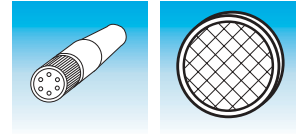


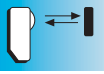
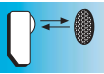
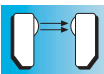


## Selection table and accessories

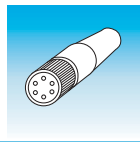







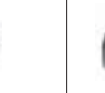




- Connector selection guide
- Installation dimensions
- Connector options
- Reflectors, adapters, mounting brackets



# Electrical connections

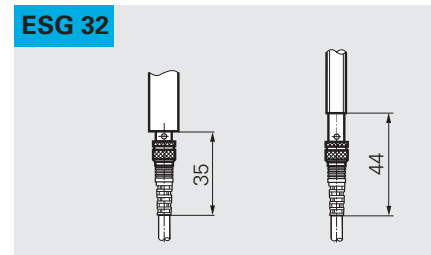
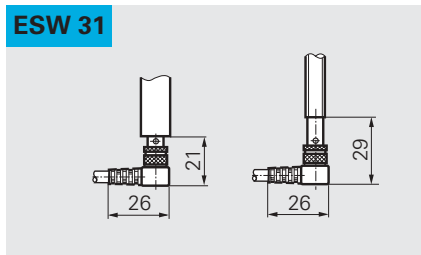
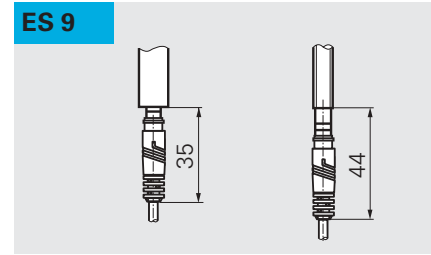
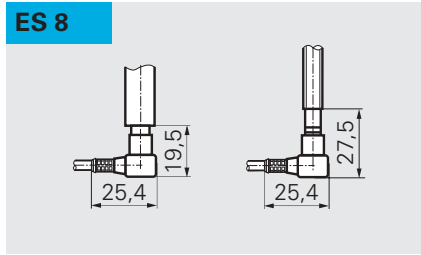
Types	Series	Design	Cable	Connectors									
								M 8 x 1					
				ES 8 3 pin	ES 8A 4 pin	ES 9 3-pin	ES 9A 4 pin	ESW 31S 3 pin	ESW 31A 4 pin	ESG 32S 3 pin	ESG 32A 4 pin		
 Diffuse sensors	08	□	□	□		□		□		□			
	08	○	□	□		□		□		□			
	10	□	□	□		□		□	□	□	□	□	
	12	□	□	□		□		□		□		□	
	12	○	□	□									
	14	□				□		□		□		□	
	16	□	□	□									
	18	○	□	□									
	20	□											
	22	□											
	26	□	□	□									
30	○	□	□										
 Retro-reflective sensors	10	□	□	□		□		□	□	□	□		
	12	□	□	□		□		□		□		□	
	14	□				□		□		□		□	
	16	□	□	□									
	18	○	□	□									
	26	□	□	□									
 Through beam sensors	08	□	□	□		□		□		□			
	08	○	□	□		□		□		□			
	10	□	□	□		□			□	□	□	□	
	12	□	□	□		□		□		□		□	
	14	□				□		□		□		□	
	16	□	□	□									
	18	○	□	□									
26	□	□	□										
 Fork sensors	12	□	□	□									
	14	○	□	□									
	28	□	□	□									
 Fiber optic sensors	12	□	□	□						□		□	
	15	□	□	□									
	18	○	□	□									
	22	□	□	□									
	30	□	□	□									
	31	□	□	□									
	69	□	□	□									
	80	□	□	□									
	81	□	□	□									
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83	□	□	□										



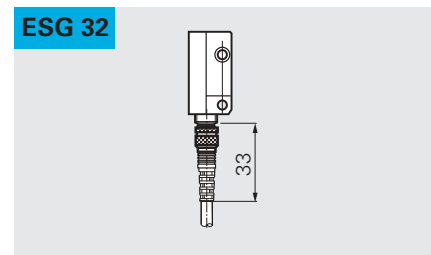
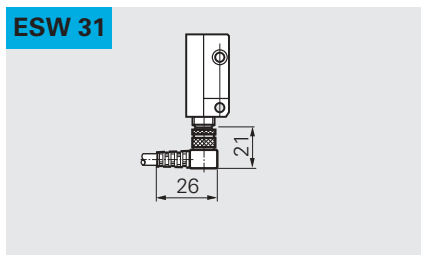
M 12 x 1												Series
												
