

OS22 SERIES

ARTICLE PROPERTIES

<b>SENSOR TYPE</b>	Photoelectric sensor	<b>CONNECTION TYPES</b> (see table)	
<b>SIZE</b>	See dimensions	• Cable	PVC, 0.14 mm <sup>2</sup> , 2 m**
<b>OPERATING DISTANCE</b>	See table		
<b>DETECTION MODE</b>	Opposed, BGS fixed, BGS adjustable	** Other cable lengths are available on request	

TECHNICAL DATA

<b>OPERATING VOLTAGE</b>	10 ... 30 V DC	<b>VOLTAGE WITHSTANDING</b>	650 V/AC, 50/60 Hz, 60 s
<b>RIPPLE VOLTAGE</b>	≤ 10 %	<b>REVERSE POLARITY PROTECTION</b>	Yes
<b>LIGHT SOURCE</b>	Small red beam (630 nm)	<b>SHORT CIRCUIT PROTECTION</b>	Yes
<b>LIGHT SPOT SIZE</b>	See beam pattern	<b>VOLTAGE SHOCK PROTECTION</b>	Yes
<b>OUTPUT</b>	PNP / NPN (Depends on the model)	<b>MTTF</b>	
<b>FREQUENCY</b>	See table	• Emitter	895 years
<b>NO-LOAD CURRENT</b>	≤ 18 mA	• Receiver	526 years
<b>LOAD CURRENT</b>	≤ 100 mA	• BGS	330 years
<b>HOUSING MATERIAL</b>	PC + PBT		

ENVIRONMENTAL CONDITIONS

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

STANDARDS AND DIRECTIVES

<b>EMC DIRECTIVE 2014/30/EU</b>	EN IEC 60947-5-2
<b>ROHS DIRECTIVE 2011/65/EU</b>	EN IEC 63000

APPROVALS



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## DETECTION MODE OPPOSED

Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS22-S6 (emitter)	1 m	Red	— —	— — (WD1)	— —	2 m cable	see Fig. 1
OS22-SS6 (emitter)	1 m	Point light	— —	— — (WD1)	— —	2 m cable	see Fig. 1
OS22-ELN6 (receiver)	1 m	— —	800 Hz	NPN (WD2)	L.O	2 m cable	see Fig. 1
OS22-EDN6 (receiver)	1 m	— —	800 Hz	NPN (WD3)	D.O	2 m cable	see Fig. 1
OS22-ELP6 (receiver)	1 m	— —	800 Hz	PNP (WD4)	L.O	2 m cable	see Fig. 1
OS22-EDP6 (receiver)	1 m	— —	800 Hz	PNP (WD5)	D.O	2 m cable	see Fig. 1
OS22-S6/I (emitter)	2 m	Infrared	— —	— — (WD1)	— —	2 m cable	see Fig. 1
OS22-ELN6/I (receiver)	2 m	— —	800 Hz	NPN (WD2)	L.O	2 m cable	see Fig. 1
OS22-EDN6/I (receiver)	2 m	— —	800 Hz	NPN (WD3)	D.O	2 m cable	see Fig. 1
OS22-ELP6/I (receiver)	2 m	— —	800 Hz	PNP (WD4)	L.O	2 m cable	see Fig. 1
OS22-EDP6/I (receiver)	2 m	— —	800 Hz	PNP (WD5)	D.O	2 m cable	see Fig. 1

## DETECTION MODE BGS FIXED

Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS22-AK15LN6	4 ... 15 mm	Red	200 Hz	NPN (WD2)	L.O	2 m cable	see Fig. 2
OS22-AK15DN6	4 ... 15 mm	Red	200 Hz	NPN (WD3)	D.O	2 m cable	see Fig. 2
OS22-AK15LP6	4 ... 15 mm	Red	200 Hz	PNP (WD4)	L.O	2 m cable	see Fig. 2
OS22-AK15DP6	4 ... 15 mm	Red	200 Hz	PNP (WD5)	D.O	2 m cable	see Fig. 2
OS22-AK30LN6	5 ... 30 mm	Red	200 Hz	NPN (WD2)	L.O	2 m cable	see Fig. 2
OS22-AK30DN6	5 ... 30 mm	Red	200 Hz	NPN (WD3)	D.O	2 m cable	see Fig. 2
OS22-AK30LP6	5 ... 30 mm	Red	200 Hz	PNP (WD4)	L.O	2 m cable	see Fig. 2
OS22-AK30DP6	5 ... 30 mm	Red	200 Hz	PNP (WD5)	D.O	2 m cable	see Fig. 2

