

Accessories

Meeting all needs

Mechanical accessories from Page A-4

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



Optical accessories from Page A-18

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



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.

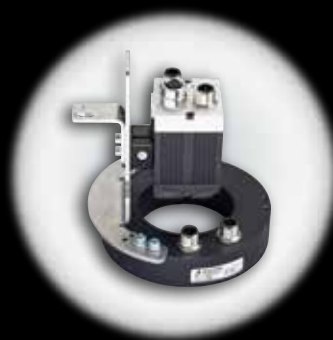
The mechanical accessories include everything that is involved in mounting and protecting the sensor: mounting brackets, blocks, rods and rails, brackets with protective hoops, stainless steel casings for hygienic areas and many others. All accessories are extremely robust and designed to meet practical 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-40

- Cables
- Converters
- Power supply units, switching devices and Panel Viewer



Flexible: MG 3A Mounting angle with 2 axes and drilled hole for mounting rod.



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.

Accessories – Product Overview

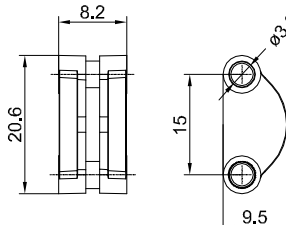
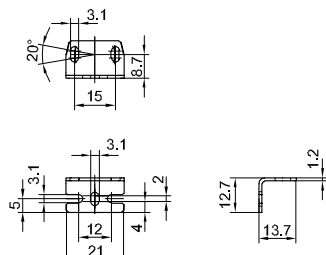
	Page
Mechanical accessories	A-4
Brackets for sensors	A-4
Brackets for VISOR® and illumination	A-13
Optical accessories	A-18
Reflectors and reflective tape	A-18
Lenses	A-27
Protective casing and polarizer glasses	A-29
Illumination	A-30
Calibration accessories	A-38
Electrical accessories	A-40
Cables	A-40
Converters	A-46
Power supply units, switching devices and Panel Viewer	A-47

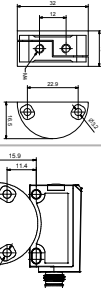
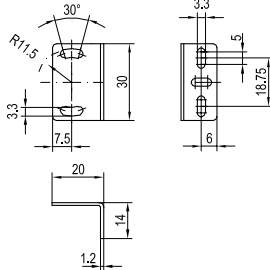
Accessories

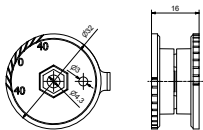
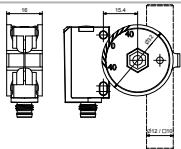
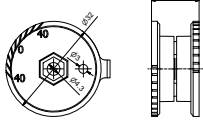
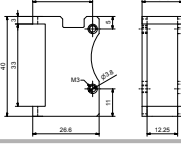
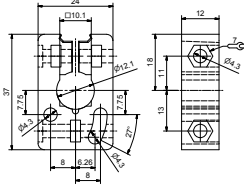
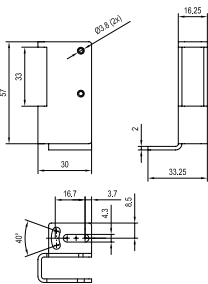
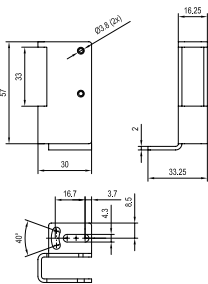
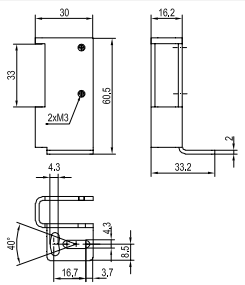
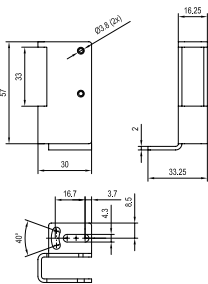
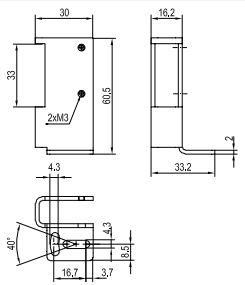
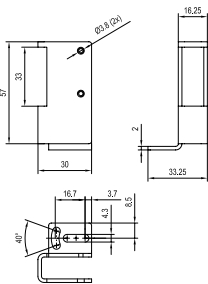
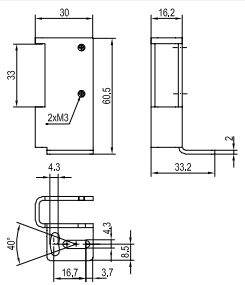
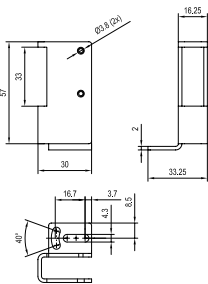
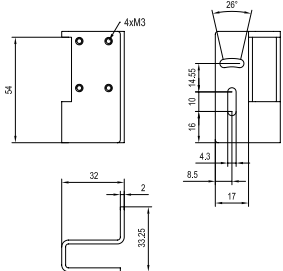
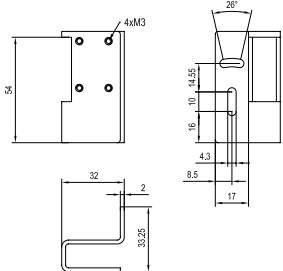
Brackets



- Brackets

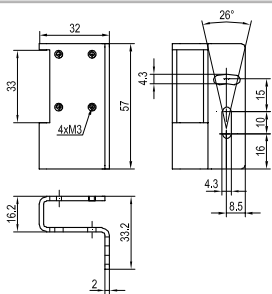
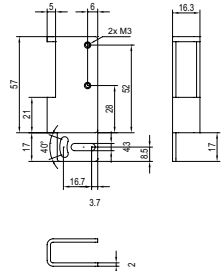
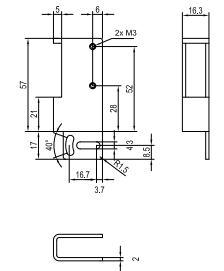
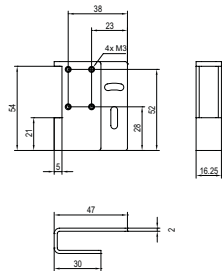
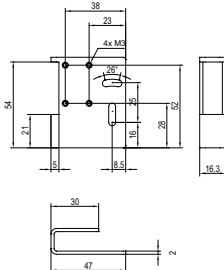
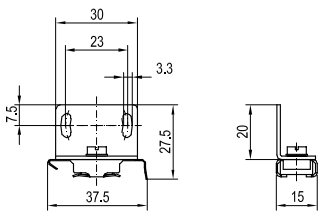
Brackets for F 10 series			
		153-00899	Part number / Article number
			Description
			Suitable for
			MBD F 10 / 660-01001 Dovetail clamp mounting, adjustable $\pm 10^\circ$ Material: PBT F 10
		153-00907	Part number / Article number
			Description
			Suitable for
			MS F 10 / 660-01000 Mounting bracket with screws 1x mounting plate M3 1x mounting plate $\varnothing 3.1$ mm Material: stainless steel V2A F 10

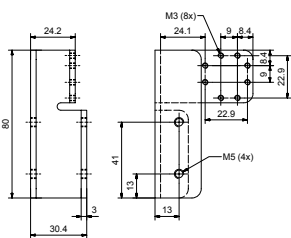
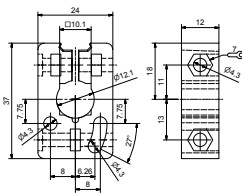
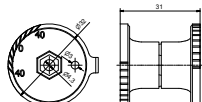
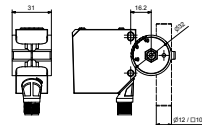
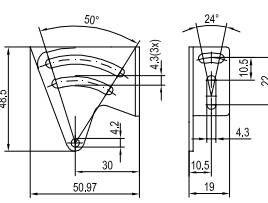
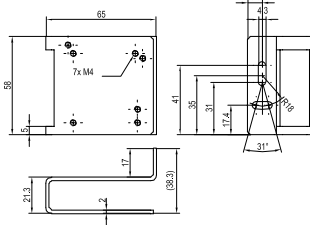
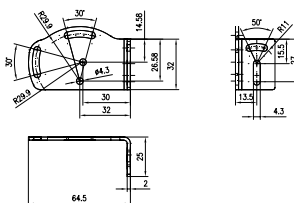
Brackets for F 25, FL 20, UT 20			
		153-00945	Part number / Article number
			Description
			Suitable for
			MBD F 25 / 661-01000 Dovetail clamp mounting, adjustable $\pm 15^\circ$, with screws Material: anodised aluminium F 25
		153-00946	Part number / Article number
			Description
			Suitable for
			MS F 20 / 558-41000 Mounting bracket with screws 1x retaining strip Material: nickel-plated steel F 20 F 25 UT 20 FL 20

Brackets for F 25, FL 20, UT 20 (Cont.)				
		153-01155	Part number / Article number	MBD F 25ST2 / 661-01005
		153-01156	Description	Clamping bracket for Ø 12 mm mounting rod and 10 x 10 mm square profile, with M4 screw and M4 nut Material: die-cast zinc
		153-01155	Suitable for	F 25
		153-01163	Part number / Article number	Set: MBD F 25STP / 661-01004
		153-01164	Description	Clamping bracket for Ø 12 mm mounting rod and 10 x 10 mm square profile, with protective casing, M4 screw, M4 thumbscrew, M4 nut, 2x M3 screw Material: die-cast zinc
			Suitable for	Casing Material: stainless steel V2A F 25
		153-01017	Part number / Article number	MB ST2 / 661-01007
			Description	Mounting component for Ø 12 mm mounting rod and 10 x 10 mm square profile, and F 55 and fork sensors (FGL), with M4 screw Material: die-cast zinc
		153-01017	Suitable for	F 55, FGL, MST 45-20, MST 45-30, MST 45-40
		153-00296	Part number / Article number	MSP F 20-11 / 558-41006
		153-01017	Description	Protective sensor angle bracket with screws, very robust Material: stainless steel V2A
		153-00296	Suitable for	F 20 UT 20-150 F 25 UT 20-S150 FL 20 UT 20-240
		153-01017	Part number / Article number	MSP F 20-1 / 558-41004
		153-00296	Description	Protective sensor angle bracket with screws, very robust Material: stainless steel V2A
		153-01017	Suitable for	F 20 F 25 UT 20 FL 20
		153-00908	Part number / Article number	MSP F 20-23 / 558-41011
		153-00908	Description	Protective sensor angle bracket with screws, very robust Material: stainless steel V2A
			Suitable for	F 20 F 25 UT 20 FL 20

Accessories

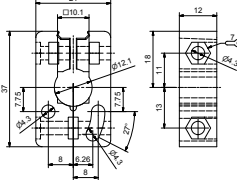
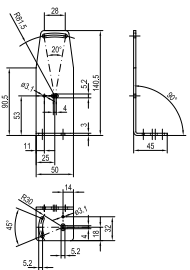
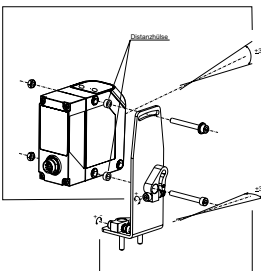
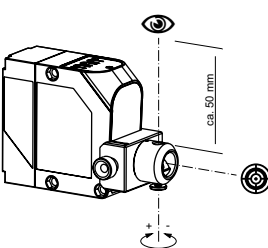
Brackets

Brackets for F 25, FL 20, UT 20 (Cont.)			
		Part number / Article number	MSP F 20-2 / 558-41005
		Description	Protective sensor angle bracket with screws, very robust Material: stainless steel V2A
		Suitable for	F 20 UT 20-150 F 25 UT 20-S150 FL 20 UT 20-240
		Part number / Article number	MSP F 20-13 / 558-41008
		Description	Protective sensor angle bracket with screws, very robust Material: stainless steel V2A
		Suitable for	F 20 UT 20-150 F 25 UT 20-S150 FL 20 UT 20-240
		Part number / Article number	MSP F 20-12 / 558-41007
		Description	Protective sensor angle bracket with screws, very robust Material: stainless steel V2A
		Suitable for	F 20 UT 20-150 F 25 UT 20-S150 FL 20 UT 20-240
		Part number / Article number	MSP F 20-21 / 558-41009
		Description	Protective sensor angle bracket with screws, very robust Material: stainless steel V2A
		Suitable for	F 20 UT 20-150 F 25 UT 20-S150 FL 20 UT 20-240
		Part number / Article number	MSP F 20-22 / 558-41010
		Description	Protective sensor angle bracket with screws, very robust Material: stainless steel V2A
		Suitable for	F 20 UT 20-150 F 25 UT 20-S150 FL 20 UT 20-240
		Part number / Article number	MS F 20-DIN / 558-41001
		Description	DIN rail mounting with screws Material: nickel-plated steel
		Suitable for	FL 20

Brackets for F 25, FL 20, UT 20 (Cont.)			
		153-01040	Part number / Article number
			Description
			Suitable for
			MZ F 25 / 661-01003 Mounting adapter for FT 25 contrast sensors with horizontal or vertical light exit options, with screws Material: stainless steel V2A FT 25-W...-KL4 FT 25-RGB...-KL4
Brackets for F 50, F 55, F 80, F 88, FGL series			
		153-01164	Part number / Article number
			Description
			Suitable for
			MB ST2 / 661-01007 Mounting component for Ø 12 mm mounting rod and 10 x 10 mm square profile, and F 55 and fork sensors (FGL), with M4 screw Material: die-cast zinc F 55, FGL, MST 45-20, MST 45-30, MST 45-40
		153-01287	Part number / Article number
			Description
		153-01288	Suitable for
			MBD F 55ST2 / 579-50012 Mounting component for F 55 metall housing for bar Ø 12 mm or squared profile 10 x10 mm, with M4 screw and M4 nut Material: die-cast zinc F 55 metall housing
		153-00065	Part number / Article number
			Description
			Suitable for
			MS F 50 / 579-50000 Angle bracket with screws Material: stainless steel VA F 50 F 55 F 80
		153-00298	Part number / Article number
			Description
			Suitable for
			MSP F 50 / 579-50005 Protective sensor angle bracket with screws, very robust, light exit possible on three sides Material: stainless steel VA F 50
		153-00818	Part number / Article number
			Description
			Suitable for
			MS F 55 / 579-50010 Angle bracket with screws Material: stainless steel V2A F 50 F 55

Brackets

A-8 www.sensopart.com

Brackets for F 50, F 55, F 80, F 88, FGL series (Cont.)				
		153-01164	Part number / Article number	MB ST2 / 661-01007
			Description	Mounting component for Ø 12 mm mounting rod and 10 x 10 mm square profile, and F 55 and fork sensors (FGL), with M4 screw Material: die-cast zinc
			Suitable for	F 55, FGL, MST 45-20, MST 45-30, MST 45-40
Brackets for F 90, F 91, F 92 series				
		153-01164	Part number / Article number	MSP F 90 / 599-91002
			Description	Angle bracket with screws Material: stainless steel V2A
			Suitable for	F 90 F 91 F 92
		153-00470	Part number / Article number	MSP F 90 A / 599-91003
			Description	Fine adjustment for angle bracket MSP F 90, set of two Material: metal
			Suitable for	MSP F 90
		155-00212	Part number / Article number	AS F 90 / 599-91004
			Description	Aligning aid for pilot laser; for fine adjustment at long distances
			Suitable for	F 90 F 91 F 92