ES 14 PG7 4 pin	ES 24 4 pin	ESW 33A 4 pin	ES 33AP2B 4 pin	ES 33CP 5 pin	ESG 34A 4 pin	ES 34CP 5 pin	ES34AP2B 4 pin	ES 27D 6 pin	ES 27A 6 pin	ESG 34FP 8 pin		
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# Installation dimensions

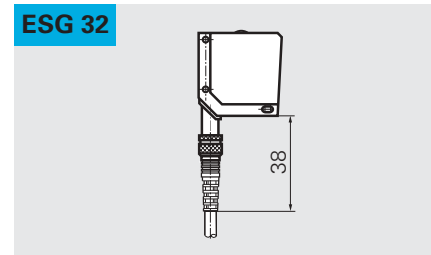
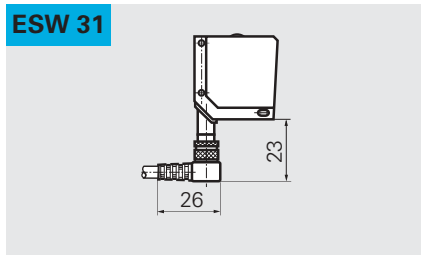
Series 08  
rectangular/tubular



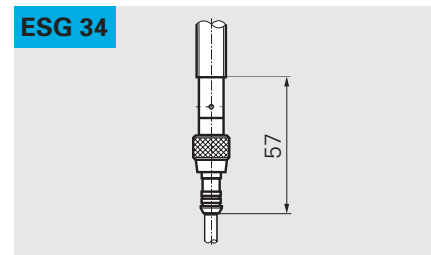
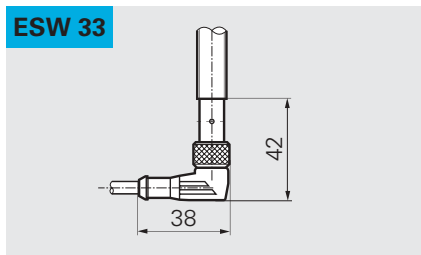
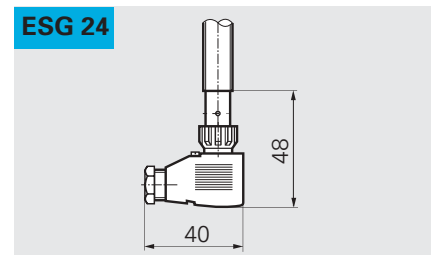
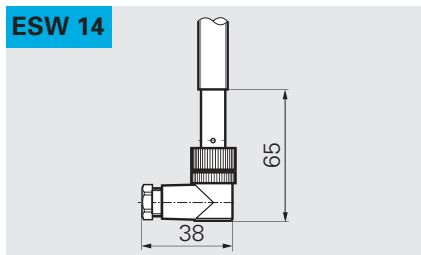
Series 10

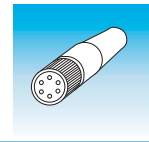


Series 12  
rectangular



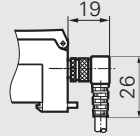
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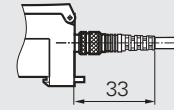


Series 12  
FVDK

**ESW 31**

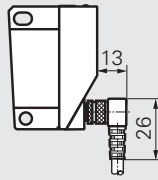


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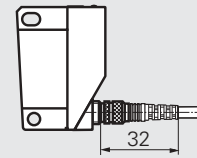


Series 14

**ESW 31**

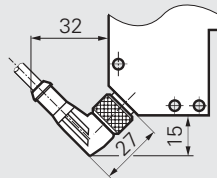


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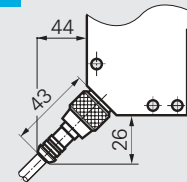


Series 15

**ESW 33**

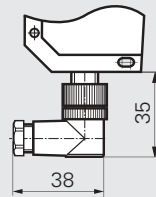


**ESG 34**

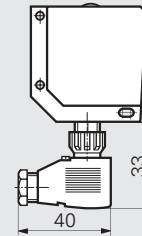


Series 16

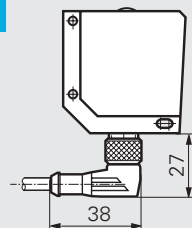
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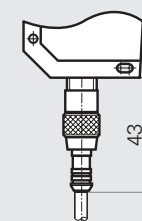
**ES 24**



**ESW 33**

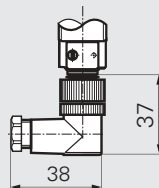


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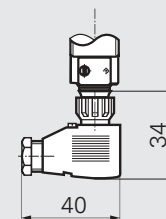


