

Accessories

Meeting all needs

Mechanical accessories

from Page A-4

- *Brackets for sensors*
- *Mountings for VISOR® and illumination*



Optical accessories

from Page A-16

- *Reflectors and reflective tape*
- *Lenses and protective casings*
- *Illumination*



A sensor rarely comes unaccompanied: accessories supporting their mounting, commissioning and use are of considerable importance for the reliable functioning of an automation solution. The characteristic practical orientation of SensoPart products is thus also evident in a particularly versatile and user-friendly range of accessories. In this section they are divided into categories: mechanical, optical and electrical accessories.

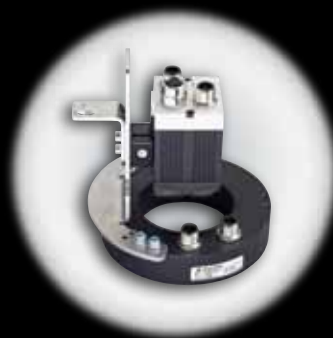
The mechanical accessories include everything that is involved in mounting and protecting the sensor: mounting brackets, blocks, rods and rails, brackets with protective hoops, stainless steel casings for hygienic areas and many others. All accessories are extremely robust and designed to meet practical demands. We thus offer clever, sometimes patented, detailed solutions that greatly simplify the mounting and fine adjustment of sensors, particularly in difficult locations, such as dovetail mountings or rotatable brackets.

Optical accessories include lenses as well as protective casings, external illumination such as ring and surface lights, and reflectors of differing designs, shapes and sizes. All SensoPart lenses offer high optical quality. We offer C-mount lenses as an alternative to integrated lenses especially for vision sensors when, for example, very high measurement distances are required.

Our electrical accessories include a great variety of cables and adapters, power supply units and switching devices, as well as interface components for the integration of supplementary functions. One example of the latter category is the SmartPlug – very popular amongst users – which expands switching sensors with logic and control functions such as counters, timing elements, inverters or frequency converters. The SmartPlug is simply plugged in between the sensor and the cable – a brilliant little product that is only available from SensoPart!

**Electrical accessories
from Page A-32**

- Cables
- Converters
- Power supply units and switching devices



Flexible: the bracket rotates around two axes, simplifying the fine adjustment of vision sensors.



Practical: sensors can be comfortably and precisely aligned after mounting with the help of rod brackets.



Versatile: Sensopart offers a comprehensive selection of reflectors and reflective tape: rectangular, square or round.



Robust: all mounting and bracket elements are extremely stable and offer additional protection for sensors when necessary.


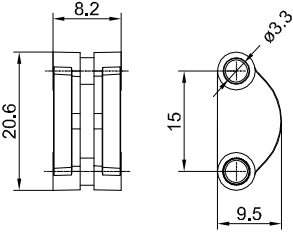

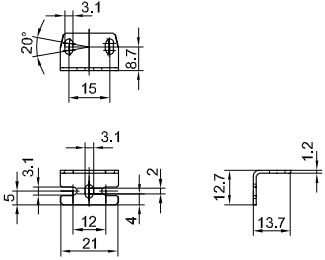

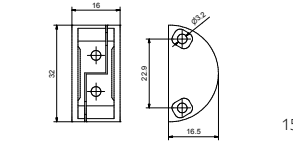
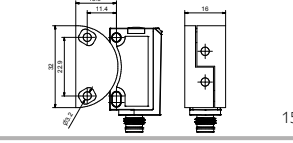

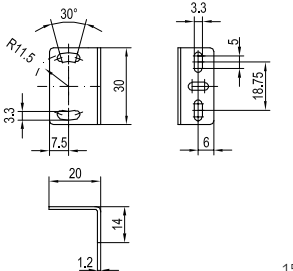
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Accessories

Brackets


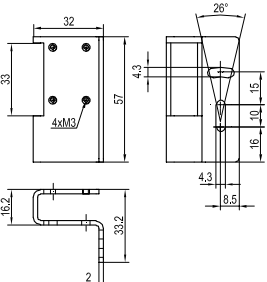

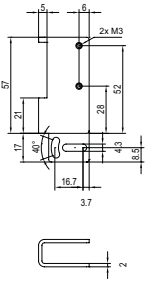

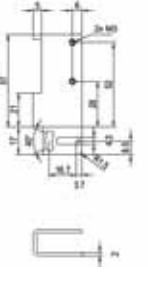

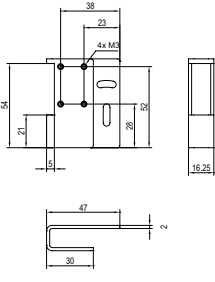

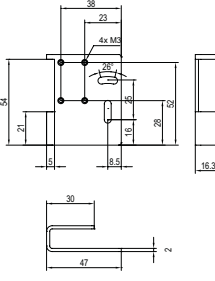

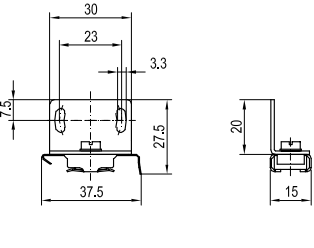


- Brackets
- Mountings

Brackets for F 10 series			
	 <p>153-00899</p>	<p>Part number / Article number</p> <p>Description</p> <hr/> <p>Suitable for</p>	<p>MBD F10 / 660-01001</p> <p>Dovetail clamp mounting, adjustable $\pm 10^\circ$, with screws</p> <p>Material: PBT</p> <hr/> <p>F 10</p>
	 <p>153-00907</p>	<p>Part number / Article number</p> <p>Description</p> <hr/> <p>Suitable for</p>	<p>MS F 10 / 660-01000</p> <p>Mounting bracket with screws</p> <p>1x mounting plate M3</p> <p>1x mounting plate $\varnothing 3.1$ mm</p> <p>Material: stainless steel V2A</p> <hr/> <p>F 10</p>
Brackets for F 25, F 20, UT 20, FL 20 series			
	 <p>153-00945</p>  <p>153-00946</p>	<p>Part number / Article number</p> <p>Description</p> <hr/> <p>Suitable for</p>	<p>MBD F 25 / 661-01000</p> <p>Dovetail clamp mounting, adjustable $\pm 15^\circ$, with screws</p> <p>Material: anodised aluminium</p> <hr/> <p>F 25</p>
	 <p>153-00241</p>	<p>Part number / Article number</p> <p>Description</p> <hr/> <p>Suitable for</p>	<p>MS F 20 / 558-41000</p> <p>Mounting bracket with screws</p> <p>1x retaining strip</p> <p>Material: nickel-plated steel</p> <hr/> <p>F 20</p> <p>F 25</p> <p>UT 20</p> <p>FL 20</p>

Accessories

Brackets


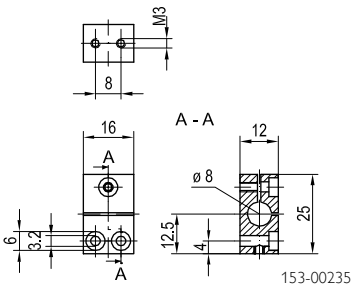
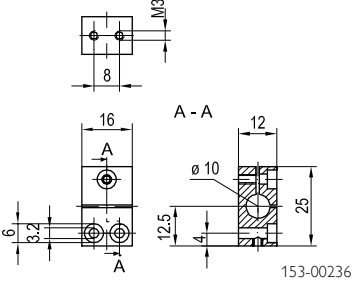
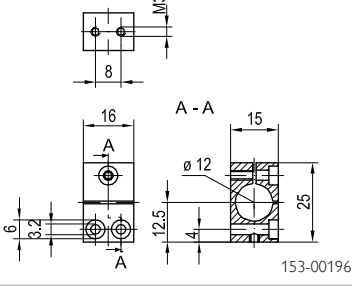

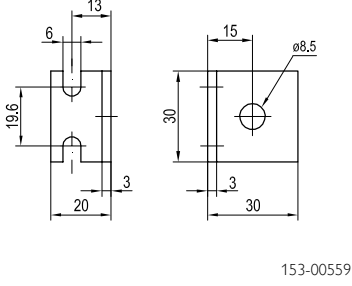
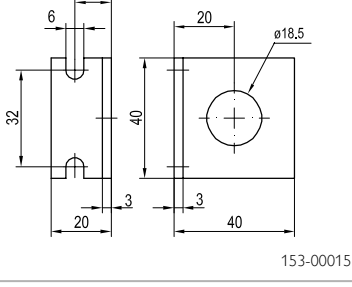
Brackets for F 20, F 25, UT 20, FL 20 series (Cont.)			
	 <p style="text-align: right;">153-00297</p>	<p>Part number / Article number</p> <p>MSP F 20-2 / 558-41005</p> <p>Description</p> <p>Protective sensor angle bracket with screws, very robust Material: stainless steel V2A</p> <p>Suitable for</p> <p>F 20 UT 20-150 F 25 UT 20-S150 FL 20 UT 20-240</p>	
	 <p style="text-align: right;">153-00973</p>	<p>Part number / Article number</p> <p>MSP F 20-13 / 558-41008</p> <p>Description</p> <p>Protective sensor angle bracket with screws, very robust Material: stainless steel V2A</p> <p>Suitable for</p> <p>F 20 UT 20-150 F 25 UT 20-S150 FL 20 UT 20-240</p>	
	 <p style="text-align: right;">153-00972</p>	<p>Part number / Article number</p> <p>MSP F 20-12 / 558-41007</p> <p>Description</p> <p>Protective sensor angle bracket with screws, very robust Material: stainless steel V2A</p> <p>Suitable for</p> <p>F 20 UT 20-150 F 25 UT 20-S150 FL 20 UT 20-240</p>	
	 <p style="text-align: right;">153-00974</p>	<p>Part number / Article number</p> <p>MSP F 20-21 / 558-41009</p> <p>Description</p> <p>Protective sensor angle bracket with screws, very robust Material: stainless steel V2A</p> <p>Suitable for</p> <p>F 20 UT 20-150 F 25 UT 20-S150 FL 20 UT 20-240</p>	
	 <p style="text-align: right;">153-00975</p>	<p>Part number / Article number</p> <p>MSP F 20-22 / 558-41010</p> <p>Description</p> <p>Protective sensor angle bracket with screws, very robust Material: stainless steel V2A</p> <p>Suitable for</p> <p>F 20 UT 20-150 F 25 UT 20-S150 FL 20 UT 20-240</p>	
	 <p style="text-align: right;">153-00291</p>	<p>Part number / Article number</p> <p>MS F 20-DIN / 558-41001</p> <p>Description</p> <p>DIN rail mounting with screws Material: nickel-plated steel</p> <p>Suitable for</p> <p>FL 20</p>	