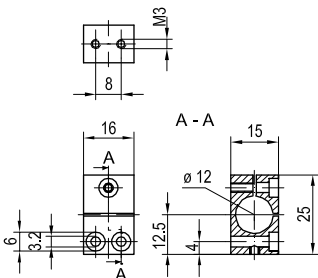
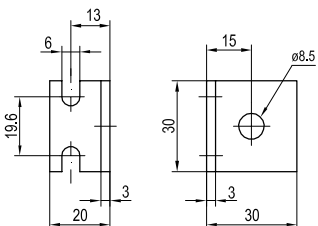
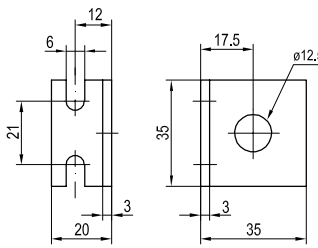
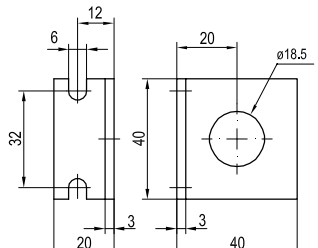
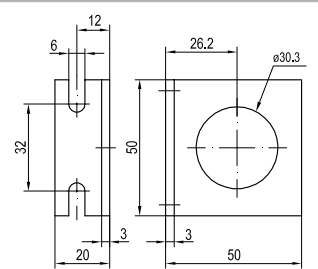
Accessories

Brackets

Brackets for fibre-optic cables and round housings

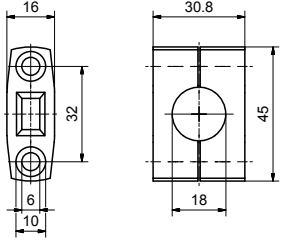
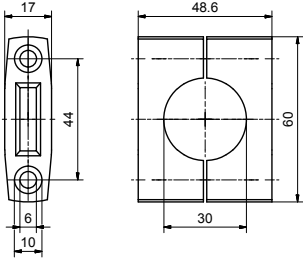
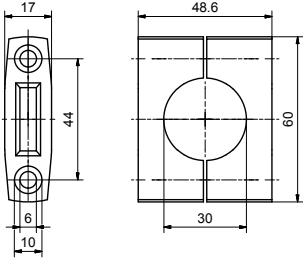
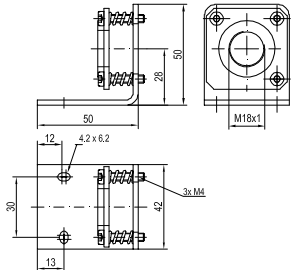
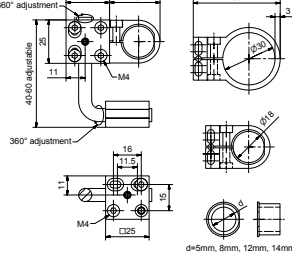
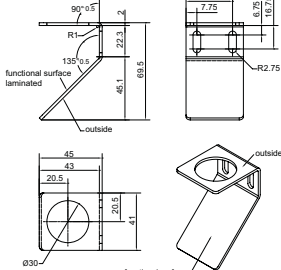


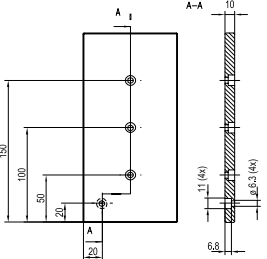
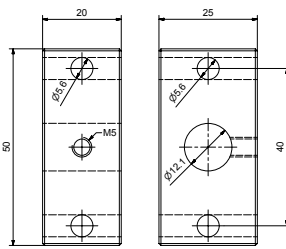
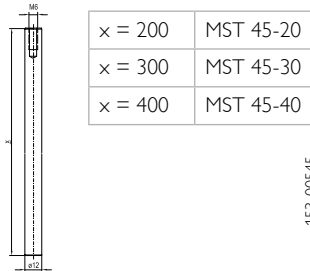
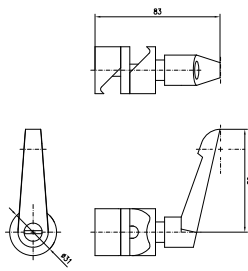
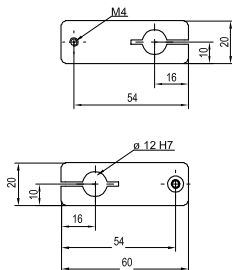
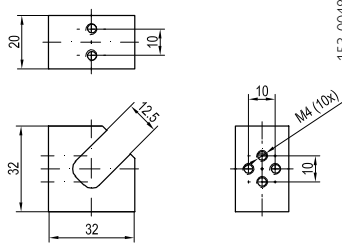
	Part number / Article number	MB 3,5 / 903-50313
	Description	Mounting block / fibre mount, closed curve
	Suitable for	Material: nickel-plated brass Fibre-optic cables
	Part number / Article number	MB 4,5 / 903-50314
	Description	Mounting block / fibre mount, open curve
	Suitable for	Material: nickel-plated brass Fibre-optic cables
	Part number / Article number	MB 6 / 903-05139
	Description	Mounting block / fibre mount, open curve
	Suitable for	Material: nickel-plated brass Fibre-optic cables
	Part number / Article number	MB 7 / 903-05140
	Description	Mounting block / fibre mount, open curve
	Suitable for	Material: nickel-plated brass Fibre-optic cables
	Part number / Article number	MB 8 / 903-05141
	Description	Mounting block / fibre mount, open curve
	Suitable for	Material: nickel-plated brass Fibre-optic cables, round M8 housings
	Part number / Article number	MB 10 / 903-05142
	Description	Mounting block / fibre mount, open curve
	Suitable for	Material: nickel-plated brass Fibre-optic cables, round M10 housings

Brackets for fibre-optic cables and round housings (Cont.)			
		153-00196	Part number / Article number
			Description
			Suitable for
			MB 12 / 903-05143 Mounting block / fibre mount, closed curve Material: nickel-plated brass Fibre-optic cables, round M12 housings
		153-00559	Part number / Article number
			Description
			Suitable for
			MC 08 / 041-01306 Mounting angle for round housings Material: aluminium Round M8 housings
		153-00558	Part number / Article number
			Description
			Suitable for
			MA 12 / 041-01305 Mounting angle for round housings Material: aluminium Round M12 housings
		153-00015	Part number / Article number
			Description
			Suitable for
			MA 18 / 041-01304 Mounting angle for round housings Material: aluminium Round M18 housings
		153-00017	Part number / Article number
			Description
			Suitable for
			MA 30 / 041-01303 Mounting angle for round housings Material: aluminium Round M30 housings

Accessories

Brackets

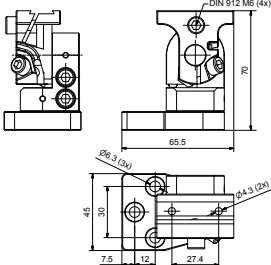
Brackets for fibre-optic cables and round housings (Cont.)			
		Part number / Article number	MC 18 / 042-01528
		Description	Retaining clip for round housings Material: plastic
		Suitable for	Round M18 housings
		Part number / Article number	MC 30 / 042-01527
		Description	Retaining clip for round housings Material: plastic
		Suitable for	Round M30 housings
		Part number / Article number	MA 18 A / 042-12825
		Description	Universal mounting angle for round housings, fine-adjustable with adjusting screws Material: galvanised steel
		Suitable for	Round M12 and M18 housings
		Part number / Article number	MS M5-30 / 558-41012
		Description	Universal bracket for round housings Material: connecting rod, metal / mounting elements, plastic
		Suitable for	Round M5, M8, M12, M14, M18 and M30 housings
		Part number / Article number	Deflection mirror / 691-51535
		Description	Deflection mirror for ultrasonic sensors Material: stainless steel
		Suitable for	UMT 30-350 UMT 30-1300

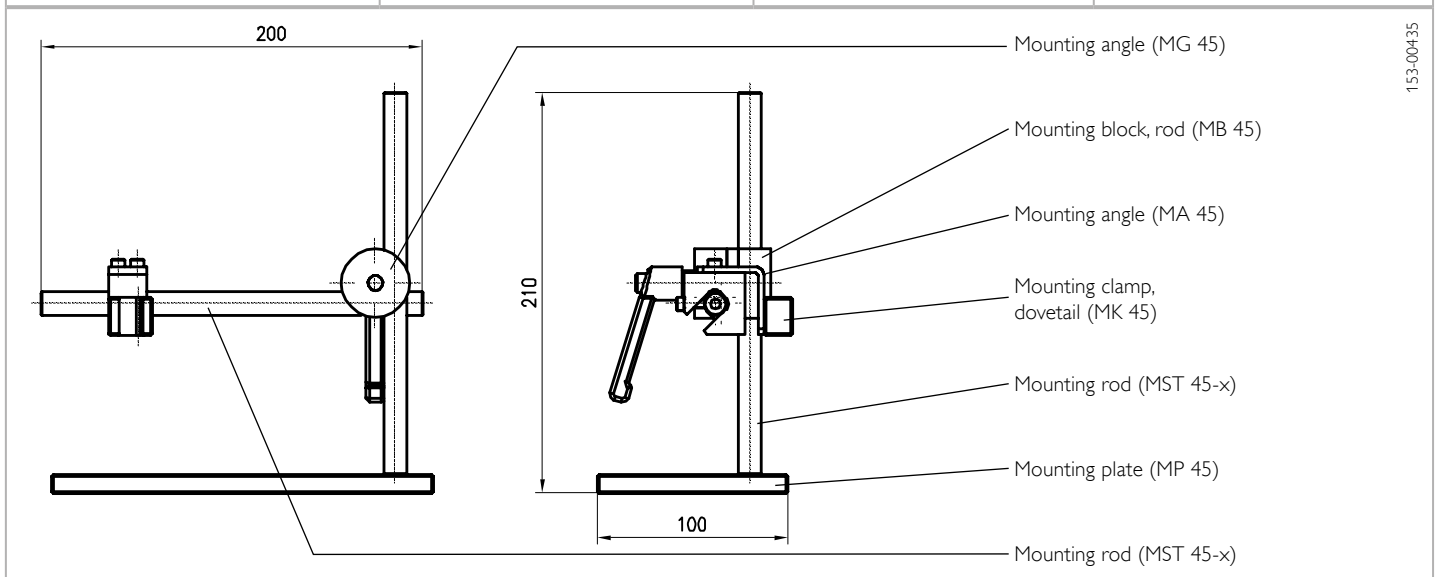
Brackets for V10,V20					
		153-00547	Part number / Article number	MP 45 / 543-11003	
			Description	Mounting plate for mounting rod Material: anodised aluminium	
			Suitable for	MST 45-xx	
		153-01000	Part number / Article number	MB ST1 / 661-01002	
			Description	Mounting for mounting rod with clamping screw Material: aluminium	
			Suitable for	MST 45-20 MST 45-30 MST 45-40	
		153-00545	Part number / Article number	MST 45-20 / 543-11005 MST 45-30 / 543-11006 MST 45-40 / 543-11007	
			Description	Mounting rod with M6 internal thread Material: stainless steel	
			Suitable for	MP 45, MB ST 1, MG 45, MB 45, MZ 45	
		153-00776	Part number / Article number	MG 45 / 543-11008	
			Description	Mounting clamp for mounting rod Material: anodised aluminium, steel screw with plastic handle	
			Suitable for	MST 45-xx	
		153-00546	Part number / Article number	MZ 45 / 543-11004	
			Description	Intermediate mounting piece for mounting rod Material: anodised aluminium	
			Suitable for	MST 45-xx	
		153-00481	Part number / Article number	MB 45 / 543-11002	
			Description	Mounting block for mounting rod Material: anodised aluminium	
			Suitable for	MST 45-xx MA 45 MA 45 L	

Brackets

A-14 www.sensopart.com

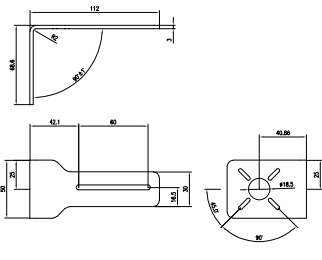
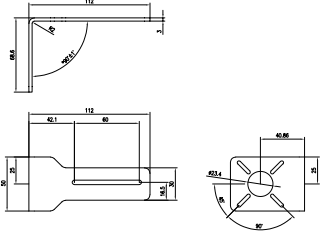
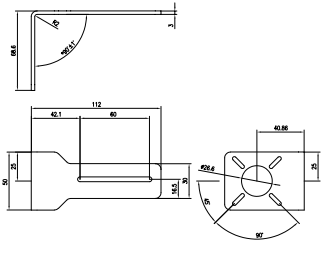
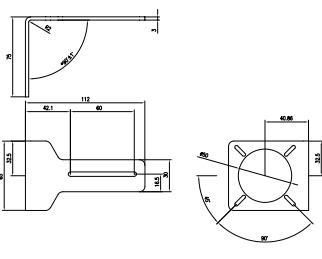
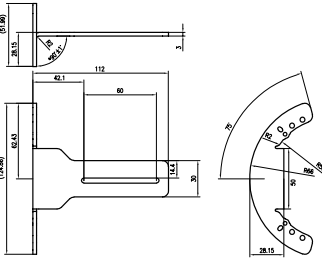
Brackets for V10, V20 (Cont.)