Series 18  
tubular

**ES 14**



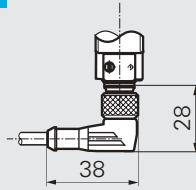
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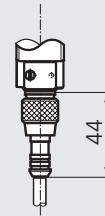
# Installation dimensions

Series 18  
round

**ESW 33**

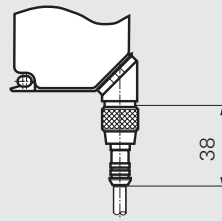


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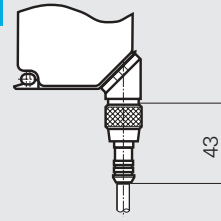


Series 20 / 21  
OADM

**ES 34**

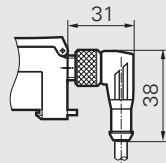


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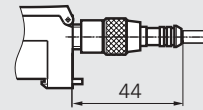


Series 22  
FVDK

**ESW 33**

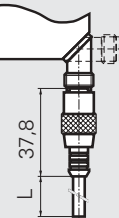


**ESG 34**



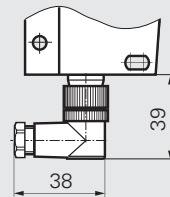
Series 22  
*PosCon / LOGIPAL* ■■■

**ESG 34**

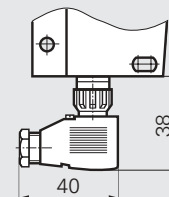


Series 26

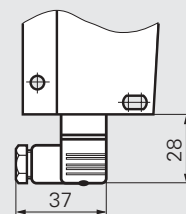
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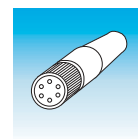


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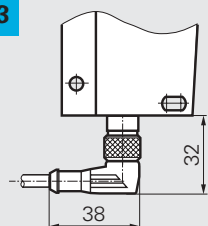
**ES 27D  
ES 27A**



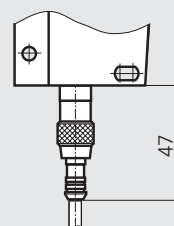


## Series 26

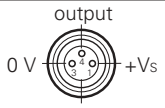
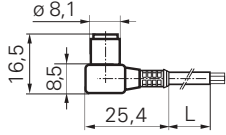
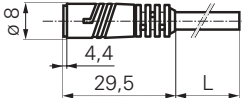
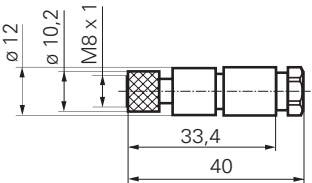
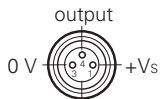
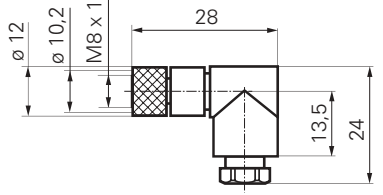
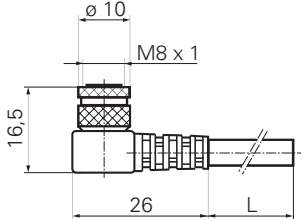
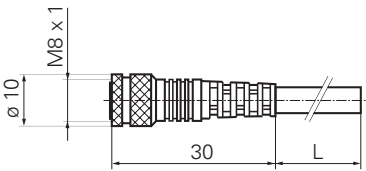
**ESW 33**



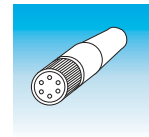
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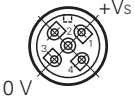
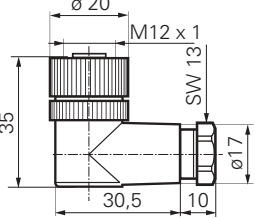

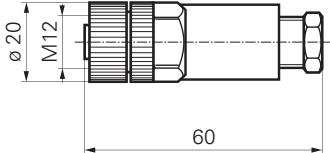
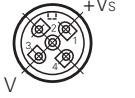
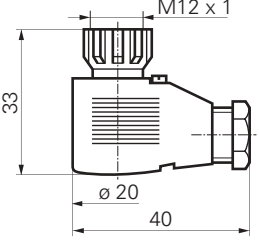
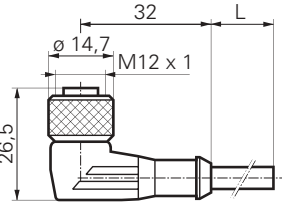
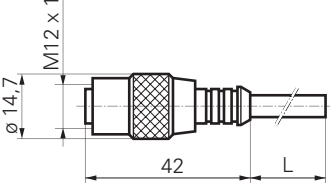
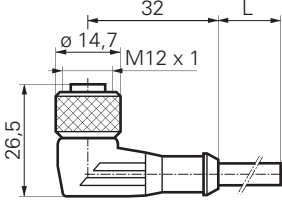
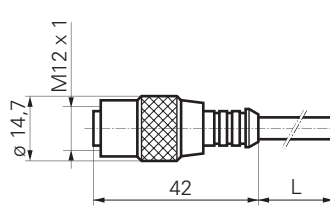
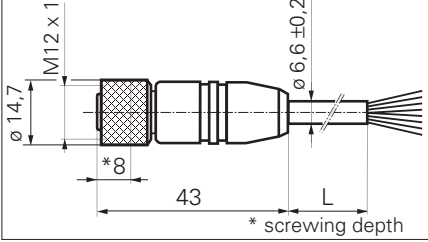
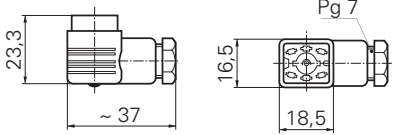


