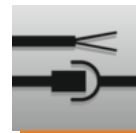
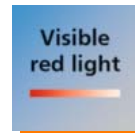


# O6 miniature photoelectric sensors with high-performance



## Powerful photoelectric sensors in a plastic housing

- Diffuse reflection sensors with reliable background suppression
- Intuitive setting via potentiometer and rotary switch (light/dark selection)
- Well-defined light spot for precise object detection, no scattered light
- Also available as through-beam or retro-reflective system
- Versions with M8 connector, M12 pigtail or PUR connection cable



### Best optical performance

The diffuse reflection sensors provide reliable background suppression, even in case of highly reflective backgrounds such as moving machine parts. The clearly defined consistent light spot ensures precise object detection. There is no scattered light which could interfere with other photoelectric sensors in close vicinity.

### Ideal for universal applications

For connection the user can choose between potted cable, M12 pigtail or M8 metal connector on the housing.

The O6 range features a potentiometer for intuitive setting, and the light-on or dark-on mode is selected via rotary switch. The diffuse reflection, through-beam and retro-reflective sensors are distinguished by an excellent price/performance ratio. An extensive range of accessories completes the ifm range.

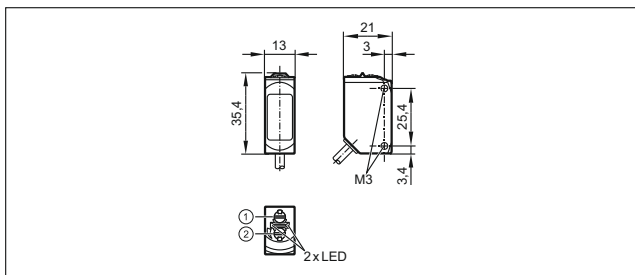


Range [mm]	Light spot diameter [mm]	Connection	Current consumption [mA]	Order no.	Order no.
<b>Diffuse reflection sensor with background suppression · 3-wire DC</b>				<b>NPN</b>	<b>PNP</b>
2...200	8*	PUR cable, 2 m	22	O6H204	O6H200
2...200	8*	M12 connector with 0.3 m PUR cable	22	O6H205	O6H201
<b>Diffuse reflection sensor · 3-wire DC</b>				<b>NPN</b>	<b>PNP</b>
5...500	15*	PUR cable, 2 m	16	O6T204	O6T200
5...500	15*	M12 connector with 0.3 m PUR cable	16	O6T205	O6T201
<b>Retro-reflective sensor with polarisation filter · 3-wire DC</b>				<b>NPN</b>	<b>PNP</b>
50...5000	150**	PUR cable, 2 m	12	O6P204	O6P200
50...5000	150**	M12 connector with 0.3 m PUR cable	12	O6P205	O6P201
<b>Through-beam sensor transmitter · 2-wire DC</b>					
0...10000	300*	PUR cable, 2 m	11	O6S200	
0...10000	300*	M12 connector with 0.3 m PUR cable	11	O6S201	
<b>Through-beam sensor receiver · 3-wire DC</b>				<b>NPN</b>	<b>PNP</b>
0...10000	–	PUR cable, 2 m	7	O6E204	O6E200
0...10000	–	M12 connector with 0.3 m PUR cable	7	O6E205	O6E201