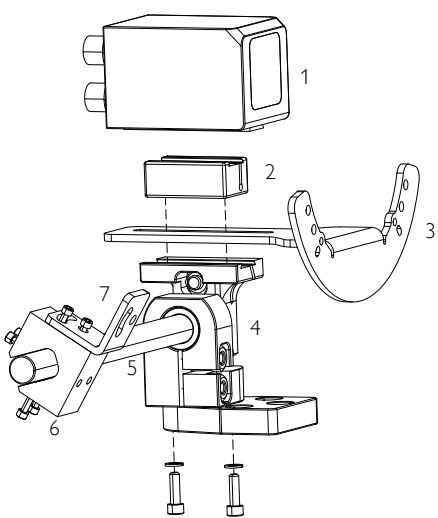
		153-01181 Part number / Article number Description Suitable for	MG 3A / 543-11024 Mounting angle with 2 axes and drilled hole for mounting rod Material: anodised aluminium V10 / V20
			

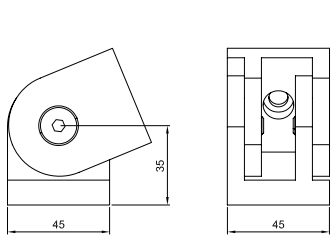
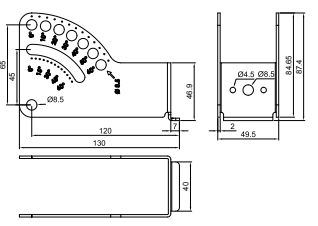


Accessories

Brackets

Brackets for illumination			
		153-00707	Part number / Article number
			Description
			Suitable for
			MA LR-18/112 / 543-11016 Angle bracket for lighting, Ø 18 mm Length: 112 mm Material: nickel-plated steel LR 32 x-24-KFL5 LD 50 xD-24-KFL5
		153-00721	Part number / Article number
			Description
			Suitable for
			MA LR-23/112 / 543-11019 Angle bracket for lighting, Ø 23 mm Length: 112 mm Material: nickel-plated steel LR 56 x-24-KFL5 LR 70 xD-24-KFL5 LR 70 xID-24-KFL5
		153-00722	Part number / Article number
			Description
			Suitable for
			MA LR-26/112 / 543-11017 Angle bracket for lighting, Ø 26 mm Length: 112 mm Material: nickel-plated steel LR 50 xW-24-KFL5 LR 70 x-24-KFL5
		153-00723	Part number / Article number
			Description
			Suitable for
			MA LR-50/112 / 543-11018 Angle bracket for lighting, Ø 50 mm Length: 112 mm Material: nickel-plated steel LR 74 xW-24-KFL5 LR 75 xI-24-KFL5 LR 90 xW-24-KFL5 LR 100 xID-24-KFL5
		153-00724	Part number / Article number
			Description
			Suitable for
			MA LR-100/112 / 543-11015 Angle bracket for lighting, Ø 100 mm Length: 112 mm Material: nickel-plated steel LM 100 WWK-24Q4-2L12 LM 100 RWK-24Q4-2L12 LR 100 xD-24-KFL5 LR 130 xI-24-KFL5 LR 132 xW-24-KFL LFR 115 xD-24-2L12

Brackets for illumination (Cont.)			
		1 V10,V20	155-01930
		2 Mounting clamp, dovetail, long MK 45 L/ 543-11021	
		3 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	
		4 Mounting angle with 2 axes MG 3A / 543-11024	
		5 Mounting Rod MST 45-x 6 Mounting block MB 45 7 Mounting angle MA 45	

Brackets for light strips, High Power, LBxxx			
		Part number / Article number	MG LB L / 543-11025
		Description	Mounting clamp light strip long Material: nickel-plated steel
		Suitable for	Light strips High Power, LBxxx
		Part number / Article number	MG LB LL / 543-11026
		Description	Mounting angle light strip long, lite Material: anodised aluminium
		Suitable for	Light strips High Power, LBxxx

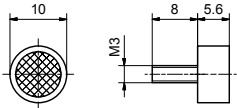
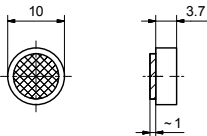
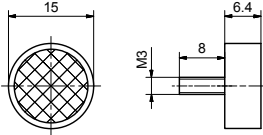
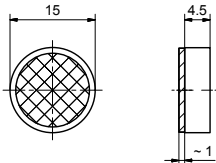
Accessories

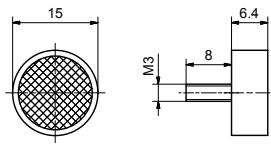
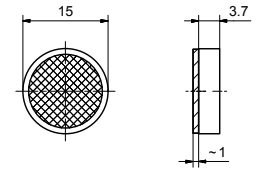
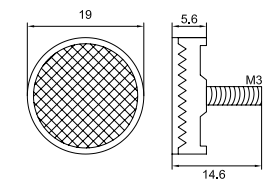
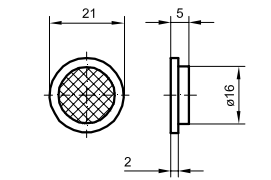
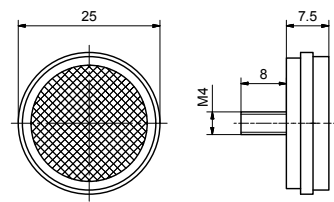
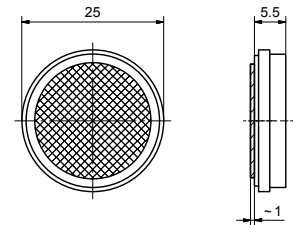
Reflectors



- Reflectors
- Lenses / Protective casings
- Illumination

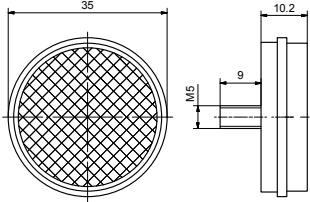
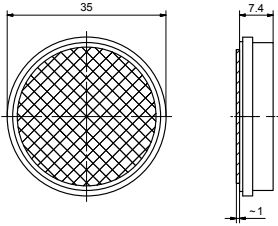
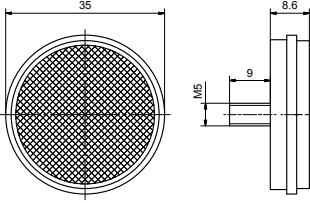
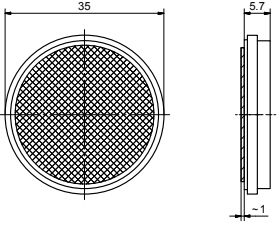
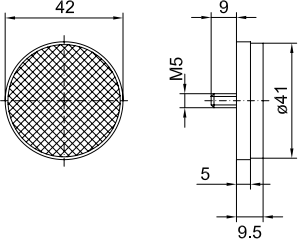
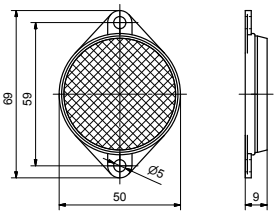
Reflectors for Retroreflective photoelectric sensor

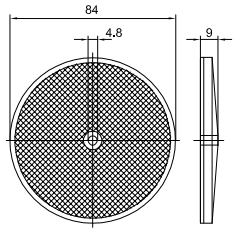
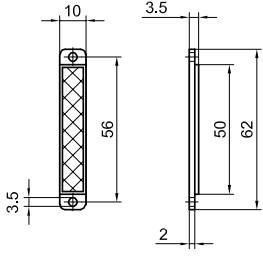
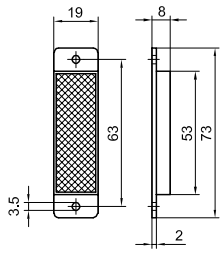
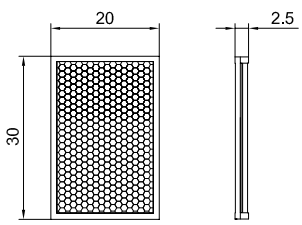
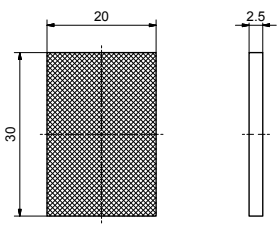
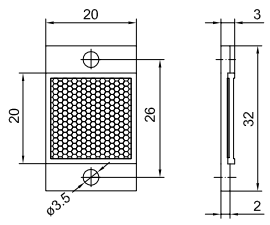
		153-01197	Part number / Article number	RD 10L / 904-51653
			Description	Reflector in housing
			Dimensions	Ø 10 × 5.6 mm
			Mounting	Grub screw M3, centred
		153-01198	Part number / Article number	RD 10LK / 904-51654
			Description	Reflector in housing
			Dimensions	Ø 10 × 3.7 mm
			Mounting	Self-adhesive
		153-01199	Part number / Article number	RD 15 / 904-51655
			Description	Reflector in housing
			Dimensions	Ø 15 × 6.4 mm
			Mounting	Grub screw M3, centred
		153-01200	Part number / Article number	RD 15K / 904-51656
			Description	Reflector in housing
			Dimensions	Ø 15 × 4.5 mm
			Mounting	Self-adhesive
			Temperature range	-20 ... +60 °C
			Suitable for	Retroreflective photoelectric sensor (laser)
			Temperature range	-20 ... +60 °C
			Suitable for	Retroreflective photoelectric sensor (LED)

Reflectors for Retroreflective photoelectric sensor (Cont.)			
		153-01201	Part number / Article number
			Description
			Dimensions
			Mounting
		153-01202	Part number / Article number
			Description
			Dimensions
			Mounting
		153-01014	Part number / Article number
			Description
			Dimensions
			Mounting
		153-00066	Part number / Article number
			Description
			Dimensions
			Mounting
		153-01203	Part number / Article number
			Description
			Dimensions
			Mounting
		153-01204	Part number / Article number
			Description
			Dimensions
			Mounting

Accessories

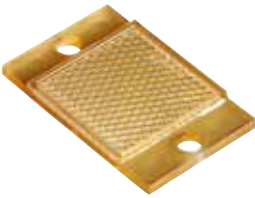
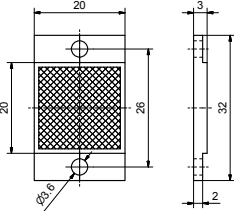
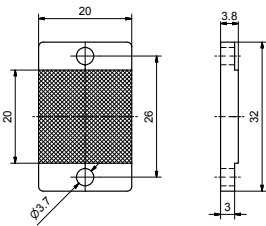
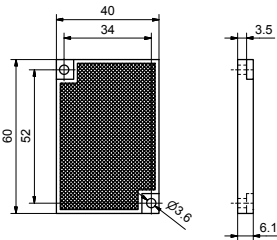
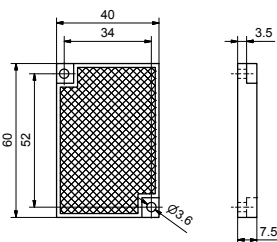
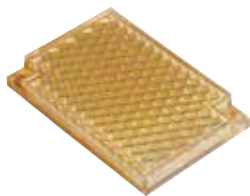
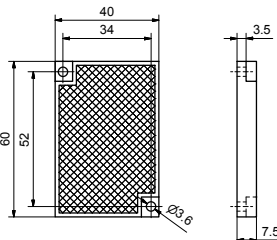
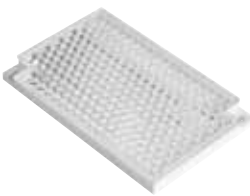
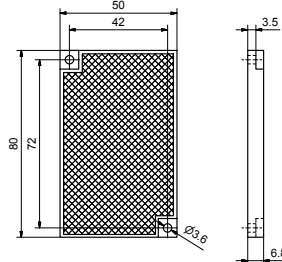
Reflectors

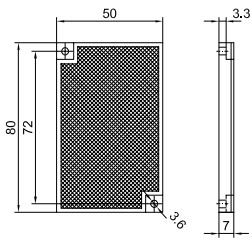
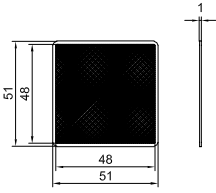
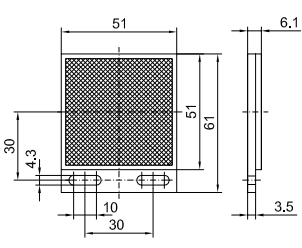
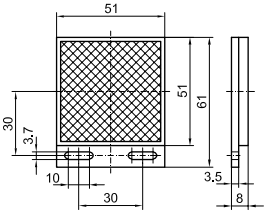
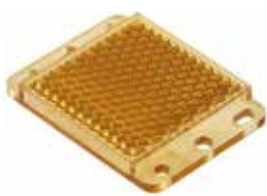
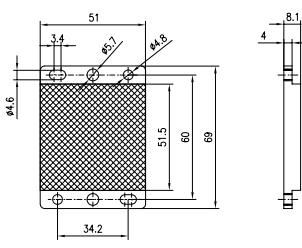
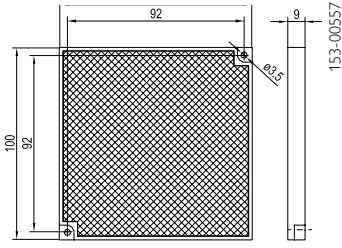
Reflectors for Retroreflective photoelectric sensor (Cont.)			
		Part number / Article number	RD 35 / 904-51661
		Description	Reflector in housing
		Dimensions	Ø 35 x 10.2 mm
		Mounting	Grub screw M5, centred
		Temperature range	-20 ... +60 °C
		Suitable for	Retroreflective photoelectric sensor (LED)
		Part number / Article number	RD 35K / 904-51662
		Description	Reflector in housing
		Dimensions	Ø 35 x 7.4 mm
		Mounting	Self-adhesive
		Temperature range	-20 ... +60 °C
		Suitable for	Retroreflective photoelectric sensor (LED)
		Part number / Article number	RD 35L / 904-51663
		Description	Reflector in housing
		Dimensions	Ø 35 x 8.6 mm
		Mounting	Grub screw M5, centred
		Temperature range	-20 ... +60 °C
		Suitable for	Retroreflective photoelectric sensor (laser)
		Part number / Article number	RD 35LK / 904-51664
		Description	Reflector in housing
		Dimensions	Ø 35 x 5.7 mm
		Mounting	Self-adhesive
		Temperature range	-20 ... +60 °C
		Suitable for	Retroreflective photoelectric sensor (laser)
		Part number / Article number	RD4 / 904-51535
		Description	Reflector in housing
		Dimensions	Ø 42 x 9.5 mm
		Mounting	Grub screw M5, centred
		Temperature range	-20 ... +60 °C
		Suitable for	Retroreflective photoelectric sensor (LED)
		Part number / Article number	RD46 / 904-51572
		Description	Reflector in housing
		Dimensions	Ø 46 x 9 mm
		Mounting	2 mounting holes
		Temperature range	-20 ... +60 °C
		Suitable for	Retroreflective photoelectric sensor (LED)

Reflectors for Retroreflective photoelectric sensor (Cont.)					
	 153-00070	Part number / Article number	RD8 / 904-51531		
			Description		
			Dimensions		
			Mounting		
			Temperature range		
	 153-00280	Part number / Article number	R1L / 904-51559		
			Description		
			Dimensions		
			Mounting		
			Temperature range		
	 153-00068	Part number / Article number	R1 / 904-51532		
			Description		
			Dimensions		
			Mounting		
			Temperature range		
	 153-00772	Part number / Article number	R3-2LK / 904-51588		
			Description		
			Dimensions		
			Mounting		
			Temperature range		
	 153-01047	Part number / Article number	R3-2LK1 / 904-51596		
			Description		
			Dimensions		
			Mounting		
			Temperature range		
	 153-00773	Part number / Article number	R2-2LB / 904-51586		
			Description		
			Dimensions		
			Mounting		
			Temperature range		