# Connector types

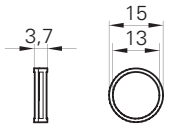
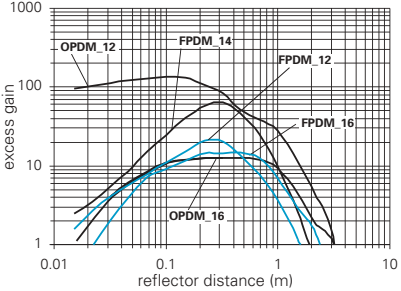
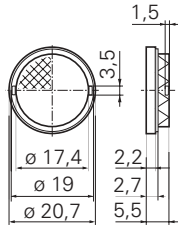
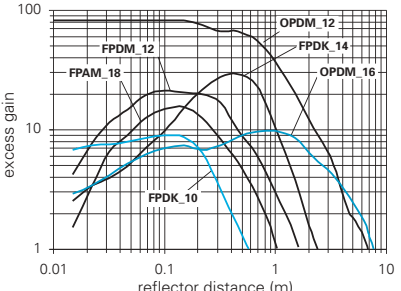
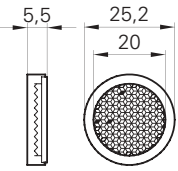
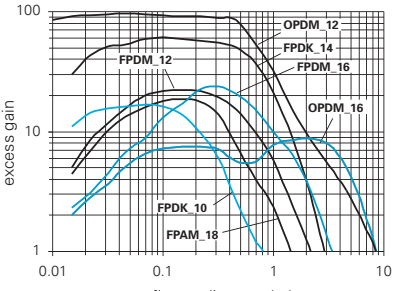
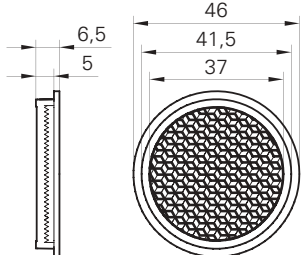
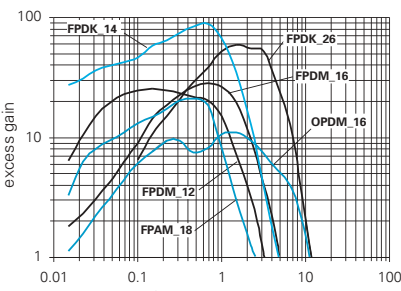
Connectors ES 8/ES 8A	Connectors ES 9/ES 9A	Connector ES 21																														
<table border="0"> <tr> <td>Part number</td> <td></td> <td>Cable length</td> </tr> <tr> <td>ES 8.2P</td> <td>3 pin</td> <td>2 m PUR</td> </tr> <tr> <td>ES 8.5P</td> <td>3 pin</td> <td>5 m PUR</td> </tr> <tr> <td>ES 8A</td> <td>4 pin</td> <td>2 m PVC</td> </tr> <tr> <td>ES 8A5</td> <td>4 pin</td> <td>5 m PVC</td> </tr> </table>	Part number		Cable length	ES 8.2P	3 pin	2 m PUR	ES 8.5P	3 pin	5 m PUR	ES 8A	4 pin	2 m PVC	ES 8A5	4 pin	5 m PVC	<table border="0"> <tr> <td>Part number</td> <td></td> <td>Cable length</td> </tr> <tr> <td>ES 9.2P</td> <td>3 pin</td> <td>2 m PUR</td> </tr> <tr> <td>ES 9.5P</td> <td>3 pin</td> <td>5 m PUR</td> </tr> <tr> <td>ES 9A</td> <td>4 pin</td> <td>2 m PVC</td> </tr> <tr> <td>ES 9A4</td> <td>4 pin</td> <td>4 m PVC</td> </tr> </table>	Part number		Cable length	ES 9.2P	3 pin	2 m PUR	ES 9.5P	3 pin	5 m PUR	ES 9A	4 pin	2 m PVC	ES 9A4	4 pin	4 m PVC	Connection diagram  output Connector only, no cable supplied
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ES 9A4	4 pin	4 m PVC																														
																																