## DETECTION MODE BGS ADJUSTABLE

Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS22-AK120LN6	10 ... 120 mm	Red	200 Hz	NPN (WD2)	L.O	2 m cable	see Fig. 3
OS22-AK120DN6	10 ... 120 mm	Red	200 Hz	NPN (WD3)	D.O	2 m cable	see Fig. 3
OS22-AK120LP6	10 ... 120 mm	Red	200 Hz	PNP (WD4)	L.O	2 m cable	see Fig. 3
OS22-AK120DP6	10 ... 120 mm	Red	200 Hz	PNP (WD5)	D.O	2 m cable	see Fig. 3

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**DETECTION MODE BGS FIXED**

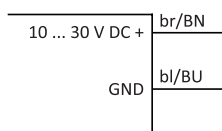
Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS22-AKS15LN6	4 ... 15 mm	Point light	200 Hz	NPN (WD2)	L.O	2 m cable	see Fig. 2
OS22-AKS15DN6	4 ... 15 mm	Point light	200 Hz	NPN (WD3)	D.O	2 m cable	see Fig. 2
OS22-AKS15LP6	4 ... 15 mm	Point light	200 Hz	PNP (WD4)	L.O	2 m cable	see Fig. 2
OS22-AKS15DP6	4 ... 15 mm	Point light	200 Hz	PNP (WD5)	D.O	2 m cable	see Fig. 2
OS22-AKS30LN6	5 ... 30 mm	Point light	200 Hz	NPN (WD2)	L.O	2 m cable	see Fig. 2
OS22-AKS30DN6	5 ... 30 mm	Point light	200 Hz	NPN (WD3)	D.O	2 m cable	see Fig. 2
OS22-AKS30LP6	5 ... 30 mm	Point light	200 Hz	PNP (WD4)	L.O	2 m cable	see Fig. 2
OS22-AKS30DP6	5 ... 30 mm	Point light	200 Hz	PNP (WD5)	D.O	2 m cable	see Fig. 2

**DETECTION MODE BGS ADJUSTABLE**

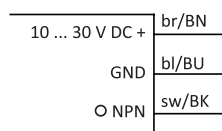
Article number	Operating distance	Light source	Frequency	Output (wiring diagram)	Switching mode	Connection	Dimensions
OS22-AKS120LN6	10 ... 120 mm	Point light	200 Hz	NPN (WD2)	L.O	2 m cable	see Fig. 3
OS22-AKS120DN6	10 ... 120 mm	Point light	200 Hz	NPN (WD3)	D.O	2 m cable	see Fig. 3
OS22-AKS120LP6	10 ... 120 mm	Point light	200 Hz	PNP (WD4)	L.O	2 m cable	see Fig. 3
OS22-AKS120DP6	10 ... 120 mm	Point light	200 Hz	PNP (WD5)	D.O	2 m cable	see Fig. 3

