O / D.O	M8 connector, 4-pin	see Fig. 4
OS10S-ECP6Q8	10 m	— —	800 Hz	PNP (WD6)	L.O / D.O	M8 connector, 4-pin	see Fig. 4
OS10S-S6Q8.3	10 m	Red	— —	— — (WD7)	— —	M8 connector, 3-pin	see Fig. 4
OS10S-ECN6Q8.3	10 m	— —	800 Hz	NPN (WD8)	L.O / D.O	M8 connector, 3-pin	see Fig. 4
OS10S-ECP6Q8.3	10 m	— —	800 Hz	PNP (WD9)	L.O / D.O	M8 connector, 3-pin	see Fig. 4

DETECTION MODE OPPOSED, SENSITIVITY ADJUSTMENT

Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS10S-ECN6/AP	10 m	— —	800 Hz	NPN (WD2)	L.O / D.O	2 m cable	see Fig. 2
OS10S-ECP6/AP	10 m	— —	800 Hz	PNP (WD3)	L.O / D.O	2 m cable	see Fig. 2
OS10S-ECN6Q8/AP	10 m	— —	800 Hz	NPN (WD5)	L.O / D.O	M8 connector, 4-pin	see Fig. 5
OS10S-ECP6Q8/AP	10 m	— —	800 Hz	PNP (WD6)	L.O / D.O	M8 connector, 4-pin	see Fig. 5
OS10S-ECN6Q8.3/AP	10 m	— —	800 Hz	NPN (WD8)	L.O / D.O	M8 connector, 3-pin	see Fig. 5
OS10S-ECP6Q8.3/AP	10 m	— —	800 Hz	PNP (WD9)	L.O / D.O	M8 connector, 3-pin	see Fig. 5

OS10S-R SERIES

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
OS10S-RPCN6	3 m	Red	800 Hz	NPN (WD2)	L.O / D.O	2 m cable	see Fig. 1
OS10S-RPCP6	3 m	Red	800 Hz	PNP (WD3)	L.O / D.O	2 m cable	see Fig. 1
OS10S-RPCN6Q8	3 m	Red	800 Hz	NPN (WD5)	L.O / D.O	M8 connector, 4-pin	see Fig. 4
OS10S-RPCP6Q8	3 m	Red	800 Hz	PNP (WD6)	L.O / D.O	M8 connector, 4-pin	see Fig. 4
OS10S-RPCN6Q8.3	3 m	Red	800 Hz	NPN (WD8)	L.O / D.O	M8 connector, 3-pin	see Fig. 4
OS10S-RPCP6Q8.3	3 m	Red	800 Hz	PNP (WD9)	L.O / D.O	M8 connector, 3-pin	see Fig. 4

DETECTION MODE POLARIZED RETRO-REFLECTIVE, SENSITIVITY ADJUSTMENT

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

Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS10S-RPCN6/AP	3 m	Red	800 Hz	NPN (WD2)	L.O / D.O	2 m cable	see Fig. 2
OS10S-RPCP6/AP	3 m	Red	800 Hz	PNP (WD3)	L.O / D.O	2 m cable	see Fig. 2
OS10S-RPCN6Q8/AP	3 m	Red	800 Hz	NPN (WD5)	L.O / D.O	M8 connector, 4-pin	see Fig. 5
OS10S-RPCP6Q8/AP	3 m	Red	800 Hz	PNP (WD6)	L.O / D.O	M8 connector, 4-pin	see Fig. 5
OS10S-RPCN6Q8.3/AP	3 m	Red	800 Hz	NPN (WD8)	L.O / D.O	M8 connector, 3-pin	see Fig. 5
OS10S-RPCP6Q8.3/AP	3 m	Red	800 Hz	PNP (WD9)	L.O / D.O	M8 connector, 3-pin	see Fig. 5