Brackets for F 50, F 55, F 80, F 88, FGL series			
		<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MS F 50 / 579-50000</p> <p>Angle bracket with screws Material: stainless steel VA</p> <p>F 50 F 55</p>
		<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MSP F 50 / 579-50005</p> <p>Protective sensor angle bracket with screws, very robust, light exit possible on three sides Material: stainless steel VA</p> <p>F 50</p>
		<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MP F 50 / 579-50003</p> <p>Adapter plate Material: galvanised steel plate</p> <p>F 50 F 55</p>
		<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MS F 55 / 579-50010</p> <p>Angle bracket with screws Material: stainless steel V2A</p> <p>F 50 F 55</p>
		<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MSP F 55 / 579-50011</p> <p>Protective sensor angle bracket with screws, very robust Material: stainless steel V2A</p> <p>F 55</p>
		<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MA F 55 / 579-50007</p> <p>Mounting angle, fine-adjustable with adjusting screws. Material: galvanised steel</p> <p>F 55</p>

Brackets for F 90, F 91, F 92 series (Cont.)			
	<p>155-00212</p>	<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MSP F 90 A / 599-91003</p> <p>Fine adjustment for angle bracket MSP F 90, set of two Material: metal</p> <p>MSP F90</p>
	<p>153-00213</p>	<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>AS F 90 / 599-91004</p> <p>Aligning aid for pilot laser; for fine adjustment at long distances</p> <p>F 90 F 91 F 92</p>
Brackets for fibre-optic cables and round housings			
	<p>153-00193</p>	<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MB 3,5 / 903-50313</p> <p>Mounting block / fibre mount, closed curve Material: nickel-plated brass</p> <p>Fibre-optic cables</p>
	<p>153-00234</p>	<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MB 4,5 / 903-50314</p> <p>Mounting block / fibre mount, open curve Material: nickel-plated brass</p> <p>Fibre-optic cables</p>
	<p>153-00194</p>	<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MB 6 / 903-05139</p> <p>Mounting block / fibre mount, open curve Material: nickel-plated brass</p> <p>Fibre-optic cables</p>
	<p>153-00195</p>	<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MB 7 / 903-05140</p> <p>Mounting block / fibre mount, open curve Material: nickel-plated brass</p> <p>Fibre-optic cables</p>

Accessories

Brackets

Brackets for fibre-optic cables and round housings (Cont.)			
		<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MB 8 / 903-05141</p> <p>Mounting block / fibre mount, open curve Material: nickel-plated brass</p> <p>Fibre-optic cables, round M8 housings</p>
		<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MB 10 / 903-05142</p> <p>Mounting block / fibre mount, open curve Material: nickel-plated brass</p> <p>Fibre-optic cables, round M10 housings</p>
		<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MB 12 / 903-05143</p> <p>Mounting block / fibre mount, closed curve Material: nickel-plated brass</p> <p>Fibre-optic cables, round M12 housings</p>
		<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MC 08 / 041-01306</p> <p>Mounting angle for round housings Material: aluminium</p> <p>Round M8 housings</p>
		<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MA 12 / 041-01305</p> <p>Mounting angle for round housings Material: aluminium</p> <p>Round M12 housings</p>
		<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MA 18 / 041-01304</p> <p>Mounting angle for round housings Material: aluminium</p> <p>Round M18 housings</p>

Accessories

Mountings

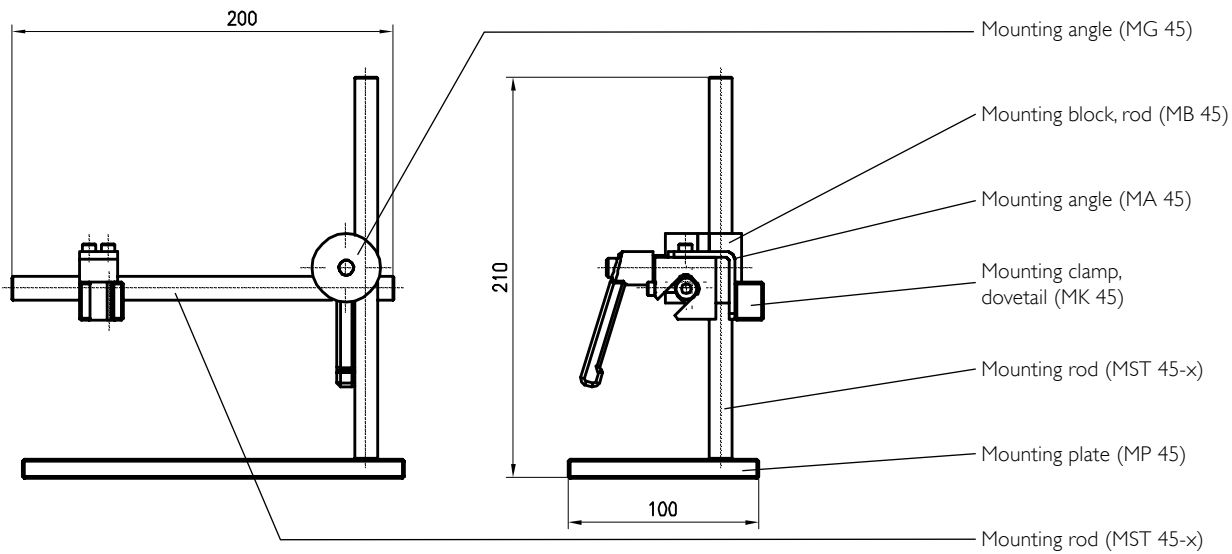
Mountings for V10, V20									
	 <p style="text-align: right;">153-00547</p>	<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MP 45 / 543-11003</p> <p>Mounting plate for mounting rod Material: anodised aluminium</p> <p>MST 45-xx</p>						
	 <p style="text-align: right;">153-01000</p>	<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MB ST1 / 661-01002</p> <p>Mounting for mounting rod with clamping screw Material: aluminium</p> <p>MST 45-20 MST 45-30 MST 45-40</p>						
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x = 200	MST 45-20								
x = 300	MST 45-30								
x = 400	MST 45-40								
	 <p style="text-align: right;">153-00776</p>	<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MG 45 / 543-11008</p> <p>Mounting clamp for mounting rod Material: anodised aluminium, steel screw with plastic handle</p> <p>MST 45-xx</p>						
	 <p style="text-align: right;">153-00546</p>	<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MZ 45 / 543-11004</p> <p>Intermediate mounting piece for mounting rod Material: anodised aluminium</p> <p>MST 45-xx</p>						
	 <p style="text-align: right;">153-00481</p>	<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MB 45 / 543-11002</p> <p>Mounting block for mounting rod Material: anodised aluminium</p> <p>MST 45-xx MA 45 MA 45 L</p>						

Mountings for V10, V20 (Cont.)			
	 <p>153-00482</p>	Part number / Article number Description Suitable for	MA 45 / 543-11001 Mounting angle Material: stainless steel V2A MK 45 MK 45 L MB 45
	 <p>153-00600</p>	Part number / Article number Description Suitable for	MA 45 L / 543-11013 Mounting angle, long Material: stainless steel V2A MK 45 MK 45 L MB 45
	 <p>153-00480</p>	Part number / Article number Description Suitable for	MK 45 / 543-11000 Mounting clamp, dovetail Material: anodised aluminium Screw: steel V10 / V20
	 <p>153-00901</p>	Part number / Article number Description Suitable for	MK 45 L / 543-11021 Mounting clamp, dovetail, long Material: anodised aluminium, Screw: steel V10 / V20
	 <p>153-00913</p>	Part number / Article number Description Suitable for	MG 2A / 543-11023 Mounting angle with 2 axes Material: anodised aluminium V10 / V20

Accessories

Mountings

Mountings for V10, V20 (Cont.)



153-00435

Mountings for illumination

	<p>153-00228</p>	<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MC 60 / 042-12820</p> <p>Retaining clip for mounting fluorescent tube</p> <p>Material: plastic</p> <p>LZS neon tubes</p>
	<p>153-00707</p>	<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MA LR-18/112 / 543-11016</p> <p>Angle bracket for lighting, \varnothing 18 mm</p> <p>Length: 112 mm</p> <p>Material: nickel-plated steel</p> <p>LR 32 x-24-KFL5</p> <p>LD 50 xD-24-KFL5</p>
	<p>153-00721</p>	<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MA LR-23/112 / 543-11019</p> <p>Angle bracket for lighting, \varnothing 23 mm</p> <p>Length: 112 mm</p> <p>Material: nickel-plated steel</p> <p>LR 56 x-24-KFL5</p> <p>LR 70 xD-24-KFL5</p> <p>LR 70 xID-24-KFL5</p>
	<p>153-00722</p>	<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MA LR-26/112 / 543-11017</p> <p>Angle bracket for lighting, \varnothing 26 mm</p> <p>Length: 112 mm</p> <p>Material: nickel-plated steel</p> <p>LR 50 xW-24-KFL5</p> <p>LR 70 x-24-KFL5</p>

Mountings for illumination (Cont.)			
	<p style="text-align: right;">153-00723</p>	<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MA LR-50/112 / 543-11018</p> <p>Angle bracket for lighting, Ø 50 mm Length: 112 mm Material: nickel-plated steel</p> <p>LR 74 xW-24-KFL5 LR 75 xl-24-KFL5 LR 90 xW-24-KFL5 LR 100 xID-24-KFL5</p>
	<p style="text-align: right;">153-00724</p>	<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MA LR-100/112 / 543-11015</p> <p>Angle bracket for lighting, Ø 100 mm Length: 112 mm Material: nickel-plated steel</p> <p>LR 100 xD-24-KFL5 LR 130 xl-24-KFL5 LR 132 xW-24-KFL LFR 115 xD-24-2L12 LFR 45 xD</p>
		<p>V10, V20</p> <p>Mounting clamp, dovetail, long MK 45 L / 543-11021</p> <p>Angle bracket for lighting: MA LR-100/112 / 543-11015 MA LR-18/112 / 543-11016 MA LR-26/112 / 543-11017 MA LR-50/112 / 543-11018 MA LR-23/112 / 543-11019</p> <p>Mounting angle with 2 axes MG 2A / 543-11023</p> <p style="text-align: right;">153-01108</p>	

Special bracket for F 25			
	<p style="text-align: right;">153-01040</p>	<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>MZ F 25 / 661-01003</p> <p>Mounting adapter for FT 25 contrast sensors with horizontal or vertical light exit options, with screws Material: stainless steel V2A</p> <p>FT 25-W...-KL4 FT 25-RGB...-KL4</p>

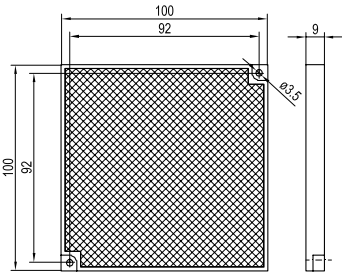
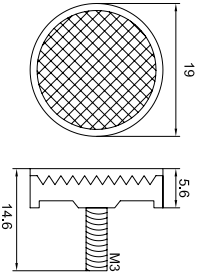
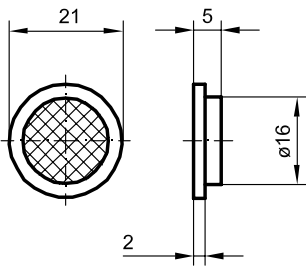
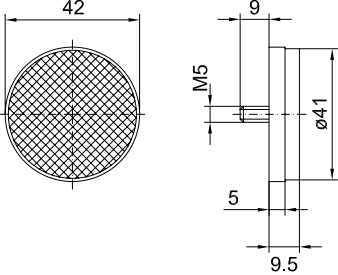
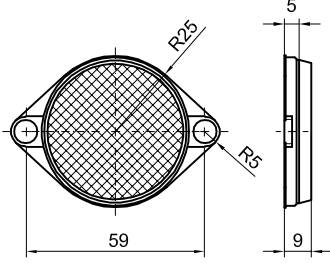
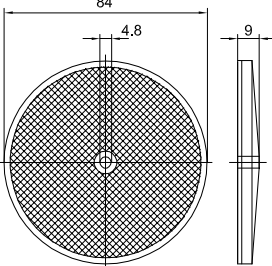
Accessories