Connector ES 22	Connector ESW 31	Connector ESG 32																														
Connection diagram  output Connector only, no cable supplied	<table border="0"> <tr> <td>Part number</td> <td></td> <td>Cable length</td> </tr> <tr> <td>ESW 31SH0200</td> <td>3 pin</td> <td>2 m PUR halogen-free</td> </tr> <tr> <td>ESW 31AH0200</td> <td>4 pin</td> <td>2 m PUR halogen-free</td> </tr> <tr> <td>ESW 31SH0500</td> <td>3 pin</td> <td>5 m PUR halogen-free</td> </tr> <tr> <td>ESW 31AH0500</td> <td>4 pin</td> <td>5 m PUR halogen-free</td> </tr> </table>	Part number		Cable length	ESW 31SH0200	3 pin	2 m PUR halogen-free	ESW 31AH0200	4 pin	2 m PUR halogen-free	ESW 31SH0500	3 pin	5 m PUR halogen-free	ESW 31AH0500	4 pin	5 m PUR halogen-free	<table border="0"> <tr> <td>Part number</td> <td></td> <td>Cable length</td> </tr> <tr> <td>ESG 32SH0200</td> <td>3 pin</td> <td>2 m PUR halogen-free</td> </tr> <tr> <td>ESG 32AH0200</td> <td>4 pin</td> <td>2 m PUR halogen-free</td> </tr> <tr> <td>ESG 32SH0500</td> <td>3 pin</td> <td>5 m PUR halogen-free</td> </tr> <tr> <td>ESG 32AH0500</td> <td>4 pin</td> <td>5 m PUR halogen-free</td> </tr> </table>	Part number		Cable length	ESG 32SH0200	3 pin	2 m PUR halogen-free	ESG 32AH0200	4 pin	2 m PUR halogen-free	ESG 32SH0500	3 pin	5 m PUR halogen-free	ESG 32AH0500	4 pin	5 m PUR halogen-free
Part number		Cable length																														
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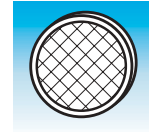
# Connector types M12 x 1



<p><b>Connector</b>      <b>ES 14 (PG 7)</b></p> <p>Connection diagram Connector only, no cable supplied Screw terminals</p>  	<p><b>Connector</b>      <b>ES 18 (PG 7)</b></p> <p>Connection diagram Connector only, no cable supplied Screw terminals</p>  	<p><b>Connector</b>      <b>ES 24</b></p> <p>Connection diagram Connector only, no cable supplied Screw terminals</p>  
<p><b>Connector</b>      <b>ES/ESW 33</b></p> <p>Part number      Cable length ESW 33AH0200    4 pin    2 m PUR halogen-free ESW 33AH0500    4 pin    5 m PUR halogen-free ES 33CP2          5 pin    2 m PUR</p> 	<p><b>Connector</b>      <b>ES/ESG 34</b></p> <p>Part number      Cable length ESG 34AH0200    4 pin    2 m PUR halogen-free ESG 34AH0500    4 pin    5 m PUR halogen-free ES 34CP2          5 pin    2 m PUR ES 34CP5          5 pin    5 m PUR</p> 	
<p><b>Connector</b>      <b>ES 33AP2B</b></p> <p>Part number      Cable length ES 33AP2B        4 pin (shielded)    2 m PUR</p> 	<p><b>Connector</b>      <b>ES 34</b></p> <p>Part number      Cable length ES 34AP2B        4 pin (shielded)    2 m PUR ES 34CP2B        5 pin (shielded)    2 m PUR ES 34CP5B        5 pin (shielded)    5 m PUR</p> 	<p><b>Connectors</b>      <b>ESG 34FP</b></p> <p>Part number      Cable length ESG 34FP0200B    8 pin (shielded)    2 m PUR ESG 34FP0500B    8 pin (shielded)    5 m PUR</p> 
<p><b>Connectors</b>      <b>ES 27D / ES 27A</b></p> <p>Part number      Cable length ES 27D            6 pin (for DC) ES 27A            6 pin (for AC)</p> 		