OS10S-R SERIES

DETECTION MODE

POLARIZED RETRO-REFLECTIVE, SENSITIVITY IS NOT ADJUSTABLE, NO REFLECTOR IS INCLUDED

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

Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS10S-RPCN6/N	3 m	Red	800 Hz	NPN (WD2)	L.O / D.O	2 m cable	see Fig. 1
OS10S-RPCP6/N	3 m	Red	800 Hz	PNP (WD3)	L.O / D.O	2 m cable	see Fig. 1
OS10S-RPCN6Q8/N	3 m	Red	800 Hz	NPN (WD5)	L.O / D.O	M8 connector, 4-pin	see Fig. 4
OS10S-RPCP6Q8/N	3 m	Red	800 Hz	PNP (WD6)	L.O / D.O	M8 connector, 4-pin	see Fig. 4
OS10S-RPCN6Q8.3/N	3 m	Red	800 Hz	NPN (WD8)	L.O / D.O	M8 connector, 3-pin	see Fig. 4
OS10S-RPCP6Q8.3/N	3 m	Red	800 Hz	PNP (WD9)	L.O / D.O	M8 connector, 3-pin	see Fig. 4

DETECTION MODE

POLARIZED RETRO-REFLECTIVE, NO BLIND SPOTS, SENSITIVITY ADJUSTMENT

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

Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS10S-RPCN6/ND	2 m	Red	800 Hz	NPN (WD2)	L.O / D.O	2 m cable	see Fig. 2
OS10S-RPCP6/ND	2 m	Red	800 Hz	PNP (WD3)	L.O / D.O	2 m cable	see Fig. 2
OS10S-RPCN6Q8/ND	2 m	Red	800 Hz	NPN (WD5)	L.O / D.O	M8 connector, 4-pin	see Fig. 5
OS10S-RPCP6Q8/ND	2 m	Red	800 Hz	PNP (WD6)	L.O / D.O	M8 connector, 4-pin	see Fig. 5
OS10S-RPCN6Q8.3/ND	2 m	Red	800 Hz	NPN (WD8)	L.O / D.O	M8 connector, 3-pin	see Fig. 5
OS10S-RPCP6Q8.3/ND	2 m	Red	800 Hz	PNP (WD9)	L.O / D.O	M8 connector, 3-pin	see Fig. 5

OS10S-R SERIES

DETECTION MODE BGS

Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS10S-AK150CN6	6 ... 150 mm	Red	400 Hz	NPN (WD2)	L.O / D.O	2 m cable	see Fig. 3
OS10S-AK150CP6	6 ... 150 mm	Red	400 Hz	PNP (WD3)	L.O / D.O	2 m cable	see Fig. 3
OS10S-AK150CN6Q8	6 ... 150 mm	Red	400 Hz	NPN (WD5)	L.O / D.O	M8 connector, 4-pin	see Fig. 6
OS10S-AK150CP6Q8	6 ... 150 mm	Red	400 Hz	PNP (WD6)	L.O / D.O	M8 connector, 4-pin	see Fig. 6
OS10S-AK150CN6Q8.3	6 ... 150 mm	Red	400 Hz	NPN (WD8)	L.O / D.O	M8 connector, 3-pin	see Fig. 6
OS10S-AK150CP6Q8.3	6 ... 150 mm	Red	400 Hz	PNP (WD9)	L.O / D.O	M8 connector, 3-pin	see Fig. 6
OS10S-AK350CN6	6 ... 350 mm	Red	400 Hz	NPN (WD2)	L.O / D.O	2 m cable	see Fig. 3
OS10S-AK350CP6	6 ... 350 mm	Red	400 Hz	PNP (WD3)	L.O / D.O	2 m cable	see Fig. 3
OS10S-AK350CN6Q8	6 ... 350 mm	Red	400 Hz	NPN (WD5)	L.O / D.O	M8 connector, 4-pin	see Fig. 6
OS10S-AK350CP6Q8	6 ... 350 mm	Red	400 Hz	PNP (WD6)	L.O / D.O	M8 connector, 4-pin	see Fig. 6
OS10S-AK350CN6Q8.3	6 ... 350 mm	Red	400 Hz	NPN (WD8)	L.O / D.O	M8 connector, 3-pin	see Fig. 6
OS10S-AK350CP6Q8.3	6 ... 350 mm	Red	400 Hz	PNP (WD9)	L.O / D.O	M8 connector, 3-pin	see Fig. 6