Reflectors



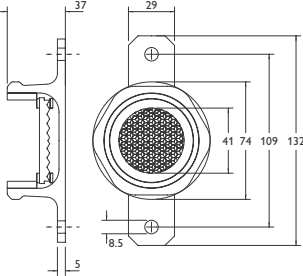
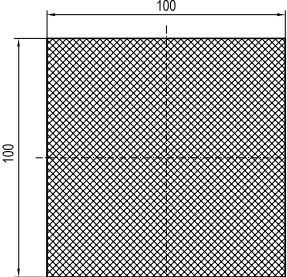
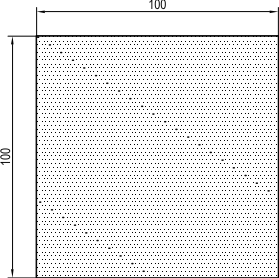
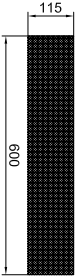
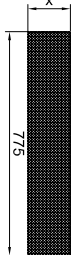
- Reflectors
- Lenses / Protective casings
- Illumination

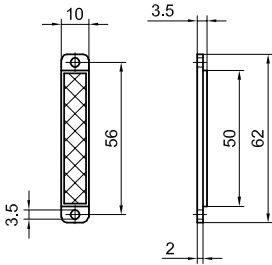
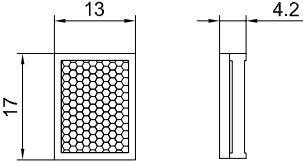
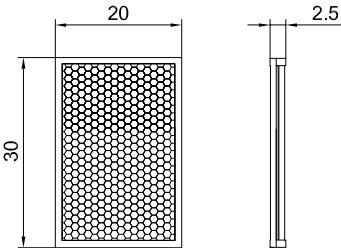
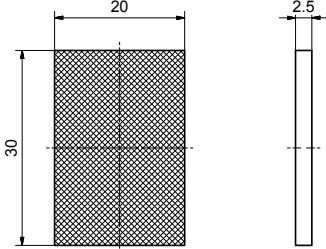
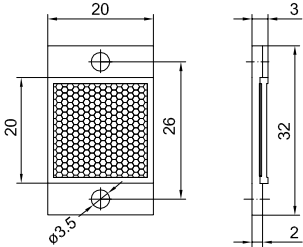
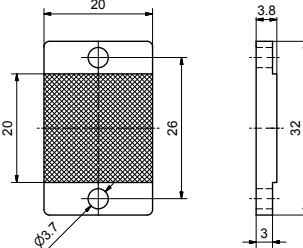
Reflectors for LED Retroreflective photoelectric sensor		
<p style="text-align: right;">153-00068</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>R1 / 904-51532</p> <p>Reflector in housing</p> <p>19 x 73 x 8 mm³</p> <p>2 mounting holes M3</p> <p>-20 ... +60 °C</p> <p>Retroreflective photoelectric sensor (LED)</p>
<p style="text-align: right;">153-00069</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>R5 / 904-51533</p> <p>Reflector in housing</p> <p>51 x 61 x 8 mm³</p> <p>2 mounting holes</p> <p>-20 ... +60 °C</p> <p>Retroreflective photoelectric sensor (LED)</p>
<p style="text-align: right;">153-00816</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>R50 BC / 904-51641</p> <p>Reflector, chemically resistant for critical cleaning processes</p> <p>51 x 69 x 8.1 mm³</p> <p>6 mounting holes</p> <p>-20 ... +140 °C</p> <p>Retroreflective photoelectric sensor (LED)</p> <p style="text-align: right;">ECOLAB</p>
<p style="text-align: right;">153-00817</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>R100 BC / 904-51642</p> <p>Reflector, chemically resistant for critical cleaning processes</p> <p>100 x 100 x 9.2 mm³</p> <p>2 mounting holes</p> <p>-20 ... +140 °C</p> <p>Retroreflective photoelectric sensor (LED)</p> <p style="text-align: right;">ECOLAB</p>

Reflectors for LED Retroreflective photoelectric sensor		
 <p>153-00557</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>R10 / 904-51637 R10 / 2 (2 x R10) / 904-51636</p> <p>Reflector in housing 100 x 100 x 9 mm³ 2 mounting holes -40 ... +70 °C</p> <p>Retroreflective photoelectric sensor (LED) FR 85</p>
 <p>153-01014</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>RD2-G / 904-51567</p> <p>Reflector in housing Ø 19 x 5.6 mm³ Grub screw M3, centred -20 ... +60 °C</p> <p>Retroreflective photoelectric sensor (LED)</p>
 <p>153-00066</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>RD2 / 904-51534</p> <p>Reflector in housing Ø 21 x 5 mm³ Self-adhesive -20 ... +60 °C</p> <p>Retroreflective photoelectric sensor (LED)</p>
 <p>153-00067</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>RD4 / 904-51535</p> <p>Reflector in housing Ø 42 x 9.5 mm³ Grub screw M5, centred -20 ... +60 °C</p> <p>Retroreflective photoelectric sensor (LED)</p>
 <p>153-00355</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>RD46 / 904-51572</p> <p>Reflector in housing Ø 46 x 9 mm³ 2 mounting holes -20 ... +60 °C</p> <p>Retroreflective photoelectric sensor (LED)</p>
 <p>153-00070</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>RD8 / 904-51531</p> <p>Reflector in housing Ø 84 x 9 mm³ 1 mounting hole, centred -20 ... +60 °C</p> <p>Retroreflective photoelectric sensor (LED)</p>

Accessories

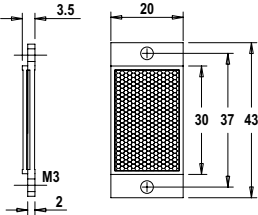
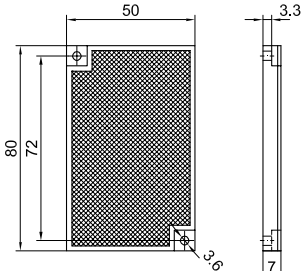
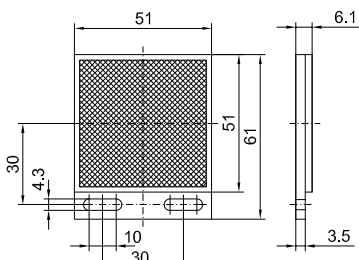
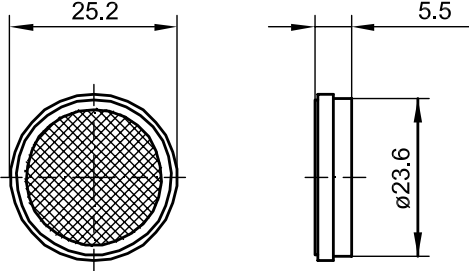
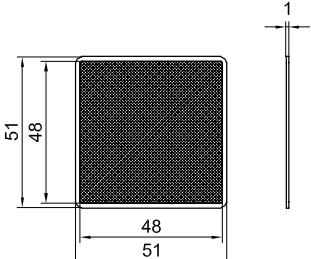
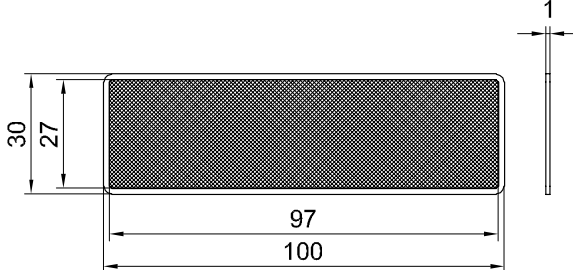
Reflectors

Reflectors for LED Retroreflective photoelectric sensor (Cont.)		
 <p style="text-align: right;">153-00775</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>R128 / 904-51550</p> <p>Reflector in housing, with protective glass for high robustness and high temperatures</p> <p>Ø 41 mm active area</p> <p>2 mounting holes</p> <p>-20 ... +300 °C</p> <p>Retroreflective photoelectric sensor (LED)</p>
 <p style="text-align: right;">153-00071</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>RF 10 / 904-51536</p> <p>Reflective tape</p> <p>100 x 100 mm²</p> <p>Self-adhesive</p> <p>-34 ... +70 °C</p> <p>Retroreflective photoelectric sensor (LED)</p>
 <p style="text-align: right;">153-00556</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>RF 10C / 904-51633</p> <p>Reflective tape for FT 50 C colour sensor</p> <p>100 x 100 mm²</p> <p>Self-adhesive</p> <p>-40 ... +70 °C</p> <p>FT 50 C</p>
 <p style="text-align: right;">153-01012</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>RF 600x115 / 904-51540</p> <p>Reflective tape for FMS 200-01 Analogue</p> <p>600 x 115 mm²</p> <p>Self-adhesive</p> <p>-40 ... +70 °C</p> <p>Retroreflective photoelectric sensor (LED)</p>
 <p style="text-align: right;">153-01015</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>RF 775x ... mm / 904-51643</p> <p>Reflective tape, choice of length, weatherproof</p> <p>775 x x mm²</p> <p>Self-adhesive</p> <p>-40 ... +70 °C</p> <p>Retroreflective photoelectric sensor (LED)</p>

Reflectors for laser Retroreflective photoelectric sensor		
 <p style="text-align: right;">153-00280</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>R1L / 904-51559</p> <p>Reflector in housing 10 × 62 × 3.5 mm³ 2 mounting holes -20 ... +60 °C</p> <p>Retroreflective photoelectric sensor (laser)</p>
 <p style="text-align: right;">153-00771</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>R2-1LK / 904-51587</p> <p>Reflector in housing 13 × 17 × 4.2 mm³ Self-adhesive -20 ... +60 °C</p> <p>Retroreflective photoelectric sensor (laser)</p>
 <p style="text-align: right;">153-00772</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>R3-2LK / 904-51588</p> <p>Reflector in housing 20 × 30 × 2.5 mm³ Self-adhesive -20 ... +60 °C</p> <p>Retroreflective photoelectric sensor (laser)</p>
 <p style="text-align: right;">153-01047</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>R3-2LK1 / 904-51596</p> <p>Reflector in housing with very fine structure 20 × 30 × 2.5 mm³ Self-adhesive -20 ... +60 °C</p> <p>Retroreflective photoelectric sensor (laser)</p>
 <p style="text-align: right;">153-00773</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>R2-2LB / 904-51586</p> <p>Reflector in housing 20 × 32 × 3 mm³ 2 mounting holes -20 ... +60 °C</p> <p>Retroreflective photoelectric sensor (laser)</p>
 <p style="text-align: right;">153-001046</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>R2-2LB1 / 904-51595</p> <p>Reflector in housing with very fine structure 20 × 32 × 3.8 mm³ 2 mounting holes -20 ... +60 °C</p> <p>Retroreflective photoelectric sensor (laser)</p>