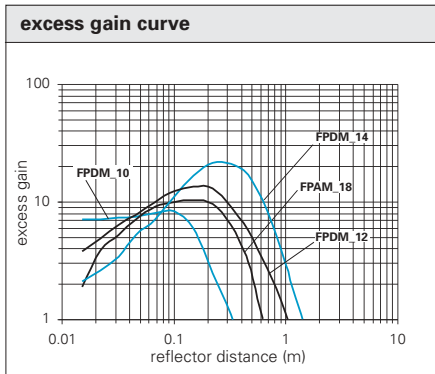
# Reflectors

Reflector round, self-adhesive		
<b>Part number</b> FTAR 013A000 	<b>excess gain curve</b> 	<b>features</b> <ul style="list-style-type: none"> <li>- micro structure</li> <li>- for laser sensor with single lens optics</li> <li>- for short ranges</li> </ul>
Reflector round, self-adhesive		
<b>Part number</b> FTAR 017A000 	<b>excess gain curve</b> 	<b>features</b> <ul style="list-style-type: none"> <li>- for laser light and red light sensors</li> <li>- for short ranges</li> </ul>
Reflector round		
<b>Part number</b> FTAR 020A000 	<b>excess gain curve</b> 	<b>features</b> <ul style="list-style-type: none"> <li>- for laser light and red light sensors</li> <li>- for mid ranges</li> </ul>
Reflector round		
<b>Part number</b> FTAR 036A000 	<b>excess gain curve</b> 	<b>features</b> <ul style="list-style-type: none"> <li>- for laser light and red light sensors</li> <li>- for long ranges</li> </ul>



**Reflector rectangular**

**Part number** FTDR 010A014

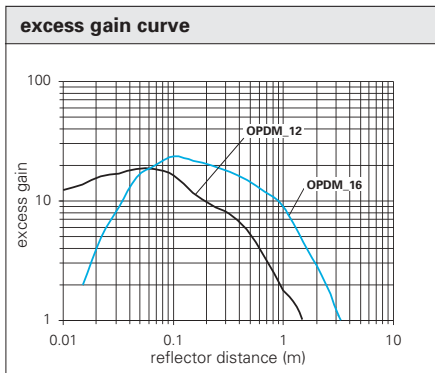


**features**

- for red light sensors
- for short ranges

**Reflector rectangular, self-adhesive**

**Part number** FTDR 010D020

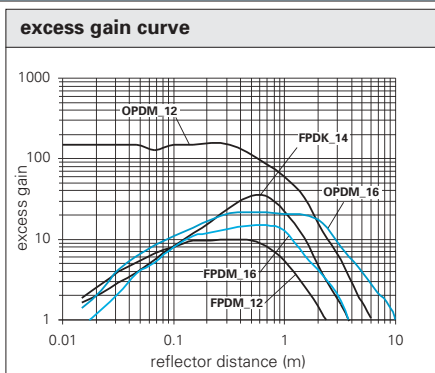


**features**

- for laser light sensors
- for short and mid ranges

**Reflector rectangular, screw mounting**

**Part number** FTDR 017A027

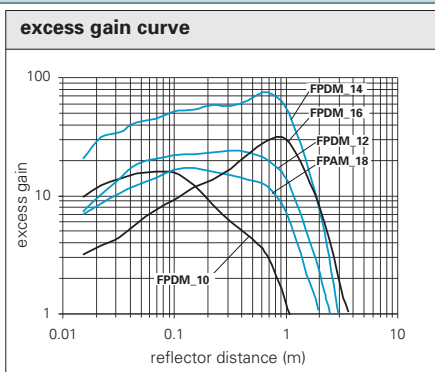


**features**

- micro structure
- for laser sensor with single lens optics
- for laser light and red light sensors
- for mid and long ranges