Accessories

Reflectors

Reflectors for Retroreflective photoelectric sensor (Cont.)			
	 153-01210	Part number / Article number	R3-2LBC / 904-51666
		Description	Reflector; chemically resistant for critical cleaning processes
		Dimensions	20 x 32 x 3 mm
		Mounting	2 mounting holes
	 153-01046	Part number / Article number	R2-2LB1 / 904-51595
		Description	Reflector in housing, with very fine structure
		Dimensions	20 x 32 x 3.8 mm
		Mounting	2 mounting holes
	 153-01196	Part number / Article number	R4-6LB / 904-51652
		Description	Reflector in housing
		Dimensions	40 x 60 x 6.1 mm
		Mounting	2 mounting holes
	 153-01195	Part number / Article number	R4-6B / 904-51651
		Description	Reflector in housing
		Dimensions	40 x 60 x 7.5 mm
		Mounting	2 mounting holes
	 153-01209	Part number / Article number	R4-6BC / 904-51665
		Description	Reflector; chemically resistant for critical cleaning processes
		Dimensions	40 x 60 x 7.5 mm
		Mounting	2 mounting holes
	 153-01194	Part number / Article number	R5-7B / 904-51650
		Description	Reflector in housing
		Dimensions	50 x 70 x 6.8 mm
		Mounting	2 mounting holes

Reflectors for Retroreflective photoelectric sensor (Cont.)					
		153-00544	Part number / Article number	R5-8/L / 904-51576	
			Description	Reflector in housing	
			Dimensions	50 x 80 x 7 mm	
			Mounting	2 mounting holes	
		153-00701	Part number / Article number	RF-50 KL / 904-51590	
			Description	Reflective foil	
			Dimensions	51 x 51 mm	
			Mounting	Self-adhesive	
		153-00242	Part number / Article number	R5L / 904-51543	
			Description	Reflector in housing	
			Dimensions	51 x 61 x 6.1 mm	
			Mounting	2 mounting holes (slots)	
		153-00069	Part number / Article number	R5 / 904-51533	
			Description	Reflector in housing	
			Dimensions	51 x 61 x 8 mm	
			Mounting	2 mounting holes	
		153-00816	Part number / Article number	R50 BC / 904-51641	
			Description	Reflector, chemically resistant for critical cleaning processes	
			Dimensions	51 x 69 x 8.1 mm	
			Mounting	6 mounting holes	
		153-00557	Part number / Article number	R10 / 904-51637 R10 / 2 (2 x R10) / 904-51636	
			Description	Reflector in housing	
			Dimensions	100 x 100 x 9 mm	
			Mounting	2 mounting holes	

Temperature range
-20 ... +60 °C

Suitable for
Retroreflective photoelectric sensor (laser)

Temperature range
-40 ... +70 °C

Suitable for
Retroreflective photoelectric sensor (laser)

Temperature range
-20 ... +60 °C

Suitable for
Retroreflective photoelectric sensor (laser)

Temperature range
-20 ... +60 °C

Suitable for
Retroreflective photoelectric sensor (LED)

Temperature range
-20 ... +140 °C

Suitable for
Retroreflective photoelectric sensor (LED)

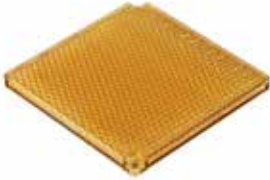
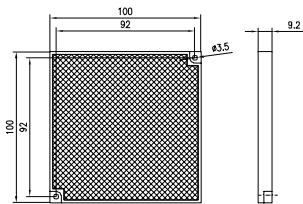
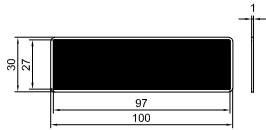
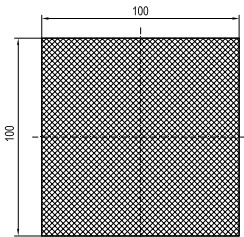
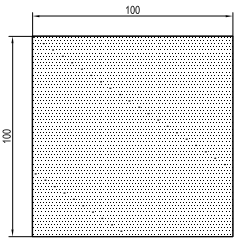
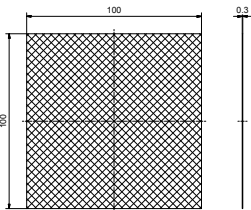
ECOLAB®

Temperature range
-40 ... +70 °C

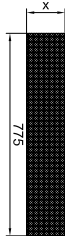
Suitable for
Retroreflective photoelectric sensor (LED)
FR 85

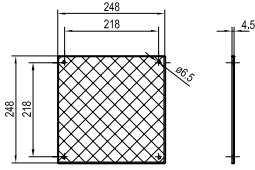
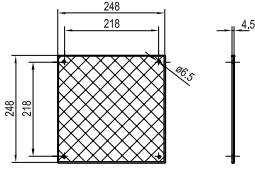
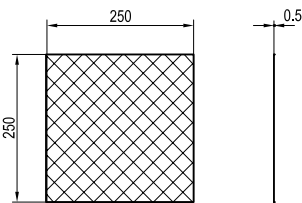
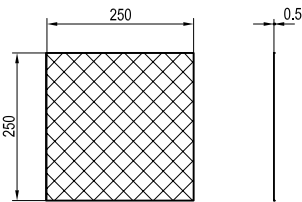
Accessories

Reflectors

Reflectors for Retroreflective photoelectric sensor (Cont.)			
		153-00817	Part number / Article number
			Description
			Dimensions
			Mounting
		153-00950	Part number / Article number
			Description
			Dimensions
			Mounting
		153-00071	Part number / Article number
			Description
			Dimensions
			Mounting
		153-00556	Part number / Article number
			Description
			Dimensions
			Mounting
		153-01125	Part number / Article number
			Description
			Dimensions
			Mounting

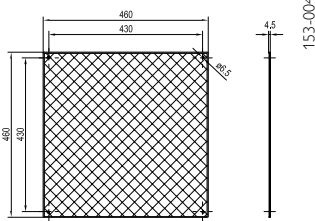
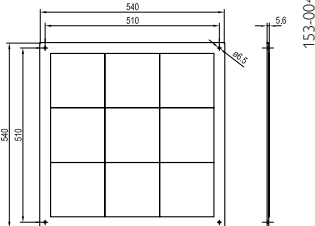
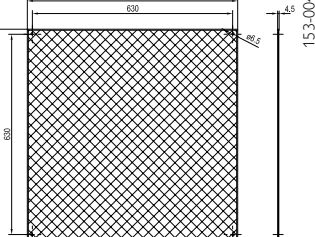
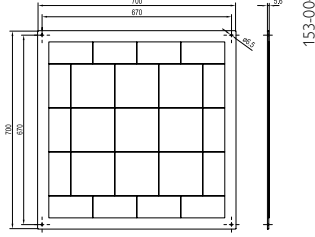
ECOLAB®

Reflectors for Retroreflective photoelectric sensor (Cont.)			
		153-01015	Part number / Article number
			Description
			Dimensions
			Mounting
			Temperature range
			Suitable for
			RF 775x 100 mm / 904-51643
			RF 775x 200 mm / 904-51645
			RF 775x 300 mm / 904-51646
			RF 775x 400 mm / 904-51647
			RF 775x 500 mm / 904-51648
			Reflective foil, weatherproof
			775 x ... mm
			Self-adhesive
			-40 ... +70°C
			Retroreflective photoelectric sensor (LED)

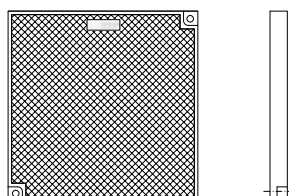
Reflectors für time-of-flight devices (Cont.)			
		153-00483	Part number / Article number
			Description
			Dimensions
			Mounting
			Temperature range
			Suitable for
			RL 250 / 904-51562
			Reflector for ranges up to 50 m / 70 m
			248 x 248 x 4.5 mm
			4 mounting holes
			-20 ... +60 °C
			FR 55, FR 90, FR 91
		153-00483	Part number / Article number
			Description
			Dimensions
			Mounting
			Temperature range
			Suitable for
			RL 250/V / 904-51578
			Reflector for ranges up to 30 m
			248 x 248 x 4.5 mm
			4 mounting holes
			-20 ... +60 °C
			FR 92
		153-00488	Part number / Article number
			Description
			Dimensions
			Mounting
			Temperature range
			Suitable for
			RF 250 / 599-91009
			Reflective foil for ranges up to 50 m / 70 m
			250 x 250 mm
			Self-adhesive
			-20 ... +60 °C
			FR 55, FR 90, FR 91
		153-00488	Part number / Article number
			Description
			Dimensions
			Mounting
			Temperature range
			Suitable for
			RF 250/V / 904-51579
			Reflective foil for ranges up to 30 m
			250 x 250 mm
			Self-adhesive
			-20 ... +60 °C
			FR 92

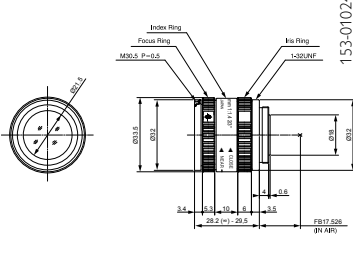
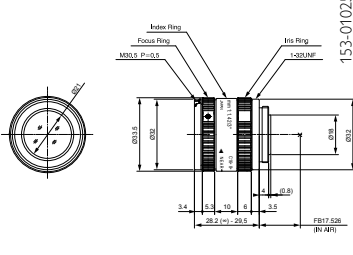
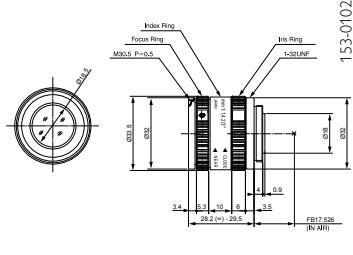
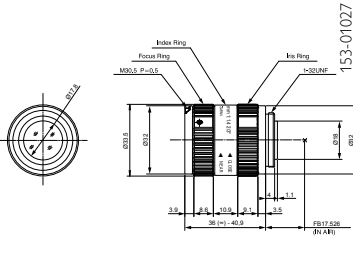
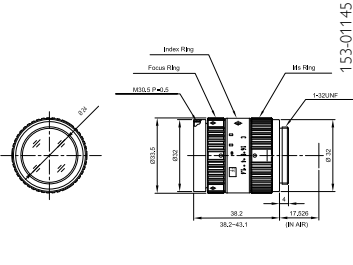
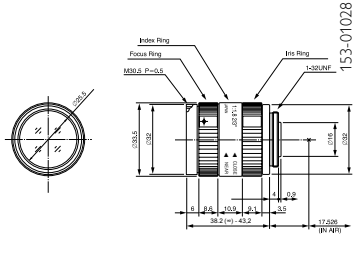
Accessories

Reflectors

Reflectors für time-of-flight devices (Cont.)			
		Part number / Article number	RL 460 / 904-51565
		Description	Reflector for ranges up to 80 m
		Dimensions	460 x 460 x 4.5 mm
		Mounting	4 mounting holes
		Temperature range	-20 ... +60 °C
		Suitable for	FR 90, FR 91, FR 92
		Part number / Article number	RL 540 / 904-51571
		Description	Reflector in housing for ranges up to 200 m
		Dimensions	540 x 540 x 5.6 mm
		Mounting	4 mounting holes
		Temperature range	-20 ... +60 °C
		Suitable for	FR 90, FR 91, FR 92
		Part number / Article number	RL 660 / 904-51564
		Description	Reflector for ranges up to 80 m
		Dimensions	660 x 660 x 4.5 mm
		Mounting	4 mounting holes
		Temperature range	-20 ... +60 °C
		Suitable for	FR 90, FR 91, FR 92
		Part number / Article number	RL 700 / 904-51570
		Description	Reflector in housing for ranges up to 250 m
		Dimensions	700 x 700 x 5.6 mm
		Mounting	4 mounting holes
		Temperature range	-20 ... +60 °C
		Suitable for	FR 90, FR 91, FR 92

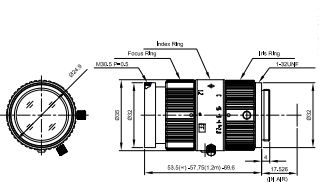
Mounting of the reflectors as shown in the dimensional drawing or alignment according to labeling on reflector front



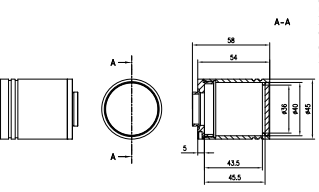
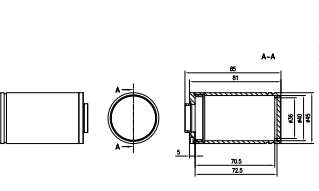
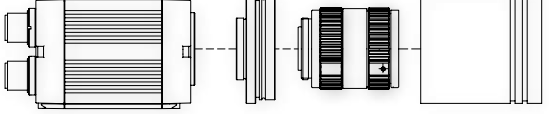
Lenses, C-mount			
		Part number / Article number	LO C 8 / 526-51513
		Description	C-mount lens 8 mm focal length Aperture/focus: manual Filter thread: 30.5/0.5 Diameter: 33.5 mm Max. length: 33.5 mm Weight: 70 g
		Suitable for	V10 / V20 C-Mount
		Part number / Article number	LO C 12 / 526-51514
		Description	C-mount lens 12 mm focal length Aperture/focus: manual Filter thread: 30.5/0.5 Diameter: 33.5 mm Max. length: 33.5 mm Weight: 65 g
		Suitable for	V10 / V20 C-Mount
		Part number / Article number	LO C 16 / 526-51515
		Description	C-mount lens 16 mm focal length Aperture/focus: manual Filter thread: 30.5/0.5 Diameter: 33.5 mm Max. length: 33.5 mm Weight: 65 g
		Suitable for	V10 / V20 C-Mount
		Part number / Article number	LO C 25 / 526-51516
		Description	C-mount lens 25 mm focal length Aperture/focus: manual Filter thread: 30.5/0.5 Diameter: 33.5 mm Max. length: 44.9 mm Weight: 75 g
		Suitable for	V10 / V20 C-Mount
		Part number / Article number	LO C 35 / 526-51525
		Description	C-mount lens 35 mm focal length Aperture/focus: manual Filter thread: 30.5/0.5 Diameter: 33.5 mm Max. length: 47.5 mm Weight: 87 g
		Suitable for	V10 / V20 C-Mount
		Part number / Article number	LO C 50 / 526-51113
		Description	C-mount lens 50 mm focal length Aperture/focus: manual Filter thread: 30.5/0.5 Diameter: 33.5 mm Max. length: 47.2 mm Weight: 90 g
		Suitable for	V10 / V20 C-Mount

Accessories

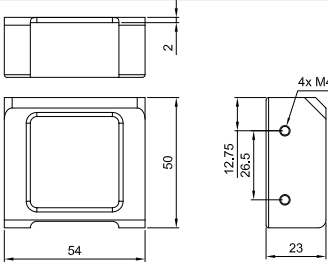
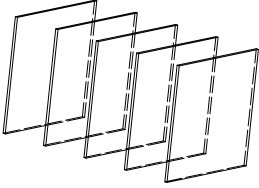
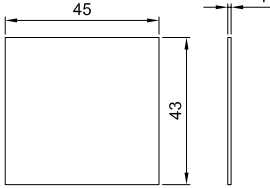
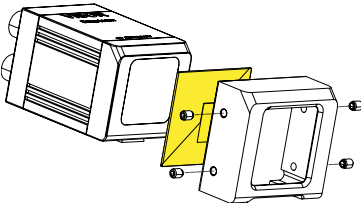
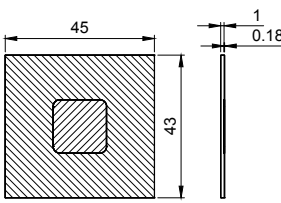
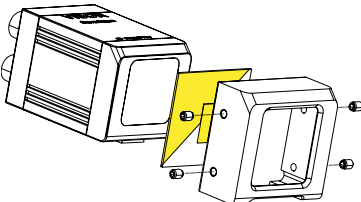
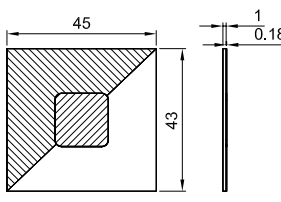
Lenses