Accessories

Reflectors

Reflectors for laser Retroreflective photoelectric sensor (Cont.)		
 <p style="text-align: right;">153-00774</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>R3-2LB / 904-51585</p> <p>Reflector in housing</p> <p>20 × 43 × 3.5 mm³</p> <p>2 mounting holes</p> <p>-20 ... +60 °C</p> <p>Retroreflective photoelectric sensor (laser)</p>
 <p style="text-align: right;">153-00544</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>R5-8/L / 904-51576</p> <p>Reflector in housing</p> <p>50 × 80 × 7 mm³</p> <p>2 mounting holes</p> <p>-20 ... +60 °C</p> <p>Retroreflective photoelectric sensor (laser)</p>
 <p style="text-align: right;">153-00242</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>R5L / 904-51543</p> <p>Reflector in housing</p> <p>51 × 61 × 6.1 mm³</p> <p>2 mounting holes (slots)</p> <p>-20 ... +60 °C</p> <p>Retroreflective photoelectric sensor (laser)</p>
 <p style="text-align: right;">153-00699</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>RD-25 KL / 904-51589</p> <p>Reflector in housing</p> <p>Ø 25.2 × 5.5 mm³</p> <p>Self-adhesive</p> <p>-20 ... +60 °C</p> <p>Retroreflective photoelectric sensor (laser)</p>
 <p style="text-align: right;">153-00701</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>RF-50 KL / 904-51590</p> <p>Reflective tape</p> <p>51 × 51 mm²</p> <p>Self-adhesive</p> <p>-40 ... +70 °C</p> <p>Retroreflective photoelectric sensor (laser)</p>
 <p style="text-align: right;">153-00950</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>RF-30x100 KL / 904-51592</p> <p>Reflective tape</p> <p>100 × 30 mm²</p> <p>Self-adhesive</p> <p>-40 ... +70 °C</p> <p>Retroreflective photoelectric sensor (laser)</p>

Reflectors


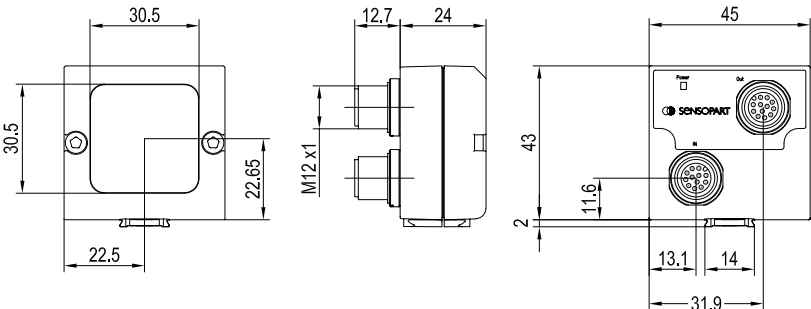
Reflectors für time-of-flight devices (Cont.)		
<p style="text-align: right;">153-00486</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>RL 660 / 904-51564</p> <p>Reflector for ranges up to 200 m</p> <p>660 x 660 x 4,5 mm³</p> <p>4 mounting holes</p> <p>-20 ... +60 °C</p> <p>FR 90, FR 91, FR 92</p>
<p style="text-align: right;">153-00487</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>RL 700 / 904-51570</p> <p>Reflector in housing for ranges up to 250 m</p> <p>700 x 700 x 5,6 mm³</p> <p>4 mounting holes</p> <p>-20 ... +60 °C</p> <p>FR 90, FR 91, FR 92</p>
<p style="text-align: right;">153-00488</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>RF 250 / 599-91009</p> <p>Reflective tape for ranges up to 50 m</p> <p>250 x 250 mm²</p> <p>Self-adhesive</p> <p>-20 ... +60 °C</p> <p>FR 90, FR 91</p>
<p style="text-align: right;">153-00488</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>RF 250/V / 904-51579</p> <p>Reflective tape for ranges up to 30 m</p> <p>250 x 250 mm²</p> <p>Self-adhesive</p> <p>-20 ... +60 °C</p> <p>FR 92</p>
<p style="text-align: right;">153-01010</p>	<p>Part number / Article number</p> <p>Description</p> <p>Dimensions</p> <p>Mounting</p> <p>Temperature range</p> <p>Suitable for</p>	<p>Reflective tape / 904-51548</p> <p>Reflective tape</p> <p>600 x 76 mm²</p> <p>Self-adhesive</p> <p>-40 ... +70 °C</p> <p>FR 85</p>

Mounting of the reflectors as shown in the dimensional drawing or alignment according to labeling on reflector front.

Lenses, C-mount			
		<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>LO C 8 / 526-51513</p> <p>C-mount lens 8 mm focal length Aperture/focus: manual Filter thread: 30.5/0.5 Diameter: 33.5 mm Length: 28.2 Weight: 70 g</p> <p>V10 /V20 C-Mount</p>
		<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>LO C 12 / 526-51514</p> <p>C-mount lens 12 mm focal length Aperture/focus: manual Filter thread: 30.5/0.5 Diameter: 33.5 mm Length: 28.2 mm Weight: 65 g</p> <p>V10 /V20 C-Mount</p>
		<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>LO C 16 / 526-51515</p> <p>C-mount lens 16 mm focal length Aperture/focus: manual Filter thread: 30.5/0.5 Diameter: 33.5 mm Length: 28.2 mm Weight: 65 g</p> <p>V10 /V20 C-Mount</p>
		<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>LO C 25 / 526-51516</p> <p>C-mount lens 25 mm focal length Aperture/focus: manual Filter thread: 30.5/0.5 Diameter: 33.5 mm Length: 36.0 mm Weight: 75 g</p> <p>V10 /V20 C-Mount</p>
		<p>Part number / Article number</p> <p>Description</p> <p>Suitable for</p>	<p>LO C 50 / 526-51113</p> <p>C-mount lens 50 mm focal length Aperture/focus: manual Filter thread: 30.5/0.5 Diameter: 33.5 mm Length: 38.1 mm Weight: 90 g</p> <p>V10 /V20 C-Mount</p>

Protective casings			
	<p>153-01023</p>	Part number / Article number	LPT 45 CML 5 / 527-51132
		Description	C-mount IP 65 protective casing Flange 5 mm Maximum lens dimensions: diameter: 38 mm length: 42 mm
		Suitable for	V10 / V20 C-Mount
		<p>V10, V20 C-mount IP 65 protective casing LPT 45 CML / 527-51132</p> <p>C-mount lenses LO C 8 / 526-51513 LO C 12 / 526-51514 LO C 16 / 526-51515 LO C 25 / 526-51516 LO C 50 / 526-51113</p> <p>153-01129</p>	


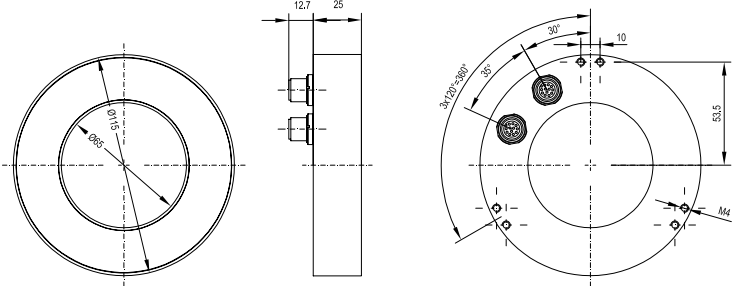
Accessories, lenses			
	Part number	Article number	Description
	ET 0,5	038-12399	Intermediate ring 0.5 mm
	ET 1	038-12400	Intermediate ring 1 mm
	LR 5	543-11011	Intermediate ring 5 mm
	ET 10	038-12402	Intermediate ring 10 mm
	ETS	527-51129	Intermediate ring set
	VF T M1	533-01010	Infrared filter for C-mount lens

Surface light for V10, V20			
	Part number	Article number	Description
	LF45 W-24-2L12	525-51147	Surface light, V10 / V20, white, 12-pin
	LF45 R-24-2L12	525-51148	Surface light, V10 / V20, red, 12-pin
	LF45 IR-24-2L12	525-51149	Surface light, V10 / V20, infrared, 12-pin*
			

* External IR illumination can only be combined with IR Types or C-Mount sensors.
 LED area lighting for incidental illumination in IP67 housings. Can be cascaded to illuminate from several directions.
 No switching amplifier required.

Accessories


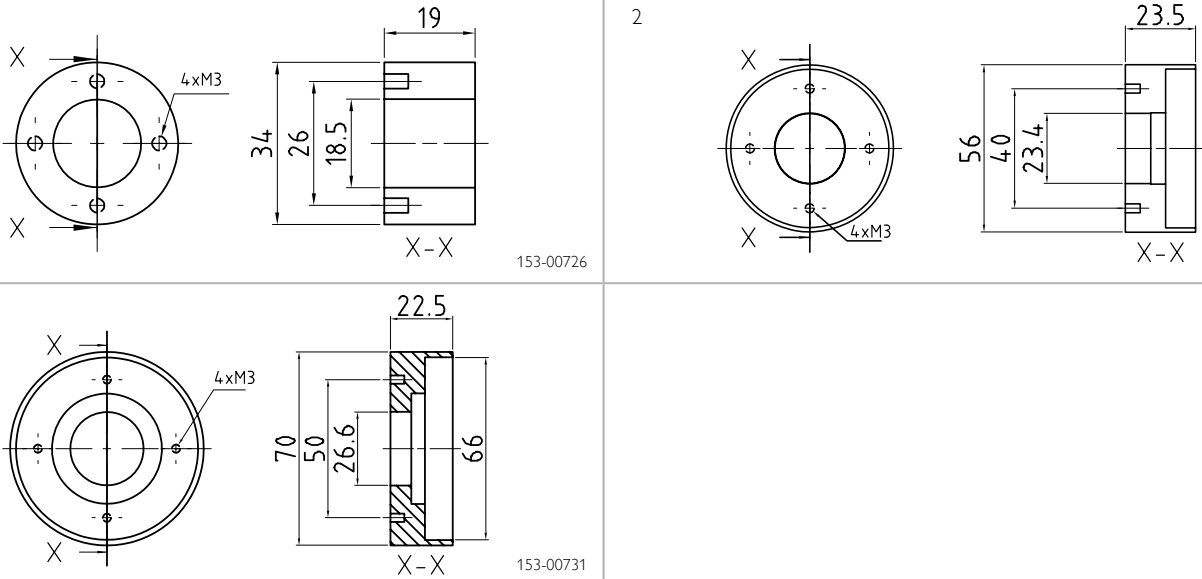
Illumination

Ring light for V10, V20				
	Part number	Article number	Description	Angle bracket
	LFR 115 WD-24-2L12	525-51150	Ring light, V10 / V20, white, diffuse, 12-pin	543-11015
	LFR 115 RD-24-2L12	525-51151	Ring light, V10 / V20, red, diffuse, 12-pin	543-11015
	LFR 115 ID-24-2L12	525-51152	Ring light, V10 / V20, infrared, diffuse, 12-pin*	543-11015
	LFR 115 WK-24-2L-12	525-51153	Ring light, V10 / V20, white, clear, 12-pin	543-11015
	LFR 115 RK-24-2L-12	525-51154	Ring light, V10 / V20, red, clear, 12-pin	543-11015
	LFT 115 IK-24-2L-12	525-51155	Ring light, V10 / V20, infrared, clear, 12-pin	543-11015
				

153-00926

* External IR illumination is only possible for IR types or C-Mount sensors.