**WIRING DIAGRAMS**

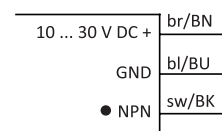
**WD1 Emitter**



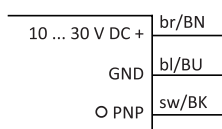
**WD2 NPN / Light on**



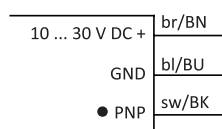
**WD3 NPN / Dark on**



**WD4 PNP / Light on**



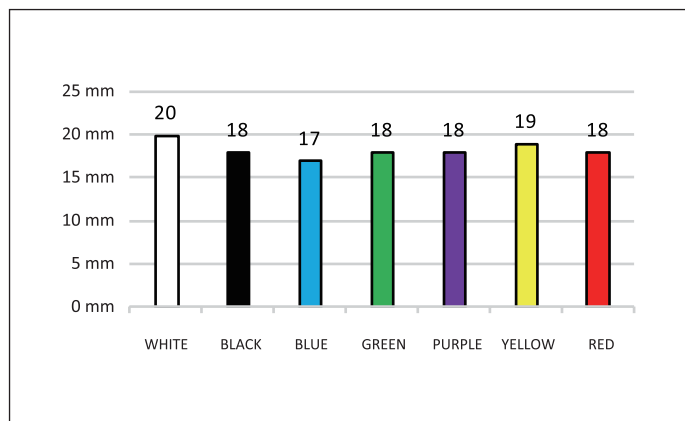
**WD5 PNP / Dark on**



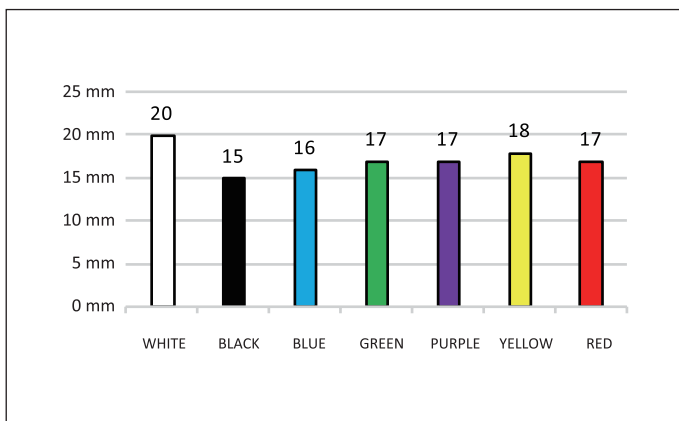
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ATTENUATION FIGURE