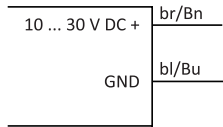
DETECTION MODE DIFFUSED

Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS10S-K1000CN6	1000 mm	Red	200 Hz	NPN (WD2)	L.O / D.O	2 m cable	see Fig. 3
OS10S-K1000CP6	1000 mm	Red	200 Hz	PNP (WD3)	L.O / D.O	2 m cable	see Fig. 3
OS10S-K1000CN6Q8	1000 mm	Red	200 Hz	NPN (WD5)	L.O / D.O	M8 connector, 4-pin	see Fig. 6
OS10S-K1000CP6Q8	1000 mm	Red	200 Hz	PNP (WD6)	L.O / D.O	M8 connector, 4-pin	see Fig. 6
OS10S-K1000CN6Q8.3	1000 mm	Red	200 Hz	NPN (WD8)	L.O / D.O	M8 connector, 3-pin	see Fig. 6
OS10S-K1000CP6Q8.3	1000 mm	Red	200 Hz	PNP (WD9)	L.O / D.O	M8 connector, 3-pin	see Fig. 6

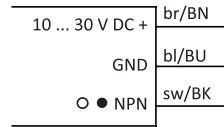
OS10S-R SERIES

WIRING DIAGRAMS cable

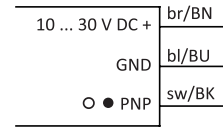
WD1 Emitter



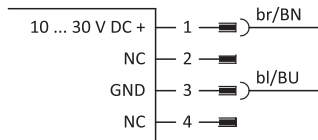