LED ring lighting for the incidental illumination of objects in IP67-tight housings. No switching amplifier is required and cascading is possible.

Ring light					
	Part number	Article number	Description	Angle bracket	Draw.
	LR 32 W-24-KFL5	532-51000	Ring light, 32 mm, white	543-11016	1
	LR 56 W-24-KFL5	532-51001	Ring light, 56 mm, white	543-11019	2
	LR 70 W-24-KFL5	532-51002	Ring light, 70 mm, white	543-11017	3
	LR 32 R-24-KFL5	532-51003	Ring light, 32 mm, red	543-11016	1
	LR 56 R-24-KFL5	532-51004	Ring light, 56 mm, red	543-11019	2
	LR 70 R-24-KFL5	532-51005	Ring light, 70 mm, red	543-11017	3
					

153-00726

153-00727


153-00731

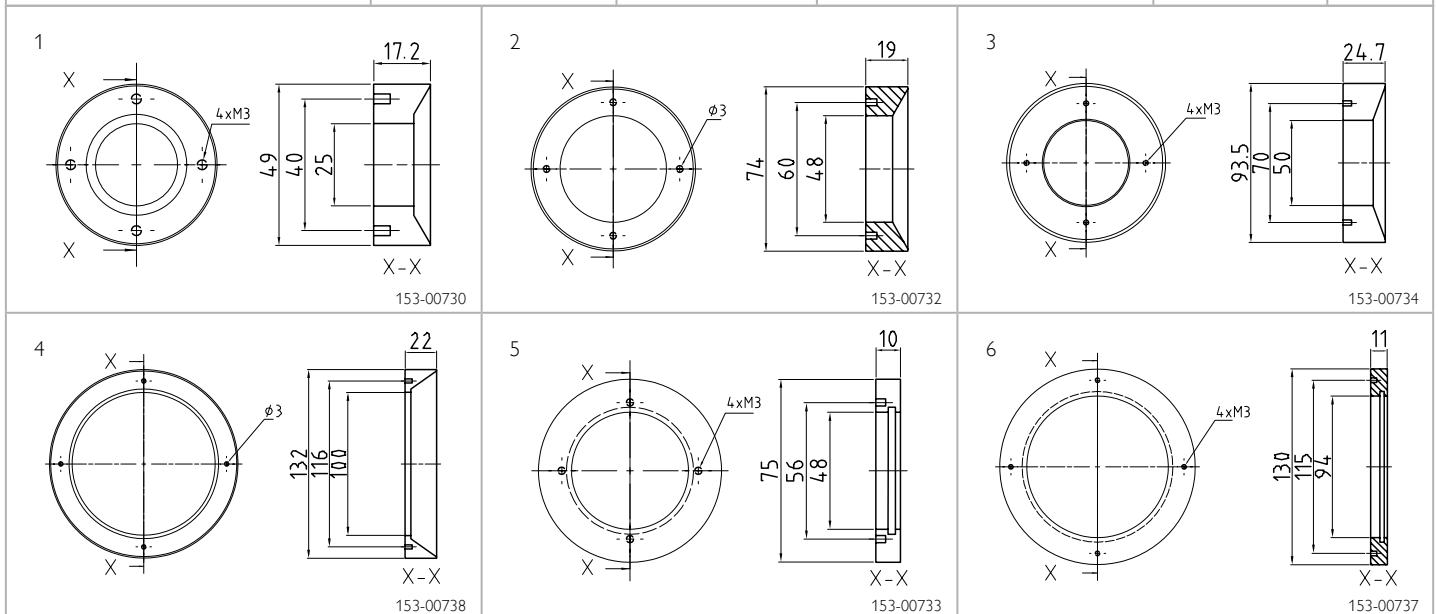
* External IR illumination is only combinable with IR types or C-Mount sensors.

LED ring lighting for the incidental illumination of objects.

LFR 45 xD Types require no switching amplifier, can be cascaded and are in IP67-tight housings.

Ring light, angled

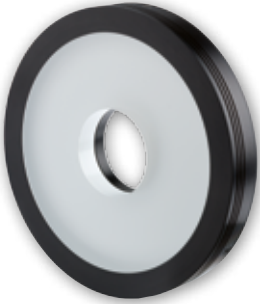
	Part number	Article number	Description	Angle bracket	Draw.
	LR 50 WW-24-KFL5	532-51006	Ring light, angled, 50 mm, white	543-11017	1
LR 74 WW-24-KFL5	532-51007	Ring light, angled, 74 mm, white	543-11018	2	
LR 90 WW-24-KFL5	532-51008	Ring light, angled, 90 mm, white	543-11018	3	
LR 132 WW-24-KFL5	532-51009	Ring light, angled, 132 mm, white	543-11015	4	
LR 50 RW-24-KFL5	532-51010	Ring light, angled, 50 mm, red	543-11017	1	
LR 74 RW-24-KFL5	532-51011	Ring light, angled, 74 mm, red	543-11018	2	
LR 90 RW-24-KFL5	532-51012	Ring light, angled, 90 mm, red	543-11018	3	
LR 132 RW-24-KFL5	532-51013	Ring light, angled, 132 mm, red	543-11015	4	
LR 75 WI-24-KFL5	532-51014	Ring light, indirect, 75 mm, white	543-11018	5	
LR 130 WI-24-KFL5	532-51015	Ring light, indirect, 130 mm, white	543-11015	6	
LR 75 RI-24-KFL5	532-51016	Ring light, indirect, 75 mm, red	543-11018	5	
LR 130 RI-24-KFL5	532-51017	Ring light, indirect, 130 mm, red	543-11015	6	

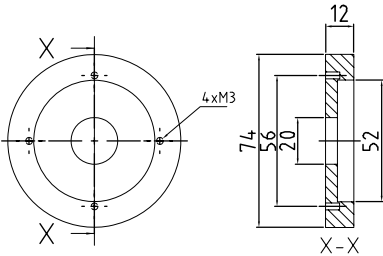
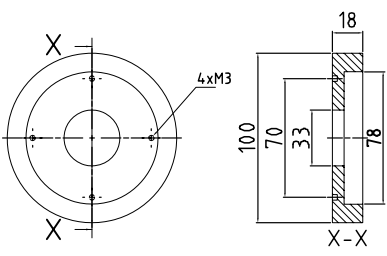
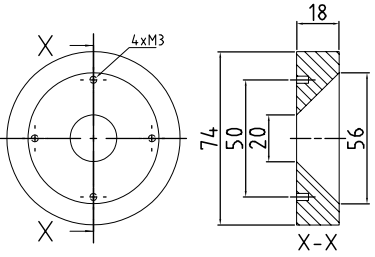
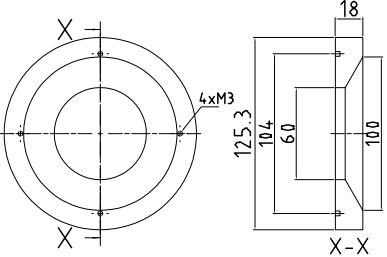


Funnel-shaped LED ring light for dark field illumination.


Accessories

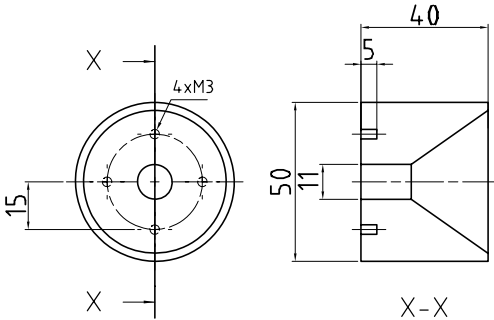
Illumination

Ring light, indirect, diffuse					
	Part number	Article number	Description	Angle bracket	Draw.
	LR 70 WID-24-KFL5	532-51030	Ring light, indirect, diffuse, 70 mm, white	543-11019	1
	LR 100 WID-24-KFL5	532-51031	Ring light, indirect, diffuse, 100 mm, white	543-11018	2
	LR 70 RID-24-KFL5	532-51032	Ring light, indirect, diffuse, 70 mm, red	543-11019	1
	LR 100 RID-24-KFL5	532-51033	Ring light, indirect, diffuse, 100 mm, red	543-11018	2
	LR 70 WD-24-KFL5	532-51034	Ring light, diffuse, 70 mm, white	543-11019	3
	LR 100 WD-24-KFL5	532-51035	Ring light, diffuse, 100 mm, white	543-11015	4
	LR 70 RD-24-KFL5	532-51036	Ring light, diffuse, 70 mm, red	543-11019	3
	LR 100 RD-24-KFL5	532-51037	Ring light, diffuse, 100 mm, red	543-11015	4


1		153-00729
2		153-00735
3		153-00728
4		153-00736

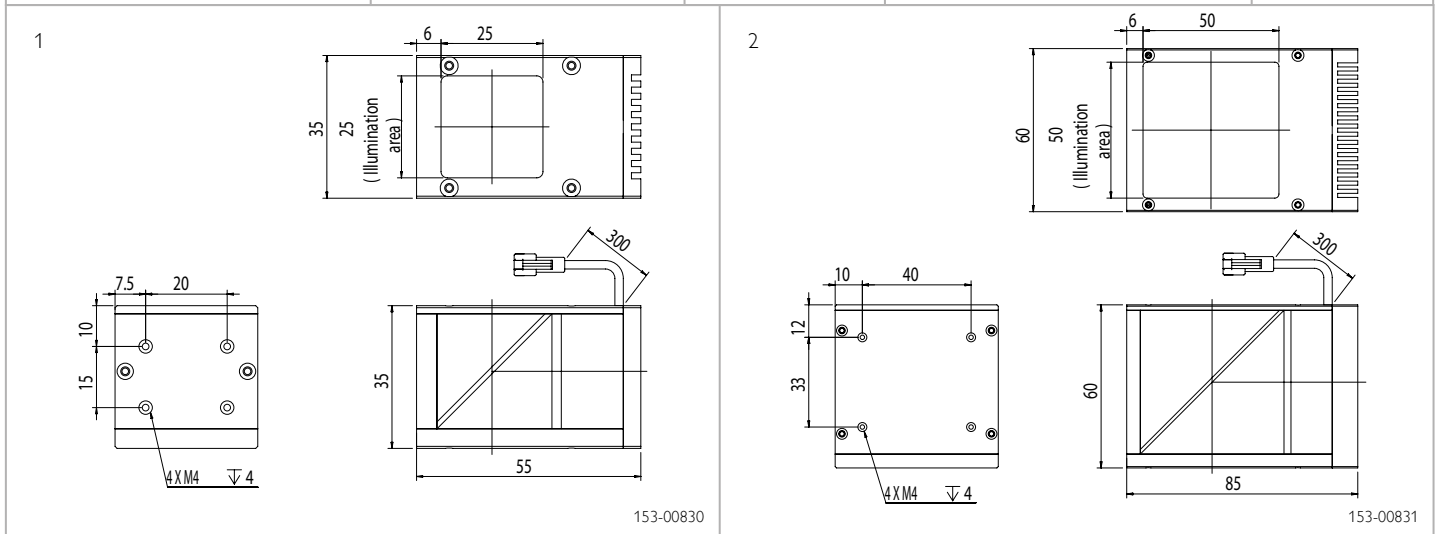
LED ring light with LEDs shining surfacely and directly on centre of circle.