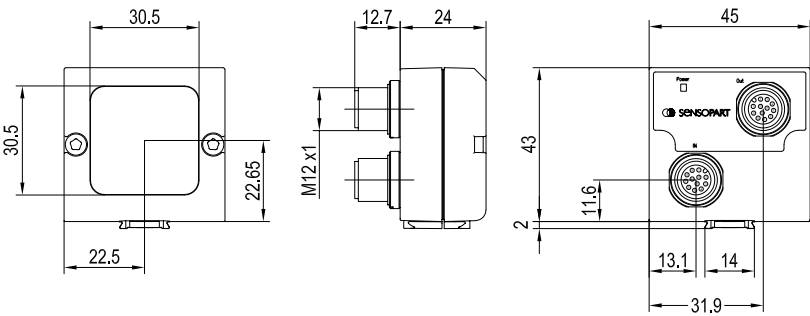
Lenses, C-mount (Cont.)			
		Part number / Article number	LO C 75 / 526-51116
		Description	C-mount lens 75 mm focal length Aperture/focus: manual Filter thread: 30.5/0.5 Diameter: 35.0 mm Max. length: 73.6 mm Weight: 113 g
		Suitable for	V10 / V20 C-Mount

Accessories, lenses				
		Part number	Article number	Description
		LR 5	543-11011	Intermediate ring 5 mm
		ETS	527-51143	Intermediate ring set: 1 x 0,5 mm 1 x 10 mm 2 x 1 mm 1 x 20 mm 1 x 5 mm 1 x 40 mm
		Part number	Article number	Description
		LOF-BP-R635-30,5x0,5	533-01015	Red filter for C-mount lens, Bandpass 610 - 660 nm
		LOF-LP-IR850-30,5x0,5	533-01010	Infrared filter for C-mount lens, Transmission > 825 nm
		LOF-PF-30,5 x 0,5	526-51531	Polarisation filter for C-mount lens

Protective casing and polarizer glasses			
		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
		Part number / Article number	LPT 45 CML 5L / 527-51134
		Description	C-mount IP 65 protective casing Flange 5 mm Maximum lens dimensions: diameter: 38 mm length: 60 mm
		Suitable for	V10 / V20 C-Mount
		V10, V20	C-mount IP 65 protective casing LPT 45 CML 5 / 527-51132
			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 35 / 526-51525 LO C 50 / 526-51113 LO C 75 / 526-51116
		LPT 45 CML 5L / 527-51134	

Protective casing and polarizer glasses

Protective casing and polarizer glasses (Cont.)			
		Part number / Article number	LPT W50 / 527-51135
		Description	Spark protection V10/V20 Material: anodised aluminium incl. front screen, glass
		Suitable for	V10 / V20
		Part number / Article number	LPT S5 / 527-51136
		Description	Replacement front screen, set of 5 pcs for LPT W50 Material: glass
		Suitable for	LPT W50
		Part number / Article number	LPF S1 / 527-51139
		Description	Polarizer glass for welding spark protection (100% coverage) Material: coated glass
		Suitable for	V10 / V20
		Part number / Article number	LPF S2 / 527-51140
		Description	Polarizer glass for welding spark protection (50% coverage, switchable) Material: coated glass
		Suitable for	V10 / V20

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.

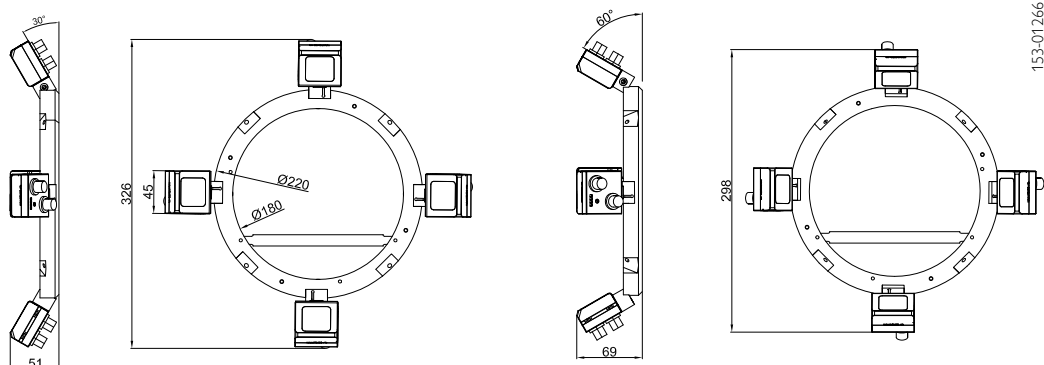
Accessories

Illumination

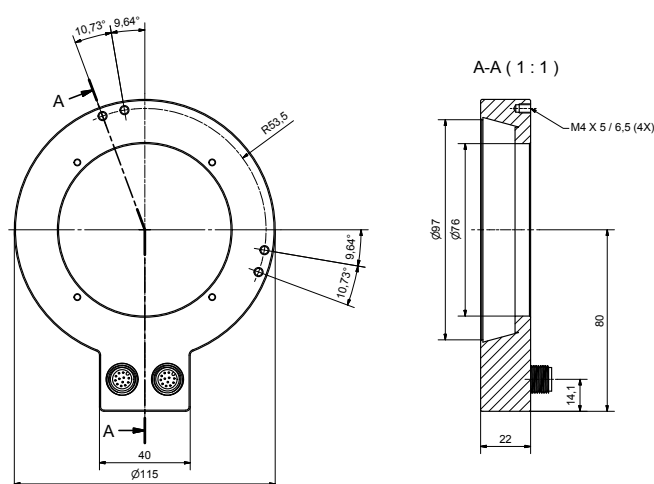
Multishot

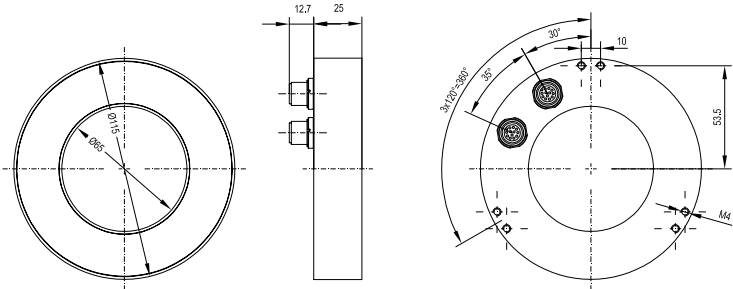


Part number	Article number	Description
LM 300 WWK-24Q4-2L12	525-51158	Illumination Multishot, 4 x LF 45 white, including MG3A for VISOR, mounting, apre-assembled on retaining ring and pre-wired with 3 special cables, beam angle 60°, changeable to 30 °
LM 300 RWK-24Q4-2L12	525-51159	Illumination Multishot, 4 x LF 45 red, including MG3A for VISOR, mounting, apre-assembled on retaining ring and pre-wired with 3 special cables, beam angle 60°, changeable to 30 °
LM 300 IWK-24Q4-2L12	525-51160	Illumination Multishot, 4 x LF 45 infrared, including MG3A for VISOR, mounting, apre-assembled on retaining ring and pre-wired with 3 special cables, beam angle 60°, changeable to 30 °



LM 100 WWK-24Q4-2L12	532-51096	Ring light, angled, 100 mm, white, individual control of 4 segments for Multishot, connection with illumination cable without LA45
LM 100 RWK-24Q4-2L12	532-51097	Ring light, angled, 100 mm, red, individual control of 4 segments for Multishot, connection with illumination cable without LA45
LM 100 W DF2	532-51098	Diffuser for LM 100, angled

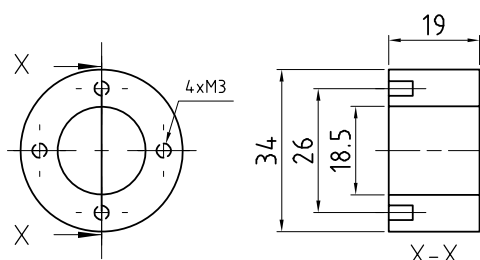
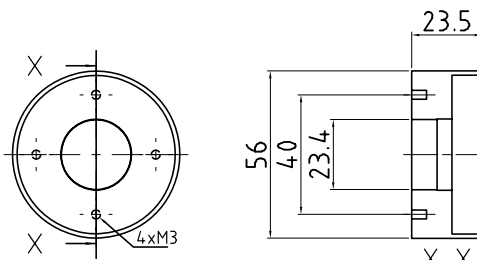
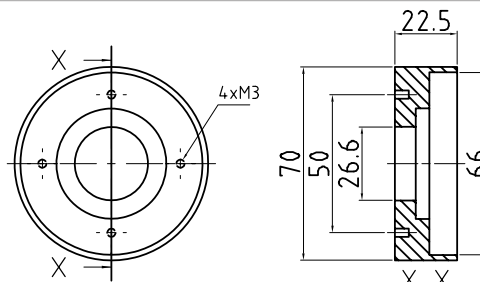


Ring light for V10, V20				
	Part number	Article number	Description	Angle bracket
	LFR 115 WD-24-2L12	525-51150	Ring light, V10 / V20, white, diffuse, 12-pin	543-11015
	LFR 115 RD-24-2L12	525-51151	Ring light, V10 / V20, red, diffuse, 12-pin	543-11015
	LFR 115 ID-24-2L12	525-51152	Ring light, V10 / V20,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

1		153-00726	2		153-00727
3		153-00731	A		

LED ring lighting for the incidental illumination of objects.

Requires connection adapter for LED illumination LA45V-24-2L12.

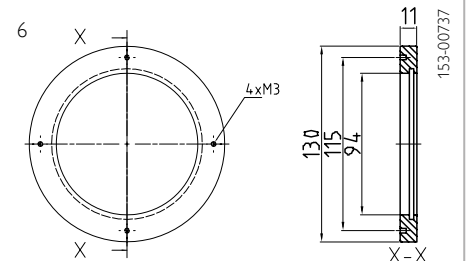
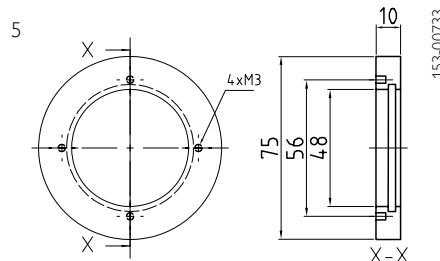
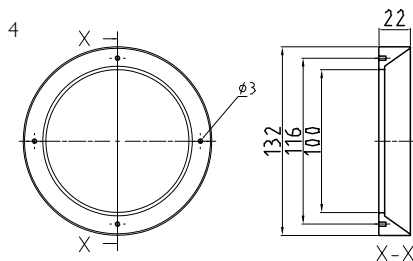
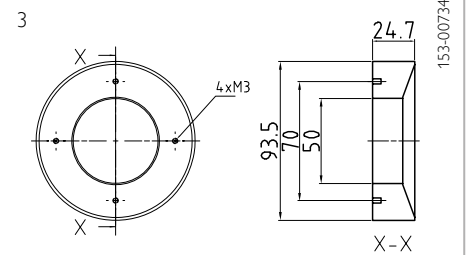
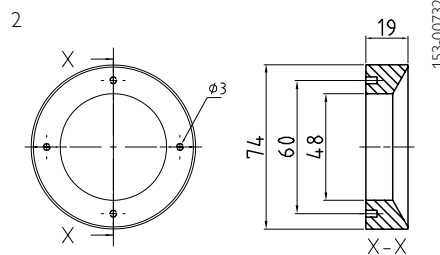
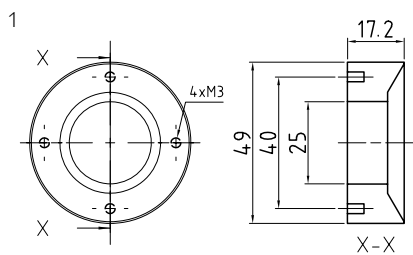
Accessories

Illumination

Ring light, angled

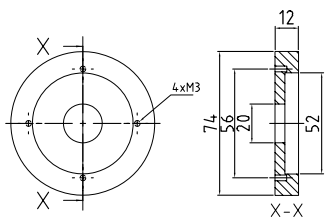
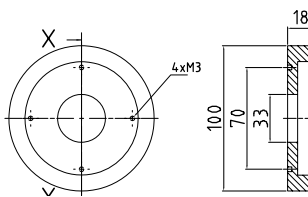
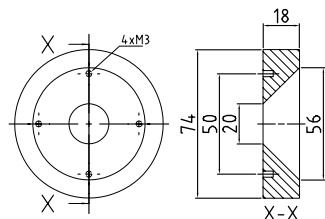
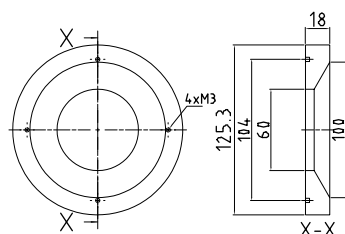


Part number	Article number	Description	Angle bracket	Draw.
LR 50 WW-24-KFL5	532-51006	Ring light, angled, 50 mm, white	543-11017	1
LR 74 WW-24-KFL5	532-51007	Ring light, angled, 74 mm, white	543-11018	2
LR 90 WW-24-KFL5	532-51008	Ring light, angled, 90 mm, white	543-11018	3
LR 132 WW-24-KFL5	532-51009	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

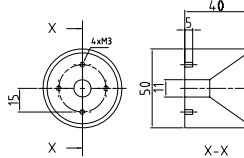


Funnel-shaped LED ring light for dark field illumination.

Requires connection adapter for LED illumination LA45V-24-2L12.

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
1		153-00729	2		
					
Ring light, indirect, diffuse					
	Part number	Article number	Description	Angle bracket	Draw.
	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
3		153-00728	4		
					

LED ring light with LEDs shining surfacely and directly on centre of circle.
Requires connection adapter for LED illumination LA45V-24-2L12.