WD2 NPN / Light on | Dark on



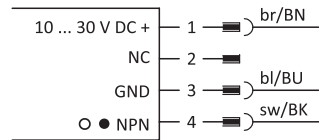
WD3 PNP / Light on | Dark on



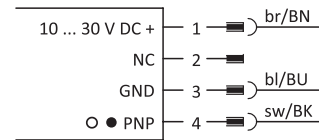
WD4 Emitter



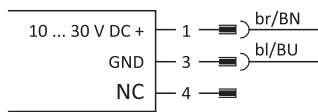
WD5 NPN / Light on | Dark on



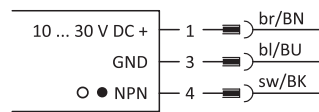
WD6 PNP / Light on | Dark on



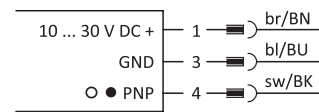
WD7 Emitter



WD8 NPN / Light on | Dark on

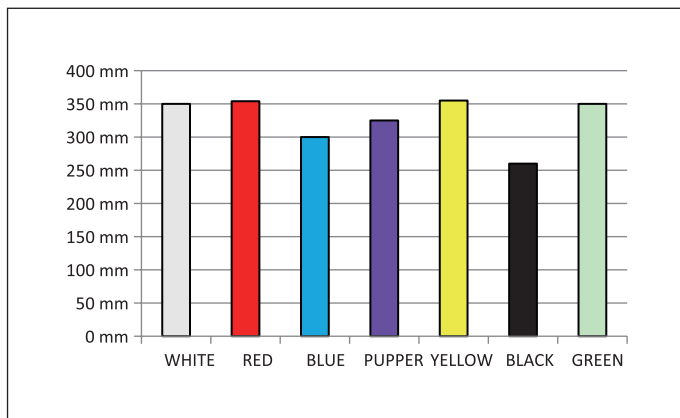


WD9 PNP / Light on | Dark on



ATTENUATION FIGURE

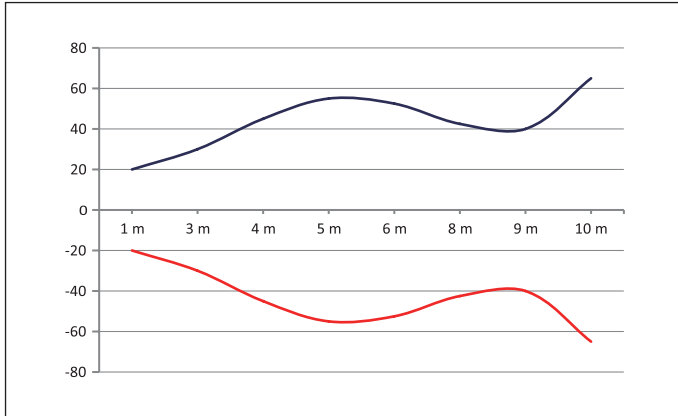
OS10S-AK350



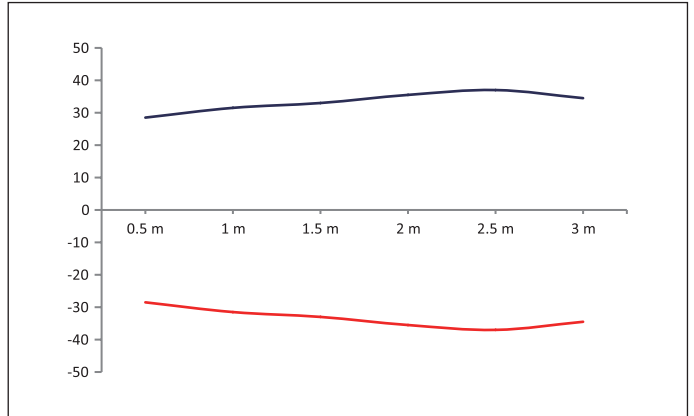
OS10S-R SERIES

TRANSLATION CHARACTERISTIC CURVE

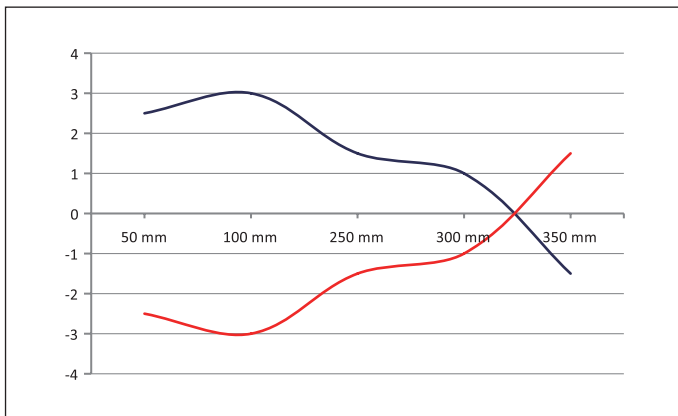
OS10S-S6 (mm)



OS10S-RP (mm)



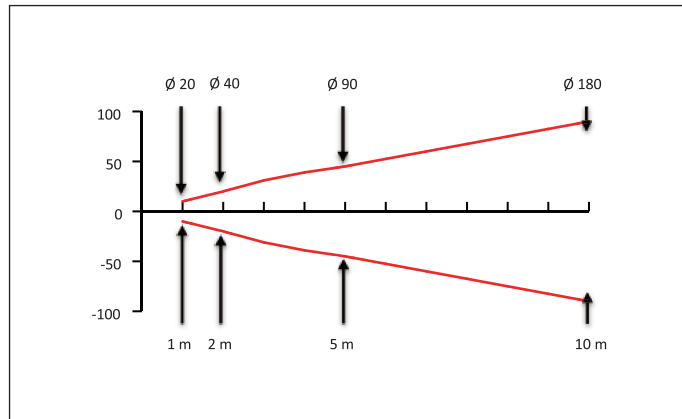
OS10S-AK350 (mm)