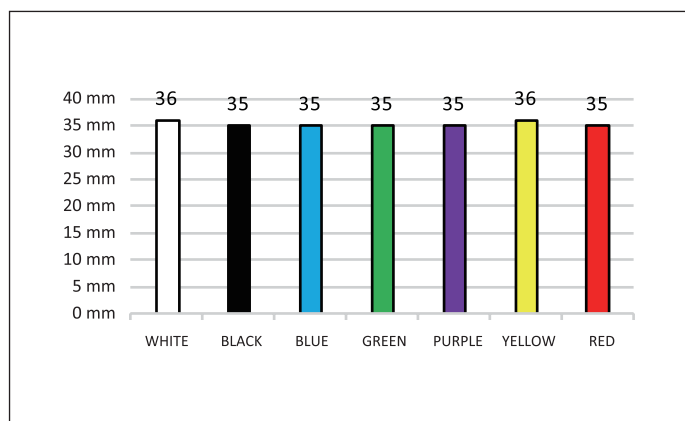
OS22-AK15



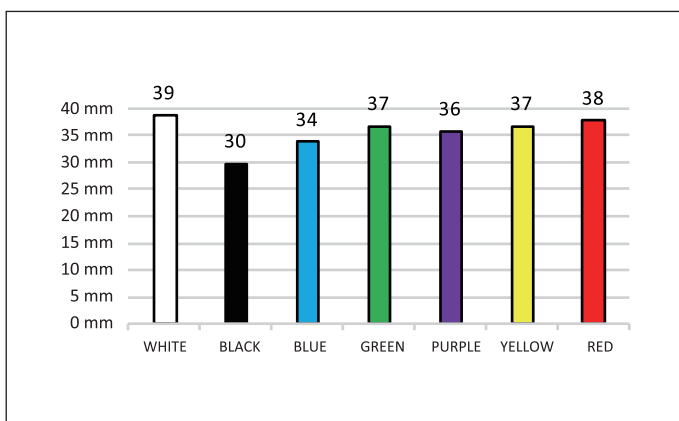
OS22-AKS15



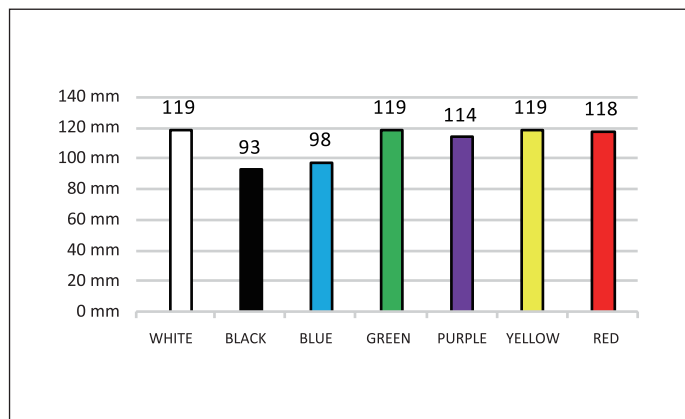
OS22-AK30



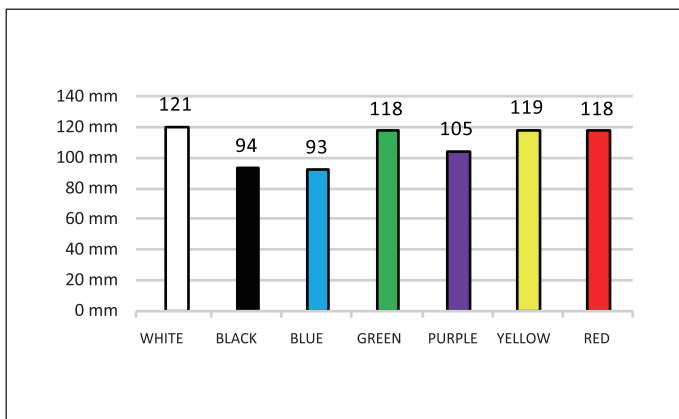
OS22-AKS30



OS22-AK120



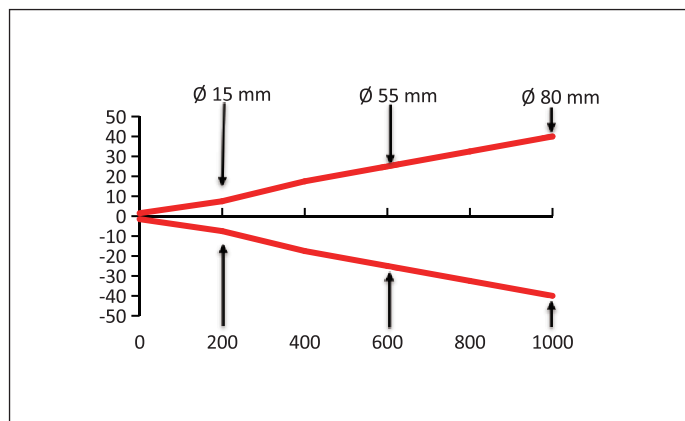
OS22-AKS120



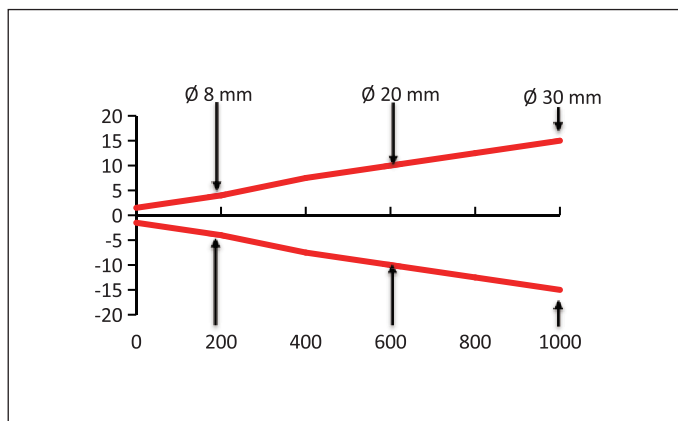
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BEAM PATTERN

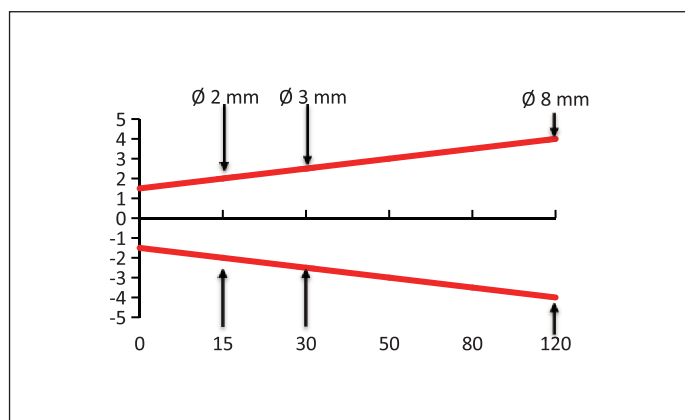
OS22-S6 / OS22-S6/I (mm)



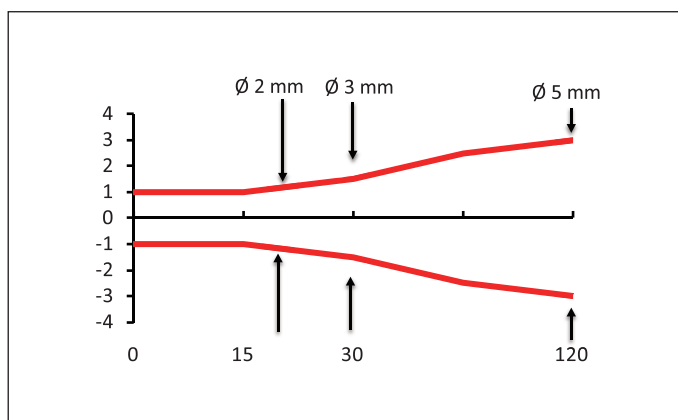
OS22-SS6 (mm)