**Reflector rectangular**

**Part number** FTDR 015A038



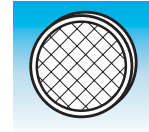
**features**

- for red light sensors
- for short and mid ranges

# Reflectors

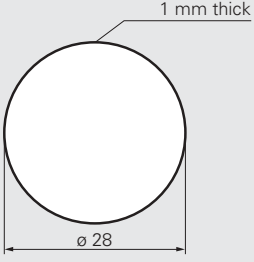
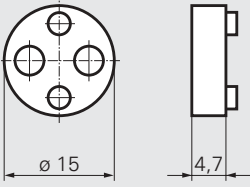
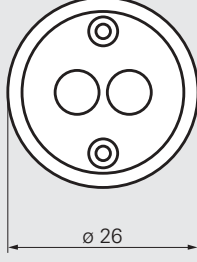
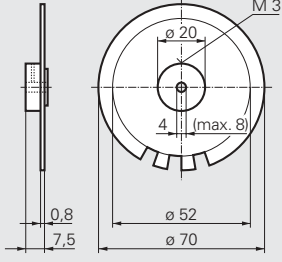
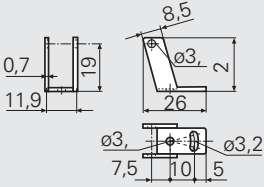
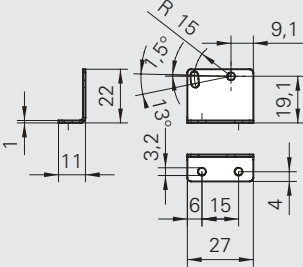
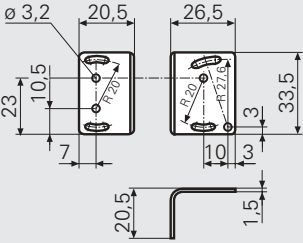
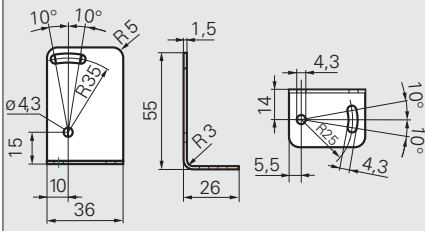
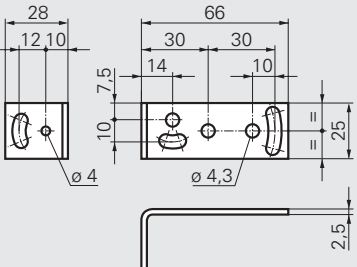
Reflector rectangular			
<b>Part number</b> FTDR 029A046		<b>excess gain curve</b>	<b>features</b> <ul style="list-style-type: none"> <li>- for red light sensors</li> <li>- for mid and long ranges</li> </ul>
Reflector rectangular, screw mounting			
<b>Part number</b> FTDR 047A048		<b>excess gain curve</b>	<b>features</b> <ul style="list-style-type: none"> <li>- for laser light and red light sensors</li> <li>- for max sensing distance</li> </ul>
Reflective tape self-adhesive			
<b>Part number</b> FTDF 020F020		<b>excess gain curve</b>	<b>features</b> <ul style="list-style-type: none"> <li>- for laser sensor with single lens optics</li> <li>- for short ranges</li> </ul> <p>Reflective tape for series OPDM 16 on request</p>
Reflective tape self-adhesive			
<b>Part number</b> FTDL 050K000/.. m		<b>excess gain curve</b>	<b>features</b> <ul style="list-style-type: none"> <li>- for red light sensors</li> <li>- for mid ranges</li> </ul>

# Accessories



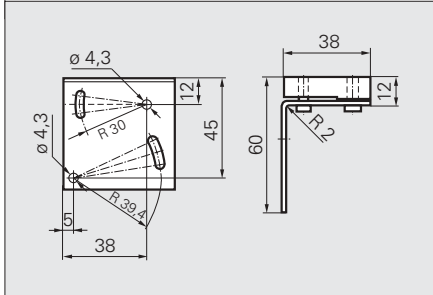
<p><b>Reflector</b></p>	<p><b>Reflector</b></p>	<p><b>Reflector</b></p>
<p>Part number FTDR 005I040 for pocket-size line sensor <i>PosCon</i></p>	<p>Part number FTDR 020I175 for pocket-size line sensor <i>PosCon</i></p>	<p>Part number FTDR 035I395 for pocket-size line sensor <i>PosCon</i></p>
<p><b>Reflective tape</b></p>	<p><b>Reflective tape</b></p>	<p><b>Reflective tape</b></p>
<p>Part number FTDL 005I000 / . . m for pocket-size line sensor <i>PosCon</i></p>	<p>Part number FTDL 020I000 / . . m for pocket-size line sensor <i>PosCon</i></p>	<p>Part number FTDL 035I000 / . . m for pocket-size line sensor <i>PosCon</i></p>
<p><b>Reflective tape</b></p>	<p><b>Reflective tape</b></p>	<p><b>Cap nut M 18</b></p>
<p>Part number FTDL 050I000 / . . m Specially designed for polarization filter</p>	<p>Part number FTDL 610I000 / . . m for pocket-size line sensor <i>PosCon</i></p>	<p>Part number 103067 for glass cover</p>
<p><b>Cap nut M 18</b></p>	<p><b>Cap nut M 30</b></p>	<p><b>Glass cover M 18</b></p>
<p>Part number 115913 for doubling lens</p>	<p>Part number 102801 for fiber optic cable or glass cover</p>	<p>Part number 103068 for M 18 (ø 15)</p>

# Accessories

<b>Glass cover</b> <b>M 30</b>	<b>Doubling lens</b> <b>M 18</b>	<b>Doubling lens</b> <b>M 30</b>
Part number 103226 for M 30 (ø 28)	Part number 107250	Part number 107408
		