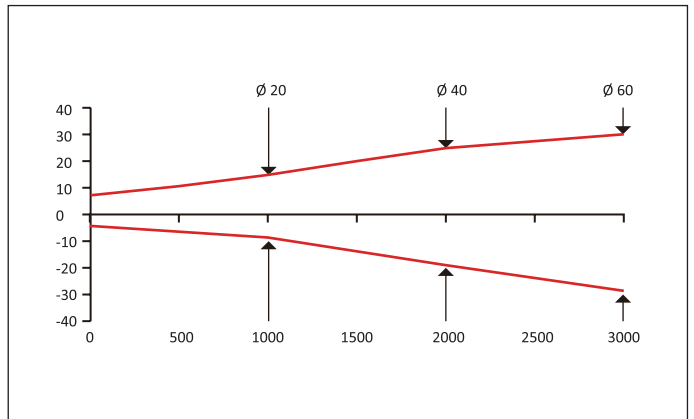
OS10S-R SERIES

BEAM PATTERN

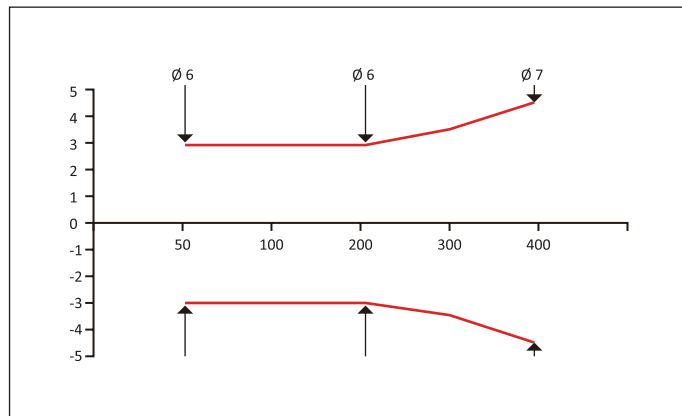
OS10S-S6 (mm)



OS10S-RP (mm)



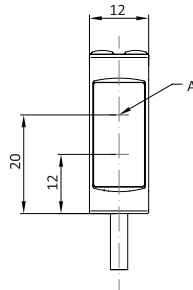
OS10S-AK350 (mm)



OS10S-R SERIES

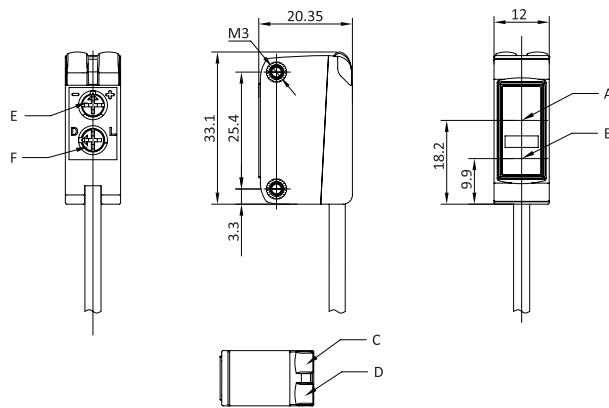
DIMENSIONS (mm)

Fig. 1 Cable, opposed, Sensitivity Adjustment



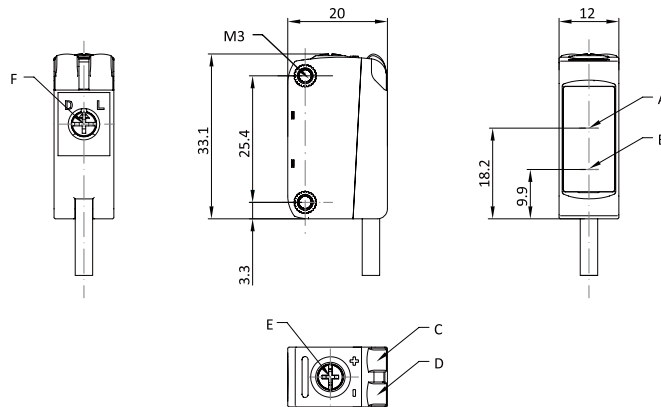
- A: Receiver, emitter
- C: Output indicator
- D: Steady state indicator
- F: Adjustor for LO/DO