Ring light, dome, diffuse				
	Part number	Article number	Description	Angle bracket
	LD 50 WD-24-KFL5	532-51038	Ring light, dome, diffuse, 50 mm, white	543-11016
	LD 50 RD-24-KFL5	532-51039	Ring light, dome, diffuse, 50 mm, red	543-11016


	153-00704
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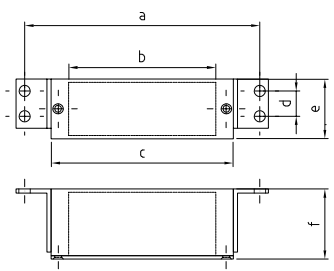
LED ring lighting with funnel-shaped diffuser sheet for strongly reflective objects.

Coaxial illumination				
	Part number	Article number	Description	Drawing
	LK 25 R-24-KFL5	532-51043	Coaxial lighting, 25 mm, red	1
	LK 46 R-24-KFL5	532-51044	Coaxial lighting, 46 mm, red	2



Coaxial mirrored LED lighting for homogeneous illumination of reflected objects.

Light strip, diffuse				
	Part number	Article number	Description	Type
	LB 44 WD-24-KFL5	532-51026	Light strip, diffuse, 44 mm, white	1
	LB 86 WD-24-KFL5	532-51027	Light strip, diffuse, 86 mm, white	2
	LB 180 WD-24-KFL5	532-51049	Light strip, diffuse, 180 mm, white	3
	LB 44 RD-24-KFL5	532-51028	Light strip, diffuse, 44 mm, red	1
	LB 86 RD-24-KFL5	532-51029	Light strip, diffuse, 86 mm, red	2
	LB 180 RD-24-KFL5	532-51052	Light strip, diffuse, 180 mm, red	3


		Type 1	Type 2	Type 2
	a	67 mm	109 mm	206.5 mm
	b	42 mm	84 mm	181 mm
	c	52 mm	95 mm	191 mm
	d	7 mm	7 mm	7.2 mm
	e	17 mm	17 mm	17.5 mm
	f	20 mm	20 mm	20 mm

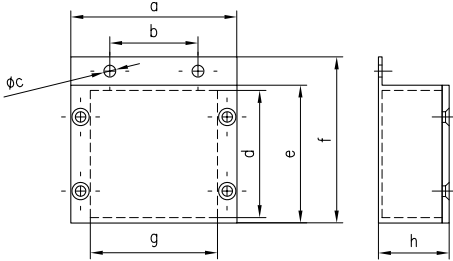
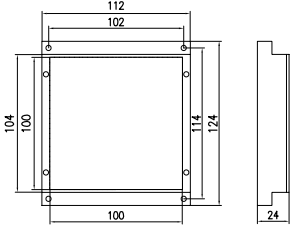
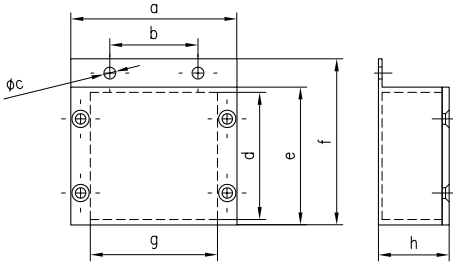
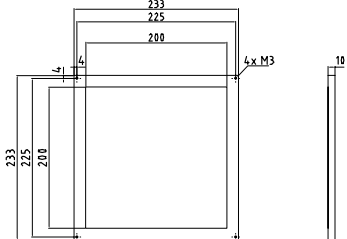
153-00756

Bar-shaped light strip with diffuser sheet for indirect illumination.


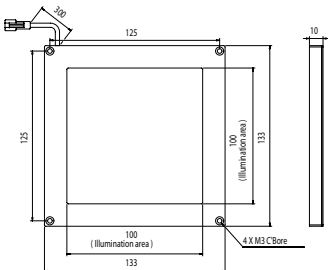
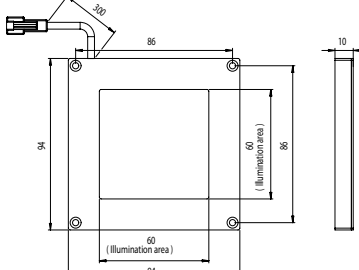
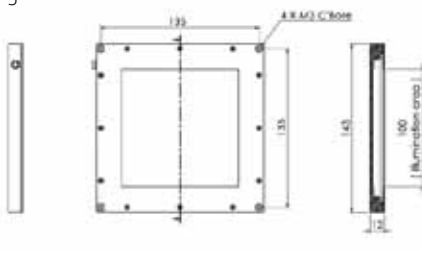
Accessories

Illumination


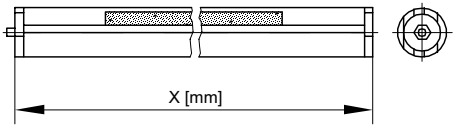
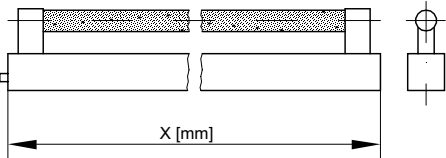
Surface light				
	Part number	Article number	Description	Drawing
	LF 36 WD-24-KFL5	532-51018	Surface light, diffuse, 36 mm, white	1
	LF 51 WD-24-KFL5	532-51019	Surface light, diffuse, 51 mm, white	2
	LF 100 WD-24-KFL5	532-51020	Surface light, diffuse, 100 mm, white	3
	LF 200 WD-24-KFL5	532-51024	Surface light, diffuse, 200 mm, white	4
	LF 36 RD-24-KFL5	532-51021	Surface light, diffuse, 36 mm, red	1
	LF 51 RD-24-KFL5	532-51022	Surface light, diffuse, 51 mm, red	2
	LF 100 RD-24-KFL5	532-51023	Surface light, diffuse, 100 mm, red	3
LF 200 RD-24-KFL5	532-51025	Surface light, diffuse, 200 mm, red	4	

<p>1</p>  <table border="1"> <tr><td>a =</td><td>47</td><td>mm</td></tr> <tr><td>b =</td><td>25</td><td>mm</td></tr> <tr><td>c =</td><td>3,4</td><td>mm</td></tr> <tr><td>d =</td><td>36</td><td>mm</td></tr> <tr><td>e =</td><td>40</td><td>mm</td></tr> <tr><td>f =</td><td>47</td><td>mm</td></tr> <tr><td>g =</td><td>36</td><td>mm</td></tr> <tr><td>h =</td><td>15</td><td>mm</td></tr> </table> <p>153-00758</p>	a =	47	mm	b =	25	mm	c =	3,4	mm	d =	36	mm	e =	40	mm	f =	47	mm	g =	36	mm	h =	15	mm	<p>3</p>  <p>153-00762</p>
a =	47	mm																							
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e =	40	mm																							
f =	47	mm																							
g =	36	mm																							
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a =	62	mm																							
b =	40	mm																							
c =	3,4	mm																							
d =	50	mm																							
e =	54	mm																							
f =	62	mm																							
g =	50	mm																							
h =	15	mm																							

Surface LED background illumination with very bright, regular surface illumination.

Surface light				
	Part number	Article number	Description	Drawing
	LF 100 A RD-24-KFL5	532-51040	Surface light, 100 mm, red, diffuse	1
	LF 60 A RD-24-KFL5	532-51041	Surface light, 60 mm, red, diffuse	2
	LF 100 A WD-24-KFL5-65	532-51042	Surface light, 100 mm, white, diffuse, IP 65	3
  				

Surface LED background lighting for diffuse illumination.

LZS neon tubes							
	Part number	Article number	Light source	Dimensions (mm)	Power supply	Enclosure rating	Draw.
	LZS 08230-50	525-51122	D16x200/D60 X=350	Ø60 × 350	230V AC	IP 50	1
	LZS 13230-50	525-51123	D16x360/D60 X=580	Ø60 × 580	230V AC	IP 50	1
	LZS 18230-67	525-51126	D26x420/D70 X=940	Ø70 × 940	230V AC	IP 67	1
	LZS 18024-54	525-51124	D26x420/45x108 X=635	635 × 45 × 108	24V DC	IP 54	2
	LZS 18230-54	525-51125	D26x420/45x108 X=635	635 × 45 × 108	230V AC	IP 54	2
	LZS 36024-54	525-51127	D26x1000/45x108 X=1245	1245 × 45 × 108	24V DC	IP 54	2
 							

High-frequency fluorescent tubes for extensive illumination.

Accessories

Cables



- Cables
- Converters
- Power supply units and switching devices

Straight connectors	90° connectors	90° connectors with LED	Shielded connectors

Part number	Article number	Description
M5, 4-pin		
CN4 FG-2m-PUR	902-51793	2 m, straight, PUR
CN4 FG-5m-PUR	902-51791	5 m, straight, PUR
CN4 FW-2m-PUR	902-51794	2 m, 90°, PUR
CN4 FW-5m-PUR	902-51792	5 m, 90°, PUR
M8, 3-pin		
K3-2m-G-PUR	902-50679	2 m, straight, PUR
K3-5m-G-PUR	902-51614	5 m, straight, PUR, suitable for drag chains
K3-10m-G-PUR	902-50694	10 m, straight, PUR, suitable for drag chains
K3-2m-W-PUR	902-50681	2 m, 90°, PUR, suitable for drag chains
K3-5m-W-PUR	902-51615	5 m, 90°, PUR, suitable for drag chains
K3-2m-W-PL-PUR	902-50683	2 m, 90°, PUR, with indicator LED
K3-5m-W-PL-PUR	902-51616	5 m, 90°, PUR, with indicator LED, suitable for drag chains
K3-10m-W-PL-PUR	902-50693	10 m, 90°, PUR, with indicator LED, suitable for drag chains
M8, 4-pin		
K4-2m-G-PUR	902-50801	2 m, straight, PUR, suitable for drag chains
K4-5m-G-PUR	902-51617	5 m, straight, PUR, suitable for drag chains
K4-10m-G-PUR	902-51610	10 m, straight, PUR, suitable for drag chains
K4-2m-W-PUR	902-50803	2 m, 90°, PUR, suitable for drag chains
K4-5m-W-PUR	902-51618	5 m, 90°, PUR, suitable for drag chains
K4-10m-W-PUR	902-51629	10 m, 90°, PUR, suitable for drag chains
K4-2m-W-PL-PUR	902-51642	2 m, 90°, PUR, with indicator LED
K4-5m-W-PL-PUR	902-51643	5 m, 90°, PUR, with indicator LED
CM4 FG-E-5m-PVC	902-50221	5 m, straight, PVC, with hex nut SW 9 stainless steel (IP 69K), suitable for drag chains
CM4 FW-E-5m-PVC	902-50222	5 m, 90°, PVC, with hex nut SW 9 stainless steel (IP 69K), suitable for drag chains