<b>Pulse disk</b> <b>IPS 70</b>		
Part number IPS 70/1, IPS 70/60, IPS 70/100		
		
<b>Mounting bracket</b> <b>series 10</b>	<b>Mounting bracket</b> <b>series 10</b>	<b>Mounting bracket</b> <b>series 12</b>
Part number 114501 cable type (with screw and nut) Material steel	Part number 133792 connector type (with screw and nut) Material steel	Part number 113873 Material steel
		
<b>Mounting bracket</b> <b>series 14</b>	<b>Mounting bracket</b> <b>series 15</b>	
Part number 134964 Material steel	Part number 103415 Material steel	
		

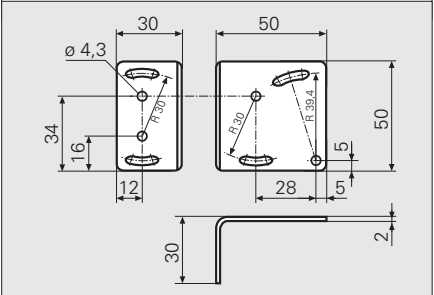
**Mounting bracket series 16**

Part number (special for OSDM) 119373  
Material steel



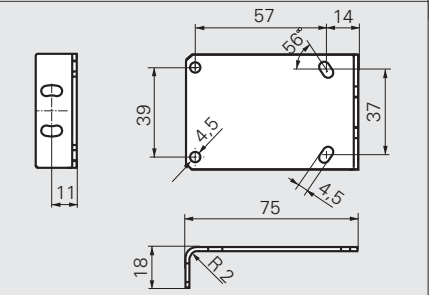
**Mounting bracket series 16**

Part number 113917  
Material steel



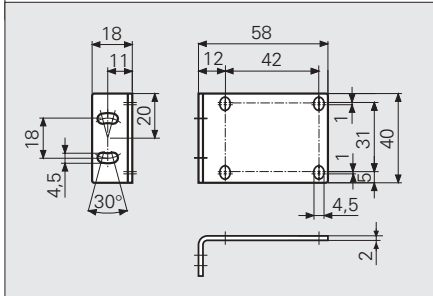
**Mounting bracket series 20**

Part number 131521  
Material steel



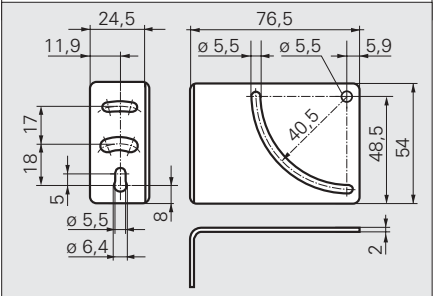
**Mounting bracket series 22**

Part number 126220  
Material steel



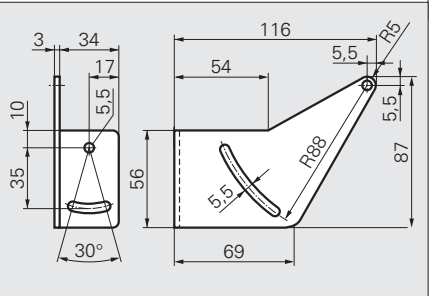
**Mounting bracket series 26**

Part number 112477  
Material steel



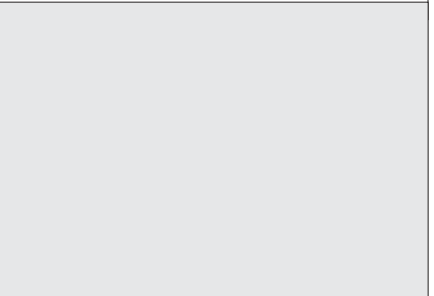
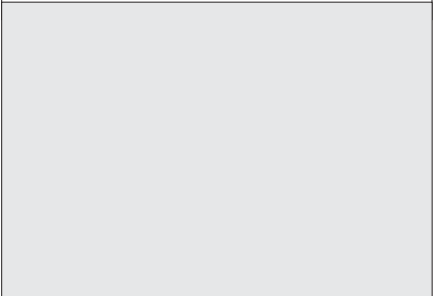
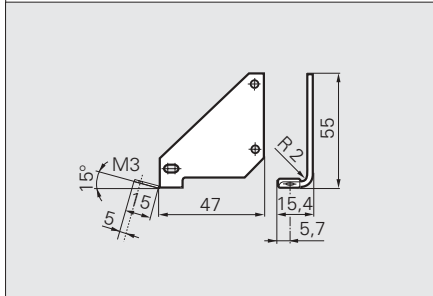
**Mounting bracket series 35**

Part number 104524  
Material steel



**Lens cleaning air nozzle bracket**

Part number (incl. nozzle) 116407  
Material steel



**Slot aperture stickers series 14**

Part number 144075  
2 pieces