Fig. 2 Cable, polarized Retro-reflective, Sensitivity Adjustment



- A: Receiver
- B: Emitter
- C: Output indicator
- D: Steady state indicator
- E: Distance adjustment knob
- F: Adjustor for LO/DO

Fig. 3 Cable, BGS / Diffuse

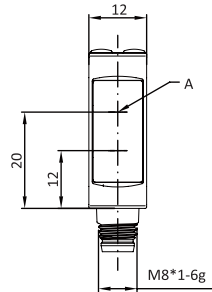


- A: Receiver
- B: Emitter
- C: Output indicator
- D: Steady state indicator
- E: Adjustor for distance
- F: Adjustor for LO/DO

OS10S-R SERIES

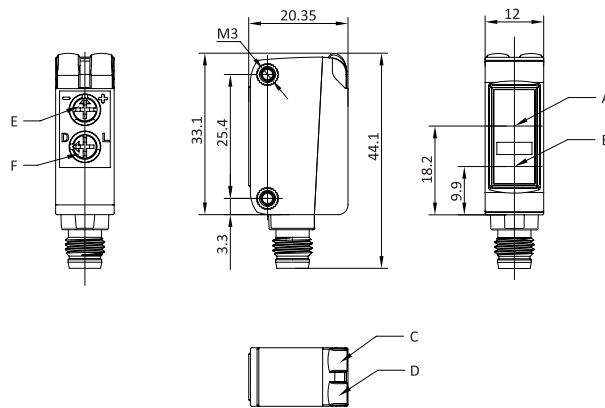
DIMENSIONS (mm)

Fig. 4 M8 connector, opposed, Sensitivity Adjustment



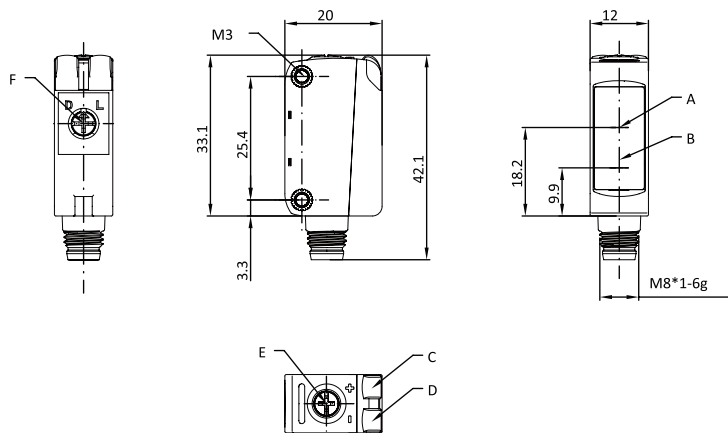
- A: Receiver, emitter
- C: Output indicator
- D: Steady state indicator
- F: Adjustor for LO/DO

Fig. 5 M8 connector, polarized Retro-reflective, Sensitivity Adjustment



- A: Receiver
- B: Emitter
- C: Output indicator
- D: Steady state indicator
- E: Distance adjustment knob
- F: Adjustor for LO/DO

Fig. 6 M8 connector, BGS / Diffuse

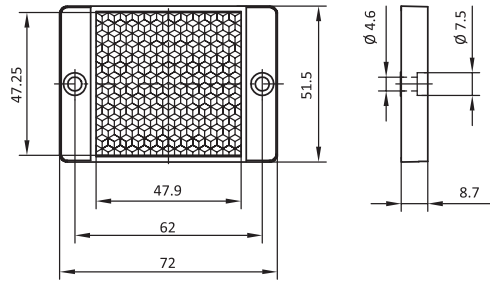


- A: Receiver
- B: Emitter
- C: Output indicator
- D: Steady state indicator
- E: Adjustor for distance
- F: Adjustor for LO/DO

OS10S-R SERIES

REFLECTOR

RB50x50-1



OS10S-R SERIES

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