OS22-AK15 / 30 / 120 (mm)



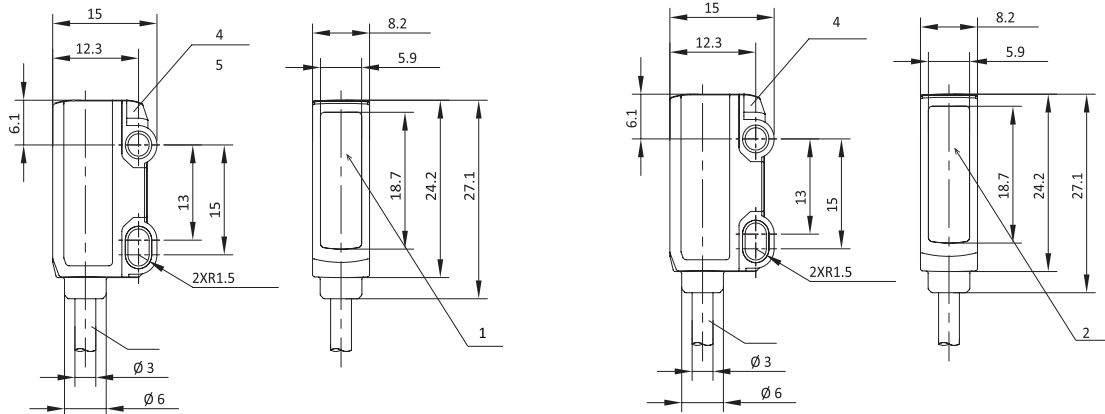
OS22-AKS15 / 30 / 120 (mm)



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DIMENSIONS (mm)

Fig. 1 Opposed



- 1 Emitter optic axis
- 2 Receiver optic axis
- 3 Mounting hole  $\varnothing$  3 mm
- 4 LED: power on
- 5 LED: on / off
- 6 Connection: cable

Fig. 2 BGS Fixed

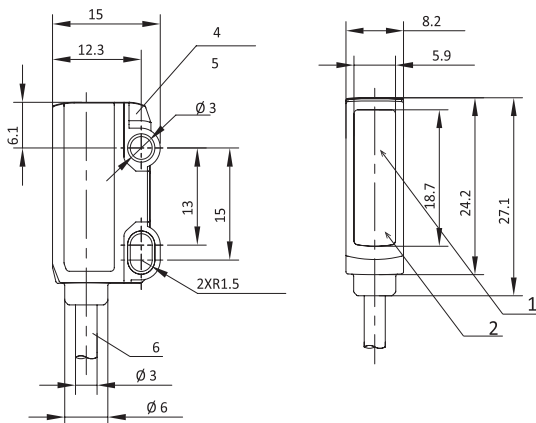
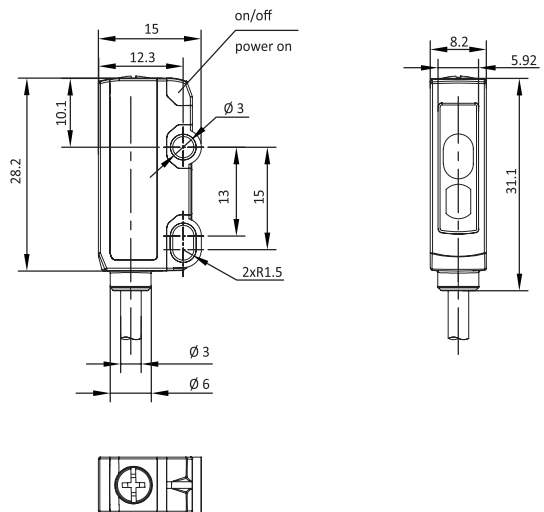


Fig. 3 BGS Adjustable



- 1 Emitter optic axis
- 2 Receiver optic axis
- 3 Mounting hole  $\varnothing$  2 mm
- 4 LED: power on
- 5 LED: on / off
- 6 Connection: 2 m cable

## OS22 SERIES

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