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

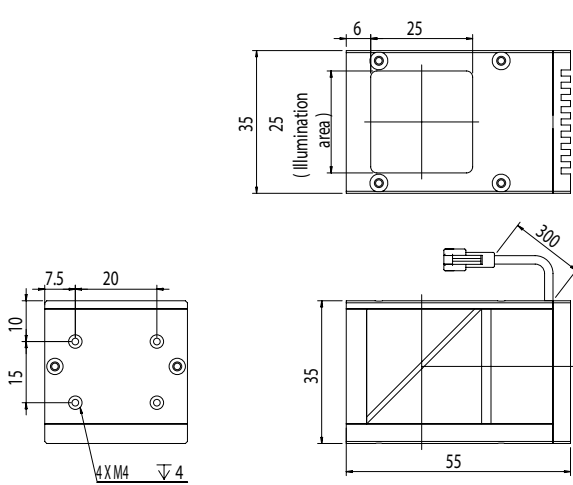
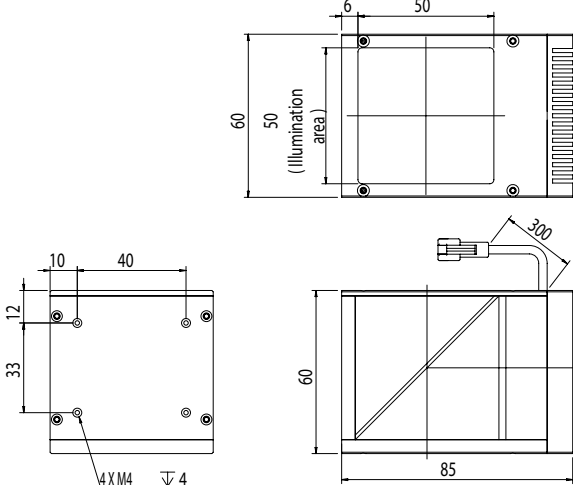
LED ring lighting with funnel-shaped diffuser sheet for strongly reflective objects.
Requires connection adapter for LED illumination LA45V-24-2L12.

Accessories

Illumination

Coaxial illumination

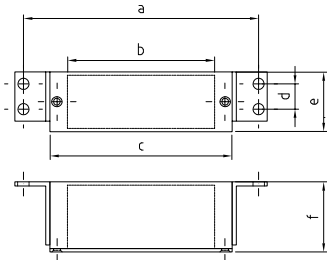
	Part number	Article number	Description	Drawing
	LK 25 R-24-KFL5	532-51043	Coaxial lighting, 25 mm, red	1
	LK 46 R-24-KFL5	532-51044	Coaxial lighting, 46 mm, red	2

1		153-00830	2		153-00831
---	--	-----------	---	---	-----------

Coaxial mirrored LED lighting for homogeneous illumination of reflected objects.
Requires connection adapter for LED illumination LA45V-24-2L12.

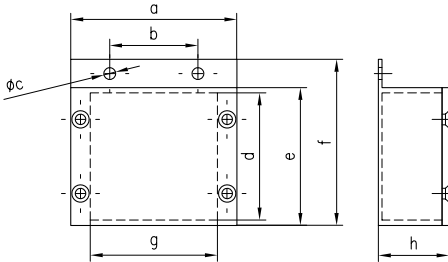
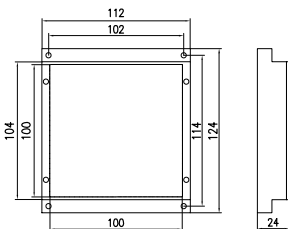
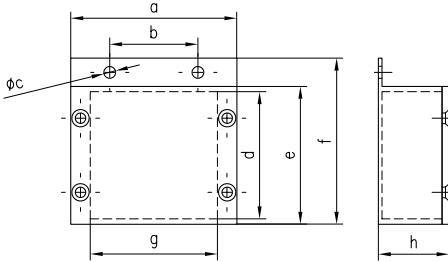
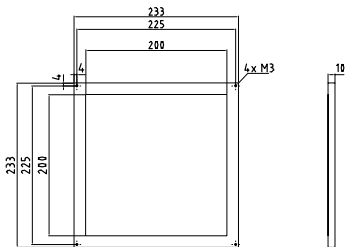
Light strip, diffuse

	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

	153-00756	Type 1	Type 2	Type 3	
		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

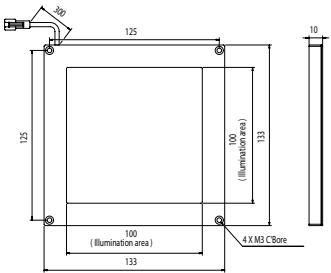
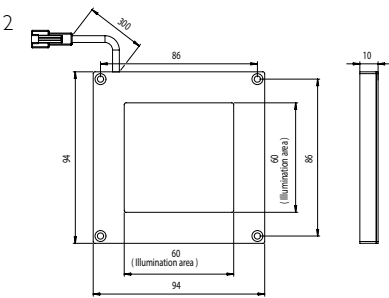
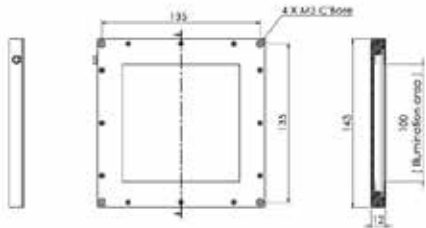
Bar-shaped light strip with diffuser sheet for indirect illumination.
Requires connection adapter for LED illumination LA45V-24-2L12.

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

1		<table><tr><td>a</td><td>=</td><td>47</td><td>mm</td></tr><tr><td>b</td><td>=</td><td>25</td><td>mm</td></tr><tr><td>c</td><td>=</td><td>3,4</td><td>mm</td></tr><tr><td>d</td><td>=</td><td>36</td><td>mm</td></tr><tr><td>e</td><td>=</td><td>40</td><td>mm</td></tr><tr><td>f</td><td>=</td><td>47</td><td>mm</td></tr><tr><td>g</td><td>=</td><td>36</td><td>mm</td></tr><tr><td>h</td><td>=</td><td>15</td><td>mm</td></tr></table>	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	153-00758	3		153-00762
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																																			
2		<table><tr><td>a</td><td>=</td><td>62</td><td>mm</td></tr><tr><td>b</td><td>=</td><td>40</td><td>mm</td></tr><tr><td>c</td><td>=</td><td>3,4</td><td>mm</td></tr><tr><td>d</td><td>=</td><td>50</td><td>mm</td></tr><tr><td>e</td><td>=</td><td>54</td><td>mm</td></tr><tr><td>f</td><td>=</td><td>62</td><td>mm</td></tr><tr><td>g</td><td>=</td><td>50</td><td>mm</td></tr><tr><td>h</td><td>=</td><td>15</td><td>mm</td></tr></table>	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	153-00758	4		153-00757
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.
Requires connection adapter for LED illumination LA45V-24-2L12.

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
	LF 51 PF	532-51099	Polarizer for LF 51	
	LF 100 PF	532-51100	Polarizer for LF 100	

1	 125 125 100 133 100 133 10 30° 4 X M3 C Bore (Illumination area) (Illumination area)	153-00828
2	 86 94 60 86 60 94 10 30° 4 X M3 C Bore (Illumination area) (Illumination area)	153-00827
3	 135 135 100 145 12 30° 4 X M3 C Bore (Illumination area) (Illumination area)	153-00829

Surface LED background lighting for diffuse illumination.
Requires connection adapter for LED illumination LA45V-24-2L12.

Accessories

Illumination

Light strips, High Power, LBxxx

	Light strips, High Power, LBxxx			
	Part number	Article number	Description	Type
	LB 250 WK 24 A15 3L5	532-51056	Light strip, 250 mm, white, clear glass, 24V DC, 15°, 3 x M12, 5-pin	1
	LB 375 WK 24 A15 3L5	532-51057	Light strip, 375 mm, white, clear glass, 24V DC, 15°, 3 x M12, 5-pin	2
	LB 625 WK 24 A15 3L5	532-51058	Light strip, 625 mm, white, clear glass, 24V DC, 15°, 3 x M12, 5-pin	3
	LB 1000 WK 24 A15 3L5	532-51059	Light strip, 1000 mm, white, clear glass, 24V DC, 15°, 3 x M12, 5-pin	4
	LB 250 WK 24 A35 3L5	532-51060	Light strip, 250 mm, white, clear glass, 24V DC, 35°, 3 x M12, 5-pin	1
	LB 375 WK 24 A35 3L5	532-51061	Light strip, 375 mm, white, clear glass, 24V DC, 35°, 3 x M12, 5-pin	2
	LB 625 WK 24 A35 3L5	532-51062	Light strip, 625 mm, white, clear glass, 24V DC, 35°, 3 x M12, 5-pin	3
	LB 1000 WK 24 A35 3L5	532-51063	Light strip, 1000 mm, white, clear glass, 24V DC, 35°, 3 x M12, 5-pin	4
	LB 250 RK 24 A15 3L5	532-51064	Light strip, 250 mm, red, clear glass, 24V DC, 15°, 3 x M12, 5-pin	1
	LB 375 RK 24 A15 3L5	532-51065	Light strip, 375 mm, red, clear glass, 24V DC, 15°, 3 x M12, 5-pin	2
	LB 625 RK 24 A15 3L5	532-51066	Light strip, 625 mm, red, clear glass, 24V DC, 15°, 3 x M12, 5-pin	3
	LB 1000 RK 24 A15 3L5	532-51067	Light strip, 1000 mm, red, clear glass, 24V DC, 15°, 3 x M12, 5-pin	4
	LB 250 RK 24 A35 3L5	532-51068	Light strip, 250 mm, red, clear glass, 24V DC, 35°, 3 x M12, 5-pin	1
	LB 375 RK 24 A35 3L5	532-51069	Light strip, 375 mm, red, clear glass, 24V DC, 35°, 3 x M12, 5-pin	2
	LB 625 RK 24 A35 3L5	532-51070	Light strip, 625 mm, red, clear glass, 24V DC, 35°, 3 x M12, 5-pin	3
	LB 1000 RK 24 A35 3L5	532-51071	Light strip, 1000 mm, red, clear glass, 24V DC, 35°, 3 x M12, 5-pin	4
	LB 250 IRK 24 A15 3L5	532-51055	Light strip, 250 mm, infrared, clear glass, 24V DC, 15°, 3 x M12, 5-pin	1
	LB 375 IRK 24 A15 3L5	532-51072	Light strip, 375 mm, infrared, clear glass, 24V DC, 15°, 3 x M12, 5-pin	2
	LB 625 IRK 24 A15 3L5	532-51073	Light strip, 625 mm, infrared, clear glass, 24V DC, 15°, 3 x M12, 5-pin	3
	LB 1000 IRK 24 A15 3L5	532-51074	Light strip, 1000 mm, infrared, clear glass, 24V DC, 15°, 3 x M12, 5-pin	4
	LB 250 IRK 24 A35 3L5	532-51075	Light strip, 250 mm, infrared, clear glass, 24V DC, 35°, 3 x M12, 5-pin	1
	LB 375 IRK 24 A35 3L5	532-51076	Light strip, 375 mm, infrared, clear glass, 24V DC, 35°, 3 x M12, 5-pin	2
	LB 625 IRK 24 A35 3L5	532-51077	Light strip, 625 mm, infrared, clear glass, 24V DC, 35°, 3 x M12, 5-pin	3
	LB 1000 IRK 24 A35 3L5	532-51078	Light strip, 1000 mm, infrared, clear glass, 24V DC, 35°, 3 x M12, 5-pin	4
	LB-250 DF	532-51090	Diffusor for light bar 250 mm	
	LB-375 DF	532-51091	Diffusor for light bar 375 mm	
	LB-625 DF	532-51092	Diffusor for light bar 625 mm	
	LB-1000 DF	532-51093	Diffusor for light bar 1000 mm	