Part number	Article number	Description
M12, 3-pin		
L3-2m-G-PUR	902-50687	2 m, straight, PUR, suitable for drag chains
L3-5m-G-PUR	902-51619	5 m, straight, PUR, suitable for drag chains
L3-2m-W-PUR	902-50689	2 m, 90°, PUR, suitable for drag chains
L3-5m-W-PUR	902-51620	5 m, 90°, PUR, suitable for drag chains
L3-2m-W-PL-PUR	902-50690	2 m, 90°, PUR, with indicator LED, suitable for drag chains
L3-5m-W-PL-PUR	902-51621	5 m, 90°, PUR, with indicator LED, suitable for drag chains
M12, 4-pin		
L4-300mm-G-PUR	902-50811	300 mm, straight, PUR
L4-2m-G-PUR	902-50805	2 m, straight, PUR, suitable for drag chains
L4-5m-G-PUR	902-51612	5 m, straight, PUR, suitable for drag chains
L4-10m-G-PUR	902-51628	10 m, straight, PUR, suitable for drag chains
L4-2m-W-PUR	902-50807	2 m, 90°, PUR, suitable for drag chains
L4-5m-W-PUR	902-51602	5 m, 90°, PUR, suitable for drag chains
L4-2m-W-PL-PUR	902-50808	2 m, 90°, PUR, with indicator LED, suitable for drag chains
L4-5m-W-PL-PUR	902-51603	5 m, 90°, PUR, with indicator LED, suitable for drag chains
L4-10m-W-PL-PUR	902-51604	10 m, 90°, PUR, with indicator LED, suitable for drag chains
L4-15m-W-PL-PUR	902-51607	15 m, 90°, PUR, with indicator LED,
L4S-2m-G-PVC	902-51632	2 m, straight, PVC, shielded
L4S-5m-G-PVC	902-51634	5 m, straight, PVC, shielded
L4S-10m-G-PVC	902-51651	10 m, straight, PVC, shielded
L4S-2m-W-PVC	902-51633	2 m, 90°, PVC, shielded
L4S-5m-W-PVC	902-51635	5 m, 90°, PVC, shielded
CL4 FG-E-5m-PVC	902-50219	5 m, straight, PVC, with hex nut SW 14 stainless steel (IP 69K), suitable for drag chains
CL4 FW-E-5m-PVC	902-50220	5 m, 90°, PVC, with hex nut SW 14 stainless steel (IP 69K), suitable for drag chains
L4 KDG	022-50812	Coupling socket, straight
L4 KDW	022-50813	Coupling socket, 90°
LS4-60-G-K	022-10773	Plug connection
L4F/L4M-0,48 PUR	902-51670	Extension cable, M12 (90°) to M12 (straight), 0.48 m, PUR, suitable for drag chains
M12, 5-pin		
L5-2m-G-PUR	902-51652	2 m, straight, PUR, suitable for drag chains
L5-5m-G-PUR	902-51624	5 m, straight, PUR, suitable for drag chains
L5-10m-G-PUR	902-51609	10 m, straight, PUR, suitable for drag chains
L5-2m-W-PUR	902-51613	2 m, 90°, PUR, suitable for drag chains
L5-5m-W-PUR	902-51641	5 m, 90°, PUR, suitable for drag chains
M12, 8-pin		
L8FS-2m-G-PUR	902-51671	2 m, straight, PUR, shielded, suitable for drag chains
L8FS-5m-G-PUR	902-51646	5 m, straight, PUR, shielded, suitable for drag chains
L8FS-10m-G-PUR	902-51689	10 m, straight, PUR, shielded, suitable for drag chains
L8FS-2m-W-PUR	902-51687	2 m, 90°, PUR, shielded, suitable for drag chains
L8FS-5m-W-PUR	902-51688	5 m, 90°, PUR, shielded, suitable for drag chains
L8FS-10m-W-PUR	902-51690	10 m, 90°, PUR, shielded, suitable for drag chains
M16, 12-pin		
Q12-3m-G-PVC	902-51656	3 m, straight, PVC
Q12-5m-G-PVC	902-51657	5 m, straight, PVC
Q12-10m-G-PVC	902-51658	10 m, straight, PVC
Q12-20m-G-PVC	902-51663	20 m, straight, PVC
Q12-30m-G-PVC	902-51664	30 m, straight, PVC
Q12-3m-W-PVC	902-51659	3 m, 90°, PVC
Q12-10m-W-PVC	902-51661	10 m, 90°, PVC


Accessories

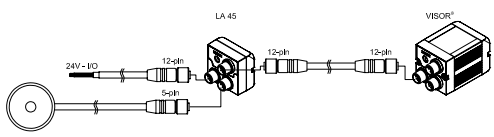
Cables

Part number	Article number	Description
Cables for SmartPlug		
IR-RS232	901-05096	Programmer adapter (MFU)
CUSB-IR-2m	901-05098	Converter; USB to infrared (SmartPlug)
L3M/K3F-0,6 PUR	902-51653	Connection adapter M12 3-pin straight (plug), M8 3-pin straight (socket), suitable for drag chains
L4M/K4F-0,6 PVC	902-51645	Connection adapter M12 4-pin straight (plug), M8 4-pin straight (socket), suitable for drag chains
L4M/K4FW-0,6 PVC	902-51650	Connection adapter M12 4-pin straight (plug), M8 4-pin 90° (socket)
L5F/Q8F-0,5 PUR	606-51686	Connection adapter M12 5-pin straight (socket), M16 8-pin straight (plug), (also for FR 85)
Power supply and I/O cables for V10,V20		
C L12FG-S-2m-PUR	902-51801	Power supply and I/O cable, 2 m, straight, shielded, suitable for drag chains
C L12FG-S-5m-PUR	902-51796	Power supply and I/O cable, 5 m, straight, shielded, suitable for drag chains
C L12FG-S-10m-PUR	902-51797	Power supply and I/O cable, 10 m, straight, shielded, suitable for drag chains
C L12FW-S-2m-PUR	902-51798	Power supply and I/O cable, 2 m, 90°, shielded, suitable for drag chains
C L12FW-S-5m-PUR	902-51799	Power supply and I/O cable, 5 m, 90°, shielded, suitable for drag chains
C L12FW-S-10m-PUR	902-51800	Power supply and I/O cable, 10 m, 90°, shielded, suitable for drag chains
Ethernet cables for V10,V20		
CI L4MG/RJ45G-GS-3m-PUR	902-51754	Ethernet cable, 3 m, M12, straight, 4-pin/RJ45, shielded, suitable for drag chains
CI L4MG/RJ45G-GS-5m-PUR	902-51782	Ethernet cable, 5 m, M12, straight, 4-pin/RJ45, shielded, suitable for drag chains
CI L4MG/RJ45G-GS-10m-PUR	902-51784	Ethernet cable, 10 m, M12, straight, 4-pin/RJ45, shielded, suitable for drag chains
CI L4MW/RJ45G-GS-3m-PUR	902-51786	Ethernet cable, 3 m, M12, 90°, 4-pin/RJ45, shielded, suitable for drag chains
CI L4MW/RJ45G-GS-5m-PUR	902-51788	Ethernet cable, 5 m, M12, 90°, 4-pin/RJ45, shielded, suitable for drag chains
CI L4MW/RJ45G-GS-10m-PUR	902-51790	Ethernet cable, 10 m, M12, 90°, 4-pin/RJ45, shielded, suitable for drag chains
Data cables for V10,V20		
CI L5FG-S-2m-PUR	902-51813	Data cable, 2 m, straight, shielded, suitable for drag chains
CI L5FG-S-5m-PUR	902-51814	Data cable, 5 m, straight, shielded, suitable for drag chains
CI L5FG-S-10m-PUR	902-51815	Data cable, 10 m, straight, shielded, suitable for drag chains
CI L5FW-S-2m-PUR	902-51816	Data cable, 2 m, 90°, shielded, suitable for drag chains
CI L5FW-S-5m-PUR	902-51817	Data cable, 5 m, 90°, shielded, suitable for drag chains
CI L5FW-S-10m-PUR	902-51818	Data cable, 10 m, 90°, shielded, suitable for drag chains
Illumination cables for V10,V20		
CB L12FS/L12FS-0,5m-GG-PUR	902-51806	Illumination cable 2 × M12/12-pin, 0,5 m, straight, shielded, suitable for drag chains
CB L12FS/L12FS-2m-GG-PUR	902-51807	Illumination cable 2 × M12/12-pin, 2 m, straight, shielded, suitable for drag chains
CB L12FS/L12FS-0,5m-WW-PUR	902-51808	Illumination cable 2 × M12/12-pin, 0,5 m, 90°, shielded, suitable for drag chains
CB L12FS/L12FS-2m-WW-PUR	902-51809	Illumination cable 2 × M12/12-pin, 2 m, 90°, shielded, suitable for drag chains
CB L4MG-10m-PUR	902-51756	Illumination cable 1 × M12/4-pin, 10 m, suitable for drag chains for direct connection of devices 532-51000 to 532-51044

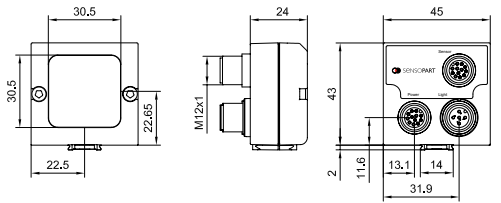
Part number	Article number	Description
Connection adapter, illumination (for 532-51000 to 532-51044) LA45V-24-2L12	525-01001	V10 /V20 connection adapter for LED illumination with 5-pin M12 plug