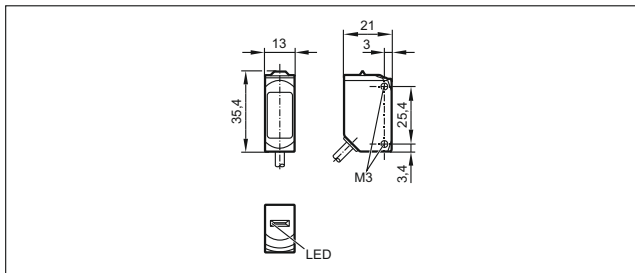
\* at maximum range

\*\* referred to prismatic reflector Ø 80 mm

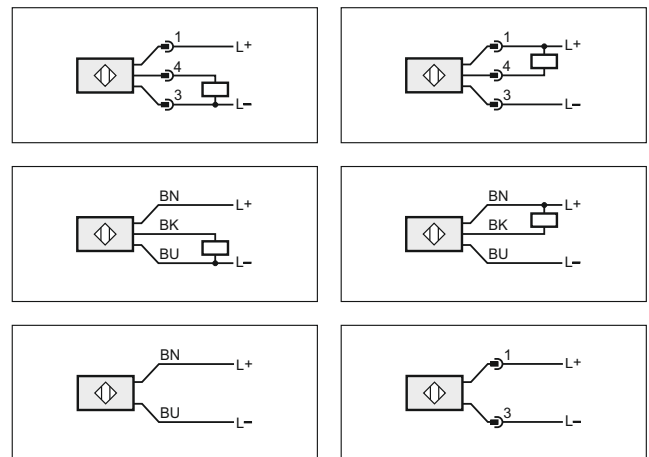
**Dimensions**



- 1) Switch output function
- 2) Potentiometer sensitivity



**Wiring diagram**

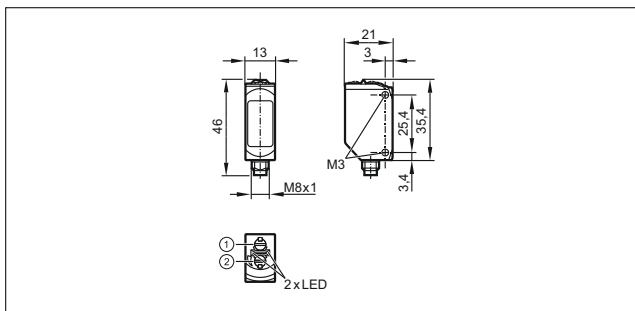


Range [mm]	Light spot diameter [mm]	Connection	Current consumption [mA]	Order no.	Order no.
<b>Diffuse reflection sensor with background suppression · 3-wire DC</b>				<b>NPN</b>	<b>PNP</b>
2...200	8*	M8 connector, 3-pole	22	O6H206	O6H202
2...200	8*	M8 connector, 4-pole	22	O6H207	O6H203
<b>Diffuse reflection sensor · 3-wire DC</b>				<b>NPN</b>	<b>PNP</b>
5...500	15*	M8 connector, 3-pole	16	O6T206	O6T202
5...500	15*	M8 connector, 4-pole	16	O6T207	O6T203
<b>Retro-reflective sensor with polarisation filter · 3-wire DC</b>				<b>NPN</b>	<b>PNP</b>
50...5000	150**	M8 connector, 3-pole	12	O6P206	O6P202
50...5000	150**	M8 connector, 4-pole	12	O6P207	O6P203
<b>Through-beam sensor transmitter · 2-wire DC</b>					
0...10000	300*	M8 connector, 3-pole	11	O6S202	
0...10000	300*	M8 connector, 4-pole	11	O6S203	
<b>Through-beam sensor receiver · 3-wire DC</b>				<b>NPN</b>	<b>PNP</b>
0...10000	–	M8 connector, 3-pole	7	O6E206	O6E202
0...10000	–	M8 connector, 4-pole	7	O6E207	O6E203

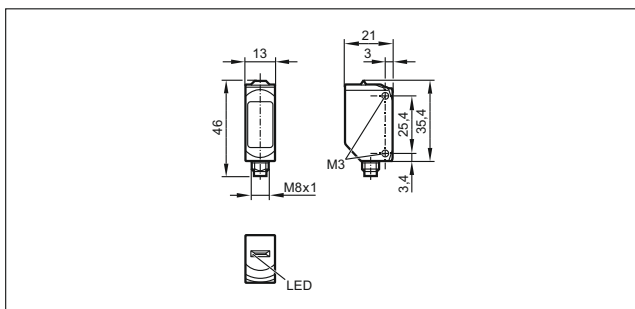
\* at maximum range

\*\* referred to prismatic reflector Ø 80 mm

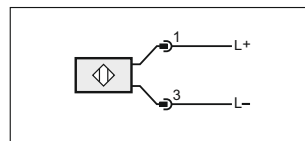
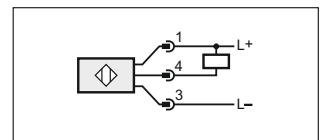
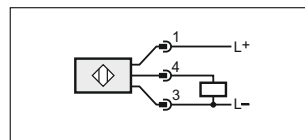
## Dimensions



- 1) Switch output function
- 2) Potentiometer sensitivity



## Wiring diagram








**Accessories**

Type	Description	Order no.
<b>Mounting accessories</b>		
	Mounting set for clamp mounting, stainless steel, Ø 10 mm	<b>E21272</b>
	Mounting set for clamp mounting, stainless steel, Ø 12 mm	<b>E21275</b>
	Bracket for free-standing mounting, stainless steel	<b>E21271</b>
	Protective bracket, stainless steel	<b>E21273</b>
	Mounting rod, 120 mm, Ø 10 mm, M8 thread, stainless steel	<b>E21081</b>
	Mounting rod, 100 mm, Ø 12 mm, M10 thread, stainless steel	<b>E20938</b>
	Cube for mounting on an aluminium profile, M8 thread, diecast zinc	<b>E20950</b>
	Cube for mounting on an aluminium profile, M10 thread, diecast zinc	<b>E20951</b>
	Pinhole mask, Ø 0.5 mm	<b>E21277</b>
	Slot mask, 0.5 x 8 mm	<b>E21280</b>
<b>Prismatic reflector</b>		
	Ø 50 mm, plastic	<b>E20956</b>
	Ø 80 mm, plastic	<b>E20005</b>
	48 x 48 mm, PMMA, ABS	<b>E20744</b>
	95 x 95 mm, plastic	<b>E20454</b>
<b>Power supplies</b>		
	Plastic housing, 24 V DC, 2.5 A	<b>DN1031</b>
	Metal housing, 24 V DC, 3.3 A	<b>DN4011</b>

**Common technical data**

Type of light		red light 633 nm
Operating voltage	[V DC]	10...30
Protection rating, class		IP 65 / IP 67, III
Switching frequency	[Hz]	1000
Switching status indication	LED	yellow
Indication of stable operation	LED	green
Light-on / dark-on mode		adjustable
Current rating	[mA]	100
Voltage drop	[V]	< 2.5
Short-circuit protection, pulsed		•
Reverse polarity protection / overload protection		• / •
Ambient temperature	[°C]	-25...60
Materials	housing	ABS
	lens	PMMA

**Connection technology**

Type	Description	Order no.
	Socket, M12, 2 m black, PUR cable	<b>EVC001</b>
	Socket, M12, 5 m black, PUR cable	<b>EVC002</b>
	Socket, M8, 4-pole, 2 m black, PUR cable	<b>EVC153</b>
	Socket, M8, 4-pole, 5 m black, PUR cable	<b>EVC154</b>
	Socket, M8, 4-pole, 2 m black, PUR cable	<b>EVC150</b>
	Socket, M8, 4-pole, 5 m black, PUR cable	<b>EVC151</b>
	Socket, M8, 3-pole, 2 m black, PUR cable	<b>EVC144</b>
	Socket, M8, 3-pole, 5 m black, PUR cable	<b>EVC145</b>
	Socket, M8, 3-pole, 2 m black, PUR cable	<b>EVC141</b>
	Socket, M8, 3-pole, 5 m black, PUR cable	<b>EVC142</b>