Accessories

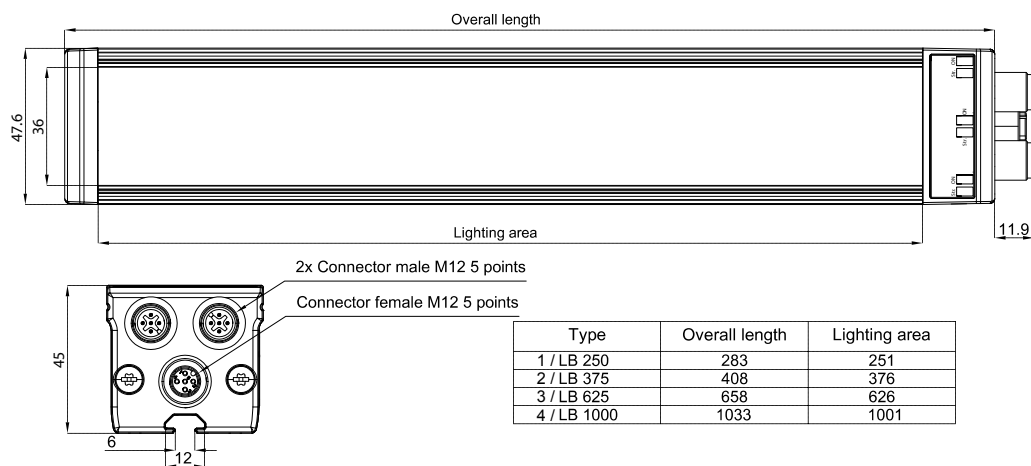
Connection cables

From Page A-40

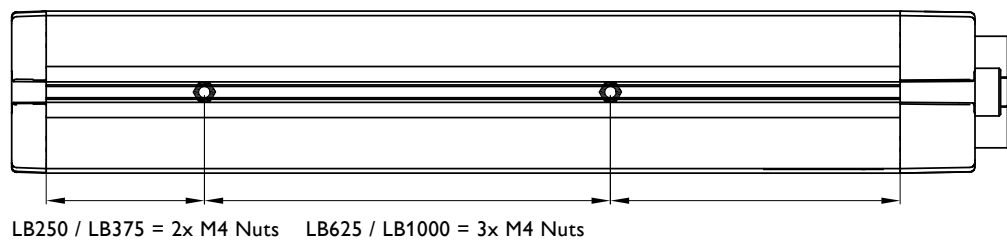
Brackets

From Page A-4

Light strips, High Power, LBxxx

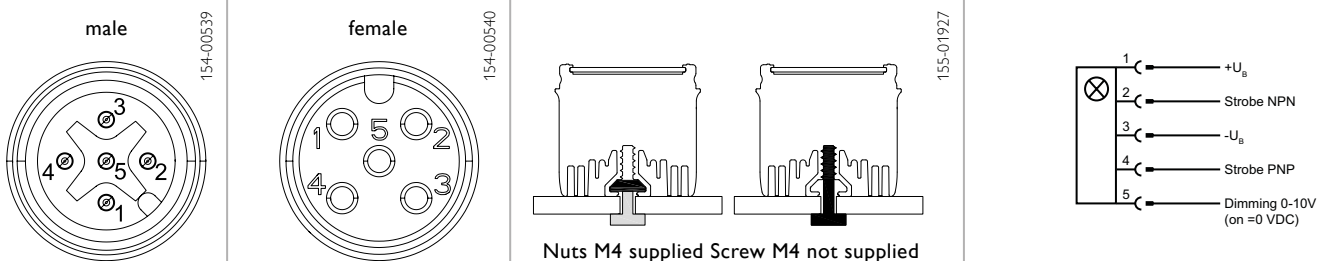


Mounting

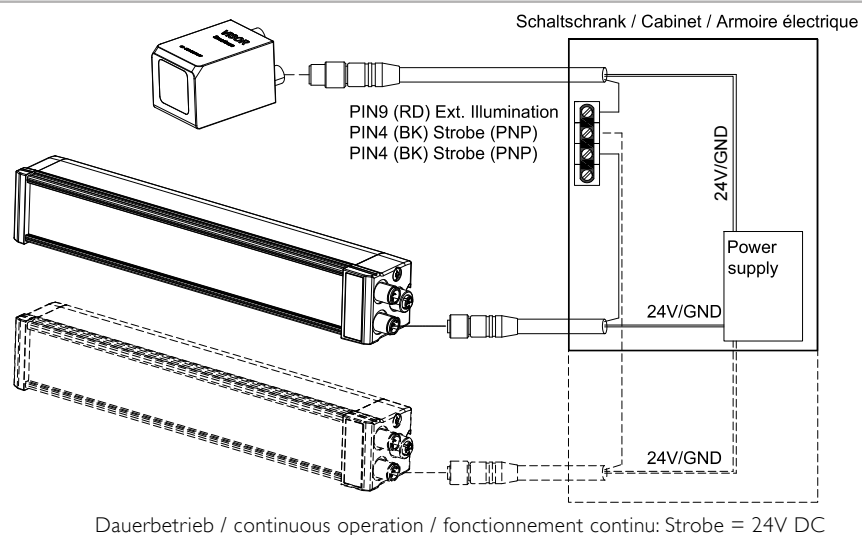


155-01926

Wiring



Connection illumination - sensor



155-01906

A

Dauerbetrieb / continuous operation / fonctionnement continu: Strobe = 24V DC

Calibration plates				
	Part number	Article number	Description	Typ
	ZCP 50-13x15	533-11030	15x13 points, 50 mm x 37,9 mm	Standard
	ZCP 100-13x15	533-11031	15x13 points, 100 mm x 75,8 mm	Standard
	ZCP 200-13x15	533-11032	15x13 points, 200 mm x 151,7 mm	Standard
	ZCP 500-13x15	533-11033	15x13 points, 500 mm x 379,2 mm	Standard
	ZCP 50-13x15-X01	533-11037	5x13 points, crosshairs, 50 mm x 37,9 mm	X01
	ZCP 50-13x15-X01	533-11038	15x13 points, crosshairs, 100 mm x 75,8 mm	X01
	ZCP 100-13x15-X01	533-11039	15x13 points, crosshairs, 200 mm x 151,7 mm	X01
	ZCP 200-13x15-X01	533-11040	15x13 points, crosshairs, 500 mm x 379,2 mm	X01
	ZCP 500-13x15-X01	533-11035	15x13 points, fiducials, 100 mm x 75,8 mm	X02
	ZCP 50-13x15-X03	533-11042	15x13 points, fitting holes, 50 mm x 37,9 mm	X03
	ZCP 100-13x15-X03	533-11041	15x13 points, fitting holes, 100 mm x 75,8 mm	X03
	ZCP 100-ECC200	533-11036	Calibration plate for Code Reader ECC200 quality parameters	-

The calibration plates are used for calibrating the VISOR® vision sensor.

Scaling, tilt angle against perpendicular view to the measurement plane or by lens distortion are all corrected.

Dimensional drawing Standard

A technical drawing of a square calibration plate. The plate is black with a grid of white circular points. The grid consists of 15 columns and 15 rows of points. The overall width of the plate is labeled 'a' and the overall height is labeled 'b'. The points are arranged in a regular grid pattern.

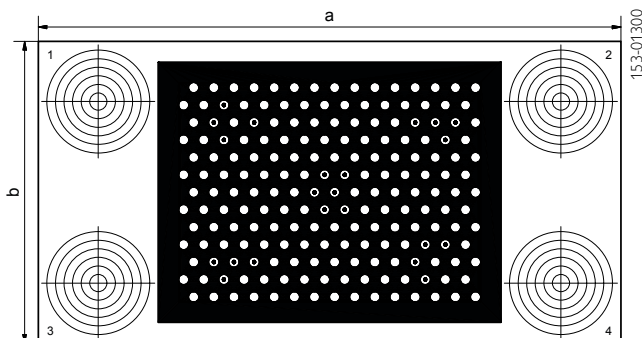
153-13531

	a [mm]	b [mm]	c [mm]	d [mm]	e Ø [mm]	t [mm]	Recommended field of view [mm]
ZCP 50-13x15	54	47				2	22 - 50
ZCP 100-13x15	104	85				2	30 - 100
ZCP 200-13x15	204	161				4	60 - 200
ZCP 500-13x15	504	389				4	150 - 500

Supports calibration method „Calibration plate (Measurement)“.

Reference marks: none..

Dimensional drawing X01



	a [mm]	b [mm]	c [mm]	d [mm]	e Ø [mm]	t [mm]	Recommended field of view [mm]
ZCP 50-13x15-X01	98	54				2	22 - 50
ZCP 100-13x15-X01	180	100				2	30 - 100
ZCP 200-13x15-X01	340	176				4	60 - 200
ZCP 500-13x15-X01	820	403				4	150 - 500

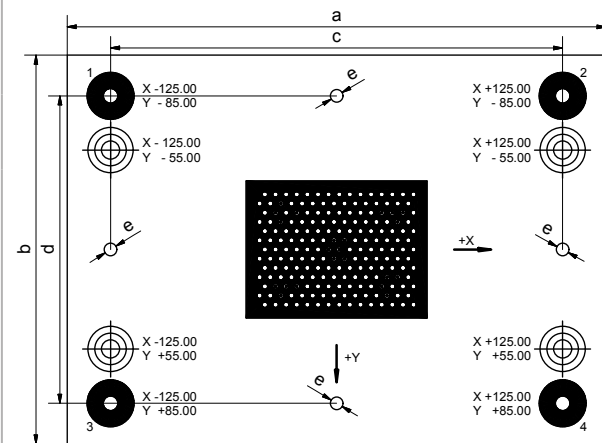
Supports calibration method „Calibration plate (Robotics)“.

With the reference marks, a reference to the absolute coordinate system is established.

Reference marks: crosshairs.

Calibration plates (Cont)

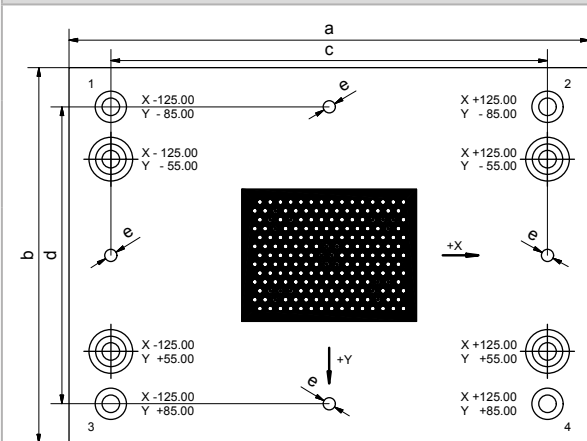
Dimensional drawing X02



	a [mm]	b [mm]	c [mm]	d [mm]	e Ø [mm]	t [mm]	Recommended field of view [mm]
ZCP 100-13x15-X02	295	215	250	170	7	4	30 - 100

For establishing an absolute reference, reflex marks are available. The transformation is calculated in the robot.
Reference marks: fiducials, crosshairs.

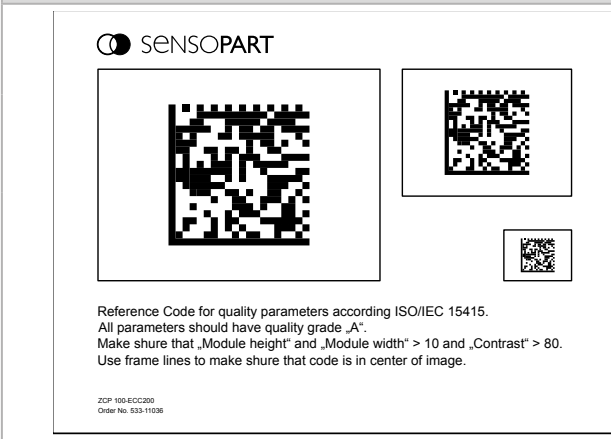
Dimensional drawing X03



	a [mm]	b [mm]	c [mm]	d [mm]	e Ø [mm]	t [mm]	Recommended field of view [mm]
ZCP 50-13x15-X03	298	218	250	170	7	4	22 - 50
ZCP 100-13x15-X03	298	218	250	170	7	4	30 - 100

See version X02.
Reference marks: fitting holes, crosshairs.

Dimensional drawing ZCP 100-ECC200



Calibration plate for ECC200 Codes, sample code in quality grad „A“ according ISO/IEC 15415.

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 / connection cable FR 85, M12 (angled, a-coded) to M12 (straight, a-coded), 0.48 m, suitable for drag chains
L4F/L4M-b-coded-0,48 PUR	902-51739	Connection cable FR 85, M12 (angled, a-coded) to M12 (straight, b-coded), 0.48 m, suitable for drag chains
L4F/L4M-b-coded-0,53 PUR	902-51825	Connection cable FR 85, M12 (angled, a-coded) to M12 (straight, b-coded), 0.53 m, suitable for drag chains
L4F/L4M-b-coded-0,48-X02 PUR	902-51823	Connection cable FR 85, M12 (angled, a-coded) to M12 (straight, b-coded), PINs 2 & 4 interchanged, 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
CI L5FG-S-2m-PUR	902-51813	2 m, straight, shielded, PUR, suitable for drag chains
CI L5FG-S-5m-PUR	902-51814	5 m, straight, shielded, PUR, suitable for drag chains
CI L5FG-S-10m-PUR	902-51815	10 m, straight, shielded, PUR, suitable for drag chains
CI L5FW-S-2m-PUR	902-51816	2 m, 90°, shielded, PUR, suitable for drag chains
CI L5FW-S-5m-PUR	902-51817	5 m, 90°, shielded, PUR, suitable for drag chains
CI L5FW-S-10m-PUR	902-51818	10 m, 90°, shielded, PUR, suitable for drag chains

Accessories

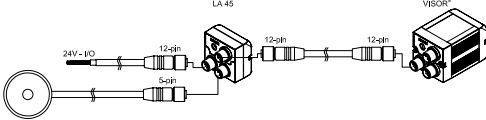
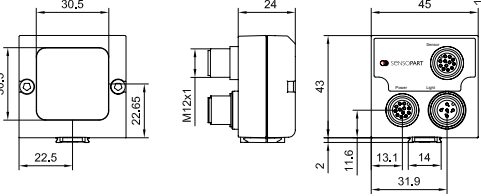
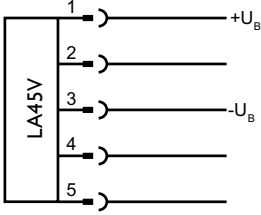
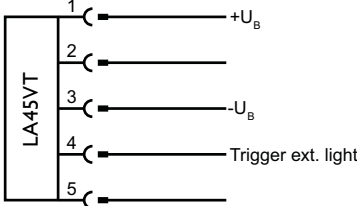
Cables

Part number	Article number	Description
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
M12, 8-pin (DIN 60947-5-2)		
C L8FG-S-2m-PUR	902-51830	2 m straight, PUR, shielded, colour assignment in acc. to DIN 60947-5-2, suitable for drag chains
C L8FG-S-5m-PUR	902-51831	5 m straight, PUR, shielded, colour assignment in acc. to DIN 60947-5-2, suitable for drag chains
C L8FG-S-10m-PUR	902-51832	10 m straight, PUR, shielded, colour assignment in acc. to DIN 60947-5-2, suitable for drag chains
Cables for IO-Link		
L4/L4-2m-PUR	902-51873	2 m, straight, PUR, Adapter cable IO-Link M12 4-pin to M12 4-pin
L4/L4-5m-PUR	902-51878	5 m, straight, PUR, Adapter cable IO-Link M12 4-pin to M12 4-pin
L5/L5-2m-PUR	902-51874	2 m, straight, PUR, Adapter cable IO-Link M12 5-pin to M12 5-pin
L5/L5-5m-PUR	902-51879	5 m, straight, PUR, Adapter cable IO-Link M12 5-pin to M12 5-pin
L8/L4-2m-PUR	902-51857	2 m, straight, PUR, Adapter cable IO-Link M12 8-pin to M12 4-pin
L8/L4-5m-PUR	902-51875	5 m, straight, PUR, Adapter cable IO-Link M12 8-pin to M12 4-pin
K4/L4-2m-PUR	902-51860	2 m, straight, PUR, Adapter cable IO-Link M8 4-pin to M12 4-pin
K4/L4-5m-PUR	902-51876	5 m, straight, PUR, Adapter cable IO-Link M8 4-pin to M12 4-pin
K3/L4-2m-PUR	902-51861	2 m, straight, PUR, Adapter cable IO-Link M8 3-pin to M12 4-pin
K3/L4-5m-PUR	902-51877	5 m, straight, PUR, Adapter cable IO-Link M8 3-pin to M12 4-pin
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
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 (default)		
C L12FG-S-2m-PUR	902-51801	Power supply and I/O cable, 2 m, M12, straight, 12-pin, shielded, suitable for drag chains
C L12FG-S-5m-PUR	902-51796	Power supply and I/O cable, 5 m, M12, straight, 12-pin, shielded, suitable for drag chains
C L12FG-S-10m-PUR	902-51797	Power supply and I/O cable, 10 m, M12, straight, 12-pin, shielded, suitable for drag chains
C L12FG-S-20m-PUR	902-51805	Power - I/O, cable, 20 m, M12, straight, 12-pin, shielded, suitable for drag chains
C L12FG-S-30m-PUR	902-51845	Power - I/O, cable, 30 m, M12, straight, 12-pin, shielded, suitable for drag chains
C L12FW-S-2m-PUR	902-51798	Power supply and I/O cable, 2 m, M12, 90°, 12-pin, shielded, suitable for drag chains
C L12FW-S-5m-PUR	902-51799	Power supply and I/O cable, 5 m, M12, 90°, 12-pin, shielded, suitable for drag chains
C L12FW-S-10m-PUR	902-51800	Power supply and I/O cable, 10 m, M12, 90°, 12-pin, shielded, suitable for drag chains
C L12FW-S-20m-PUR	902-51821	Power - I/O, cable, 20 m, M12, 90°, 12-pin, shielded, suitable for drag chains
C L12FW-S-30m-PUR	902-51846	Power - I/O, cable, 30 m, M12, 90°, 12-pin, shielded, suitable for drag chains