Connection adapter for illumination on V10, V20





155-01365

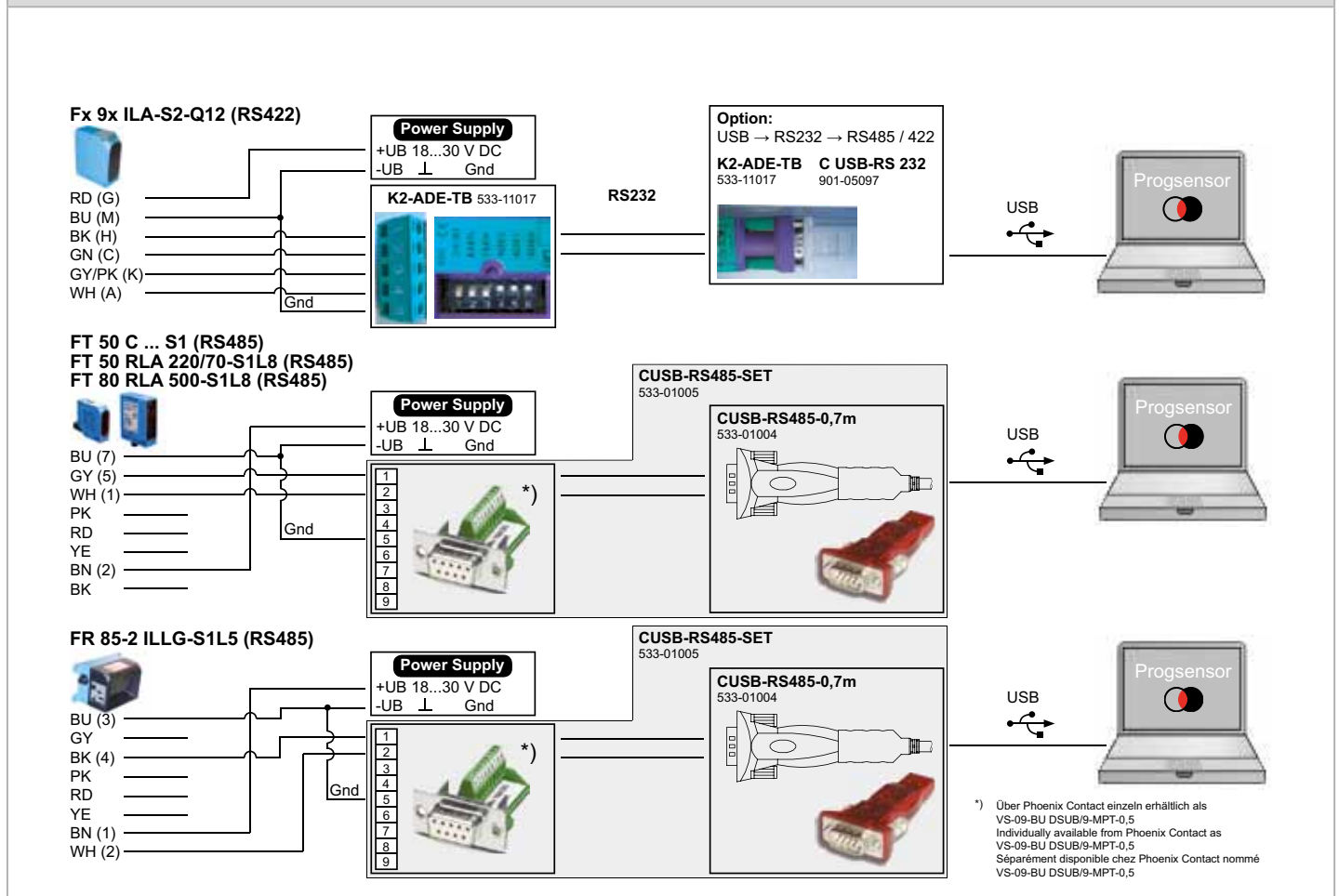


153-00916

Converters

Part number	Article number	Description
Converters and adapter cables		
K2-ADE-TB	533-11017	Converter RS232 ↔ RS485/422
CUSB-RS232-2m	901-05097	Interface converter incl. CD-ROM, cable 2 m, USB ↔ RS232
CUSB-RS485-SET	533-01005	Set: interface converter incl. CD-ROM, cable 0.7 m, USB ↔ RS485 and D-SUB socket, 9-pin, female
CUSB-RS485-0,7m	533-01004	Interface converter incl. CD-ROM, cable 0.7 m, USB ↔ RS485
AS S7/B1 D9F-D9F	902-51735	Anybus Communicator 4, PROFIBUS Interface
AA F90 PROFIBUS	599-91005	Plug adapter for PROFIBUS
CB L12FS/L8MS-0,15m-GG-PUR	902-51810	Power and I/O adapter cable, M12, 8-pin ↔ M12, 12-pin
CI L8MGK/L4MGK-S-0,2m-PVC	902-51773	Ethernet adapter cable, M12, 8-pin ↔ M12, 4-pin
CI L4GFK/L8FGK-S-0,2m-PVC	902-51751	Ethernet adapter cable, M12, 4-pin ↔ M12, 8-pin

Interface Converter (USB / RS232 / RS485 / RS422)



Download software: www.sensopart.com

Power supply units and switching devices

Power supply units and switching devices		
 <p>153-00259</p>	<p>Part number / Article number</p> <p>Description</p>	<p>ST-05 / 997-51467</p> <p>Sensor tester for PNP and NPN sensors</p> <ul style="list-style-type: none"> – battery operated, 2 x 9 Volt (supplied) – with acoustic and optical signalling of switching output
	<p>Part number / Article number</p> <p>Description</p>	<p>PA L4M4-TI / 997-51465</p> <p>Teach-in unit for programming of SmartPlugs and sensors with Teach input</p> <ul style="list-style-type: none"> – power supply voltage connection via 3-wire cable – M8 and M12 connection plugs
	<p>Part number / Article number</p> <p>Description</p>	<p>Setup Box FR 85-2 ILLX / 533-11016</p> <p>Setup Box for FR 85 Rail Pilot system. Enables parameterisation of the switching points of FR 85 via PC</p> <ul style="list-style-type: none"> – Connection of power supply via plug M12, 5-pin – M12, 8-pin – Plug adapter M12, 8-pin to M12, 5-pin for the connection of FR 85 (5-pin) – RS232 interface for connection to PC – Gender Changer – Null modem adapter
	<p>Part number / Article number</p> <p>Description</p>	<p>ST M12-12 / 994-51135</p> <p>Power supply unit for V10 / V20, M12 connector; 12-pin, Europlug</p> <ul style="list-style-type: none"> – connection of power supply voltage via Europlug – M12 connector
	<p>Part number / Article number</p> <p>Description</p>	<p>ST M12-12-M / 994-51138</p> <p>Power supply unit for V10 / V20, M12 connector; 12-pin, Multiplug</p> <ul style="list-style-type: none"> – connection of power supply voltage via Multiplug – M12 connector
	<p>Part number / Article number</p> <p>Description</p>	<p>ST V10 / 543-11022</p> <p>Demo and Test Box for all V10 / V20 types. Allows test mode with simulation of inputs (triggers, etc.) and the display of outputs. All I/Os are through-wired, so parallel operation with controller also possible.</p> <p>Connections:</p> <ul style="list-style-type: none"> – V10 / V20 via 12-pin, plug-in screw terminal – Trigger sensor via 9-pin, plug-in screw terminal and encoder input – PLC via M12 plug, 12-pin – Power supply via 9-pin, plug-in terminal – Power supply via small device plug – Display of switching outputs via LEDs – Operation of inputs via buttons; NPN / PNP selectable

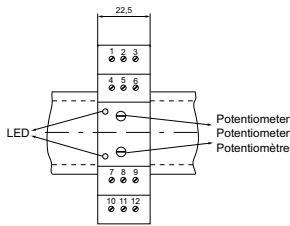
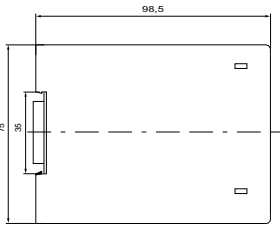
SG 12

Power supply unit and switching device for standard rails

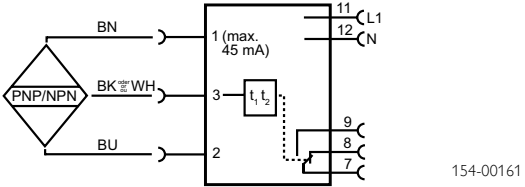
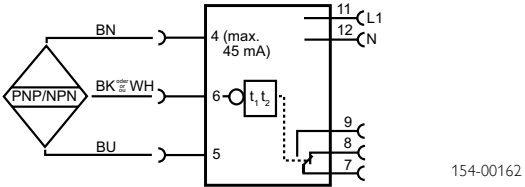


PRODUCT HIGHLIGHTS

- DIN rail mounting
- Switch on/off delay
- Inversion of output

Functions		Dimensional drawing	
LED indicator, yellow Adjustment possibilities	Switching state indicator Delay: rise / fall: 50 ms ... 30 s Input impulse: ≥ 50 ms		
		090-12339	
Electrical data		Mechanical data	
Operating voltage, $+U_B$ (L1 - N)	See Selection Table	Dimensions	$98,5 \times 75 \times 22,5 \text{ mm}^3$
No-load current, I_0	16 mA at 230V AC / 32 mA at 115V AC	Enclosure rating	IP 40 ²
Switching output	Relay contact	Material, housing	Makrolon
Switching function	Change-over contact, potential-free	Type of connection	See Selection Table
Switching current	Max. 8 A	Ambient temperature: operation	$-30 \dots +70 \text{ }^\circ\text{C}$
Switching voltage	380V AC / 250V DC	Weight	250 g
Switching frequency (ti/tp 1:1)	$\leq 10 \text{ Hz}$		
Duty cycle	1		
Output current, sensor	45 mA		
Power supply (V), sensor	$24 \text{ V} \pm 10 \% \text{ DC}^1$		
Device input	PNP / NPN		
Repeatability	$\leq 5 \%$		

¹ 2 % output ripple ² With connected IP 40 plug

Connection, non-inverted operation	Connection, inverted operation
	
154-00161	154-00162

Operating voltage	Type of connection	Part number	Article number
230V AC (40 ... 60 Hz)	Terminals	SG 12 T-00	688-51089
115V AC (40 ... 60 Hz)	Terminals	SG 12 T-02	688-51090



PRODUCT HIGHLIGHTS

- Input/output expansion for V10, V20
- Transcribes sensor's serial data to discrete outputs
- 32 digital switching outputs for the discrete provision of up to 32 individual digital results
- 8 digital switching inputs, e.g. for changing over configurations
- Encoder input, e.g. for ejector control independent of conveyor speed
- Rail mounting
- Display for easy visualisation and operator guidance

Functions		Dimensional drawing, IO Box	
Programmable time function	Switch-on delay 0 to 7 s, switch-off delay 0 to 1 s, each adjustable in 1 ms increments via control panel.		
Programmable counting function	Alternative to time function, 0 to 2000 encoder steps for switch-on delay, 0 to 200 encoder steps for switch-off delay (acc. to prescaler), each adjustable in individual steps via control panel, cache for 512 parts.		
Ejector	2x potential-free relay contacts N.O. / N.C. (2 A / 24 V)		
Electrical data		Mechanical data	
Operating voltage +U _B	20.4 ... 26.4V DC	Dimensions	107.6 × 104.2 × 60.7 mm ³
No-load current, I ₀	≤ 250 mA	Enclosure rating	IP 20
Switching outputs	32x PNP (50 mA per output), total current max. 1 A	Material, housing	Plastic
On delay, t _{On} , switching output	≤ 2 ms	Connection system	Screw clamp contacts, plug-in
Off delay, t _{Off} , switching output	≤ 2 ms	Ambient temperature: operation	5 ... +50 °C
Inputs	8 x	Ambient temperature: storage	0 ... +50 °C
U _{IN,HIGH} control/trigger inputs	> 18V	Vibration and impact resistance	EN 60947-5-2
U _{IN,LOW} control/trigger inputs	< 3V		
Max. permissible cable length	Power 3 m, others 30 m		

153-00795

Part number	Article number
T-AS7T-12ET34PRD	533-01008

Accessories	
Connection cable (data cable)	From Page A-32