Part number	Article number	Description
Power supply and I/O cables for V10,V20 (3-pin)		
C L12/3FG-S-2m-PUR	902-51833	Power supply and I/O cable, 2 m, M12, straight, 3-pin (24V,GND,Trigger), shielded, suitable for drag chains
C L12/3FG-S-5m-PUR	902-51834	Power supply and I/O cable, 5 m, M12, straight, 3-pin (24V,GND,Trigger), shielded, suitable for drag chains
C L12/3FG-S-10m-PUR	902-51835	Power supply and I/O cable, 10 m, M12, straight, 3-pin (24V,GND,Trigger), shielded, suitable for drag chains
C L12/3FG-S-20m-PUR	902-51839	Power supply and I/O cable, 20 m, M12, straight, 3-pin (24V,GND,Trigger), shielded, suitable for drag chains
C L12/3FG-S-30m-PUR	902-51847	Power supply and I/O cable, 30 m, M12, straight, 3-pin (24V,GND,Trigger), shielded, suitable for drag chains
C L12/3FW-S-2m-PUR	902-51836	Power supply and I/O cable, 2 m, M12, 90°, 3-pin (24V,GND,Trigger), shielded, suitable for drag chains
C L12/3FW-S-5m-PUR	902-51837	Power supply and I/O cable, 5 m, M12, 90°, 3-pin (24V,GND,Trigger), shielded, suitable for drag chains
C L12/3FW-S-10m-PUR	902-51838	Power supply and I/O cable, 10 m, M12, 90°, 3-pin (24V,GND,Trigger), shielded, suitable for drag chains
C L12/3FW-S-20m-PUR	902-51840	Power supply and I/O cable, 20 m, M12, 90°, 3-pin (24V,GND,Trigger), shielded, suitable for drag chains
C L12/3FW-S-30m-PUR	902-51848	Power supply and I/O cable, 30 m, M12, 90°, 3-pin (24V,GND,Trigger), 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 L4MG/RJ45G-GS-20m-PUR	902-51820	Ethernet, cable, 20m, M12, straight connector, 4-pin/RJ45 shielded
CI L4MG/RJ45G-GS-30m-PUR	902-51843	Ethernet, cable, 30m, M12, straight connector, 4-pin/RJ45 shielded
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
CI L4MW/RJ45G-GS-20m-PUR	902-51822	Ethernet, cable, 20m, M12, angled connector, 4-pin/RJ45 shielded
CI L4MW/RJ45G-GS-30m-PUR	902-51844	Ethernet, cable, 30m, M12, angled connector, 4-pin/RJ45 shielded
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-0,35m-GG-PUR	902-51841	Illumination cable 2 x M12/12-pin, 0,35 m, straight, shielded, suitable for drag chains
CB L12FS/L12FS-0,5m-GG-PUR	902-51806	Illumination cable 2 x M12/12-pin, 0,5 m, straight, shielded, suitable for drag chains
CB L12FS/L12FS-2m-GG-PUR	902-51807	Illumination cable 2 x M12/12-pin, 2 m, straight, shielded, suitable for drag chains
CB L12FS/L12FS-10m-GG-PUR	902-51854	Illumination cable 2 x M12/12-pin, 10 m, straight, shielded, suitable for drag chains
CB L12FS/L12FS-0,35m-WW-PUR	902-51842	Illumination cable 2 x M12/12-pin, 0,35 m, 90°, shielded, suitable for drag chains
CB L12FS/L12FS-0,5m-WW-PUR	902-51808	Illumination cable 2 x M12/12-pin, 0,5 m, 90°, shielded, suitable for drag chains
CB L12FS/L12FS-2m-WW-PUR	902-51809	Illumination cable 2 x M12/12-pin, 2 m, 90°, shielded, suitable for drag chains
CB L4MG-10m-PUR	902-51756	Illumination cable 1 x M12/4-pin, 10 m, suitable for drag chains for direct connection of devices 532-51000 to 532-51052
Connection adapter, illumination		
LA45V-24-2L12	525-01001	V10 /V20 connection adapter for LED illumination with 5-pin M12 plug
LA 45 VT-24-2L12	525-01002	V10 /V20 connection adapter with 5-pin M12 socket for LED illumination with trigger line

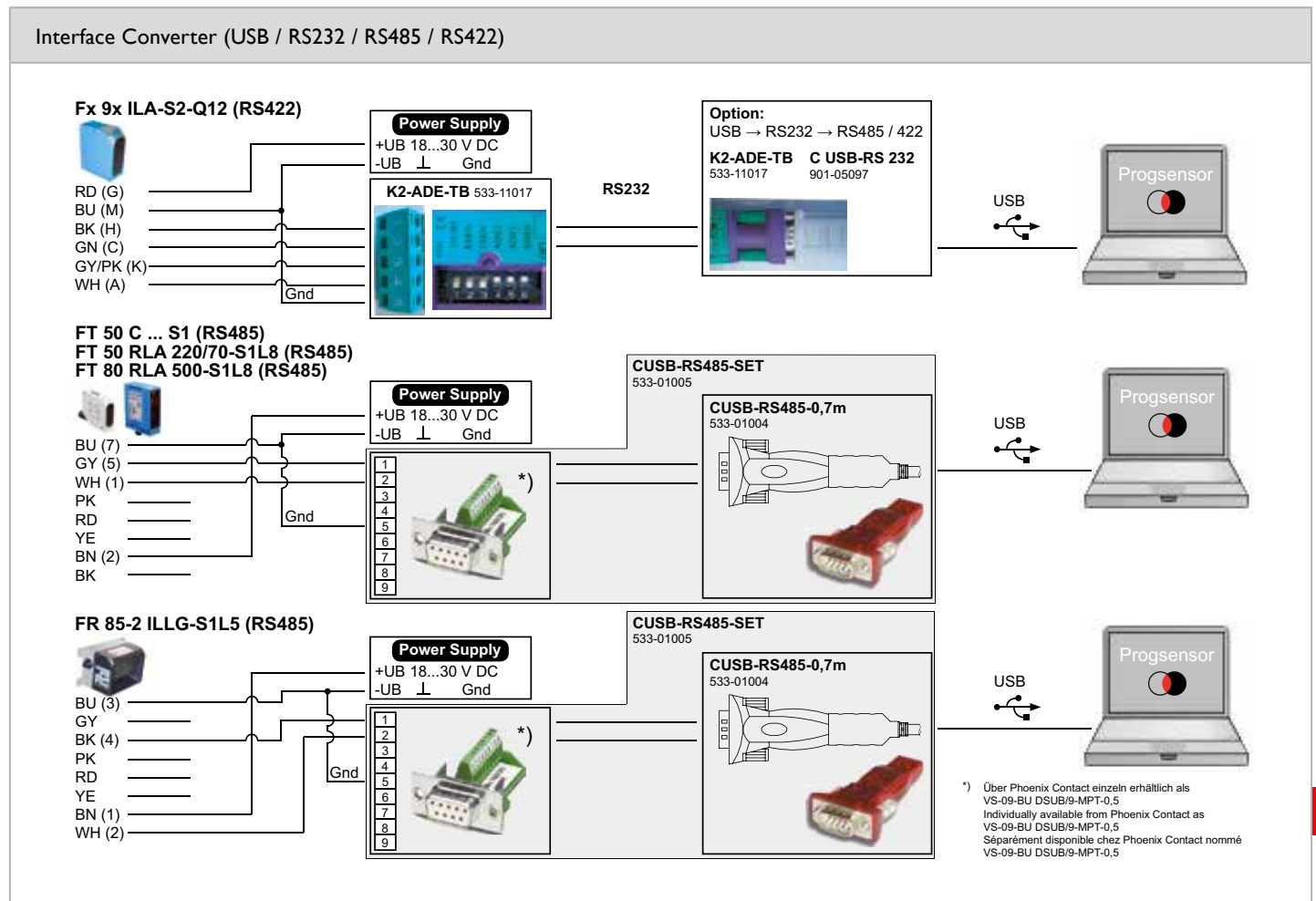
Accessories

Adapter

Connection adapter for illumination on V10,V20			
	 155-01365	 153-00916	
	 154-00502	 154-00555	

Converters

Part number	Article number	Description
Converters and adapter cables		
K2-ADE-TB	533-11017	Converter RS232 ↔ RS485/422, in combination with CUSB-RS232-2m (901-05097) for PC connection of F 90/91 sensors, parameterisation via „ProgSensor“ software
CUSB-RS232-2m	901-05097	Interface converter incl. CD-ROM, cable 2 m, USB ↔ RS232, in combination with K2-ADE-TB (533-11017) for PC connection of F 90/91 sensors, parameterisation via „ProgSensor“ software
CUSB-RS485-SET	533-01005	Set: interface converter incl. CD-ROM, cable 0.7 m, USB ↔ RS485 and D-SUB socket, 9-pin, socket, for PC connection of F 50/80 sensors, parameterisation via „ProgSensor“ software
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

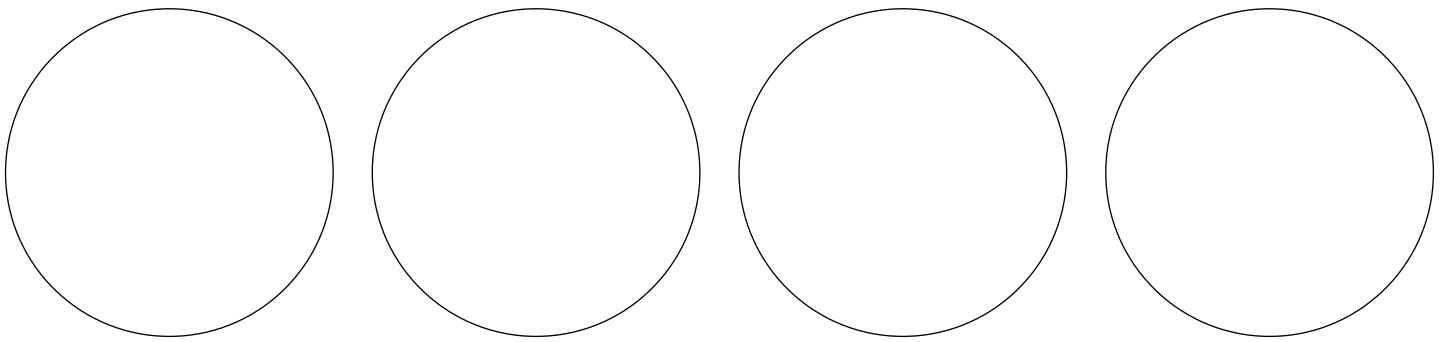


Download software: www.sensopart.com

Accessories

Power supply units and switching devices

Power supply units and switching devices		
	Part number / Article number	ST-05 / 997-51467
	Description	Sensor tester for PNP and NPN sensors – battery operated, 2 x 9 Volt (supplied) – with acoustic and optical signalling of switching output
	Part number / Article number	PA L4M4-TI / 997-51465
	Description	Teach-in unit for programming of SmartPlugs and sensors with Teach input – power supply voltage connection via 3-wire cable – M8 and M12 connection plugs
	Part number / Article number	Setup Box FR 85-2 ILLX / 533-11016
	Description	Setup Box for FR 85 Rail Pilot system. Enables parameterisation of the switching points of FR 85 via PC – 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
	Part number / Article number	ST M12-12 / 994-51135
	Description	Power supply unit for V10 / V20, M12 connector; 12-pin, Europlug – connection of power supply voltage via Europlug – M12 connector
	Part number / Article number	ST M12-12-M / 994-51138
	Description	Power supply unit for V10 / V20, M12 connector; 12-pin, Multiplug – connection of power supply voltage via Multiplug – M12 connector
	Part number / Article number	ST V10 / 543-11022
	Description	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. Connections: – 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



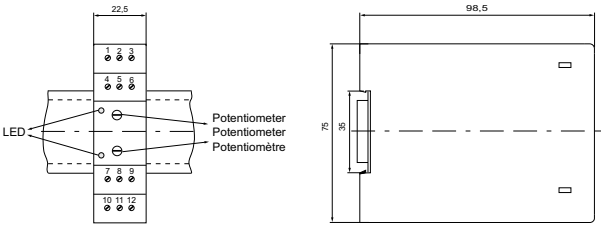
SG 12

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	Switching state indicator Delay: rise / fall: 50 ms ... 30 s Input impulse: ≥ 50 ms		090-12339
Adjustment possibilities			
Electrical data		Mechanical data	
Operating voltage, +U _B (L1 - N)	See Selection Table	Dimensions	98.5 × 75 × 22.5 mm ³
No-load current, I ₀	16 mA at 230 V AC / 32 mA at 115 V 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 ... +70 °C
Switching voltage	380 V AC / 250 V DC	Weight	250 g
Switching frequency (ti/tp 1:1)	≤ 10 Hz		
Duty cycle	1		
Output current, sensor	45 mA		
Power supply (V), sensor	24 V ± 10 % DC ¹		
Device input	PNP / NPN		
Repeatability	≤ 5 %		

¹ 2 % output ripple ² With connected IP 40 plug

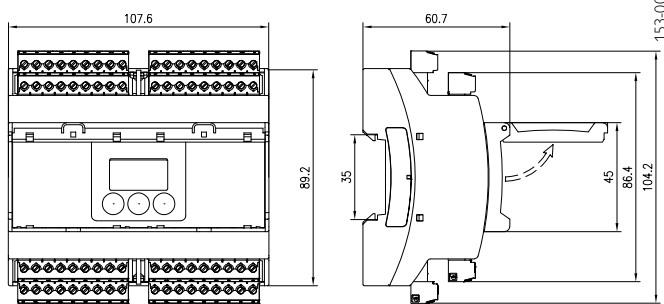
Connection, non-inverted operation	Connection, inverted operation
 154-00161	 154-00162

Operating voltage	Type of connection	Part number	Article number
230 V AC (40 ... 60 Hz)	Terminals	SG 12 T-00	688-51089
115 V 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 ... 26.4 V DC	Dimensions	107.6 × 104.2 × 60.7 mm
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	> 18 V	Vibration and impact resistance	EN 60947-5-2
U _{IN,LOW} control/trigger inputs	< 3 V		
Max. permissible cable length	Power 3 m, others 30 m		

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

Accessories	
Connection cable (data cable)	From Page A-40



PRODUCT HIGHLIGHTS

- Parameterization tool for sales, service and development
- Connects an IO-Link sensor to a windows PC via USB
- Intuitive user interface for visualizing and editing the IO-link parameters

Functions

LED green: permanently on
LED green: permanent flash

Device ready for operation, no IO-Link communication
Device ready for operation, active IO-Link communication

LED red: permanently on

Error message

Electrical data

Output voltage USB mode
Output current USB mode
Output voltage mains operation
Output current mains operation
Input voltage Sensolo external power supply
Input current Sensolo external power supply
Protective circuit

24V DC
max. 65 mA
 $\triangle$ input voltage
max. 500 mA
24V AC (EN 60950)
max. 600 mA
Short-circuit protection

Mechanical data

Dimensions
Enclosure rating
Material, housing
Ambient temperature: operation
Weight

54 x 41.3 x 24 mm
IP 20
Aluminium anodised
-0 ... +55 °C
~ 100 g

IO-Link

Communication mode
Specification
Number of Ports

COM 1, COM 2, COM 3
1.1
1

Part number

Article number

Description

Sensolo¹

901-01000

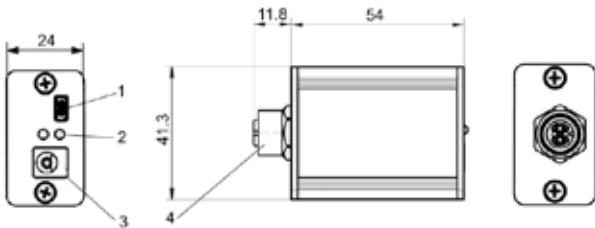
IO-Link USB-Master

¹ incl. USB-cable: USB-A to mini-USB

Accessories

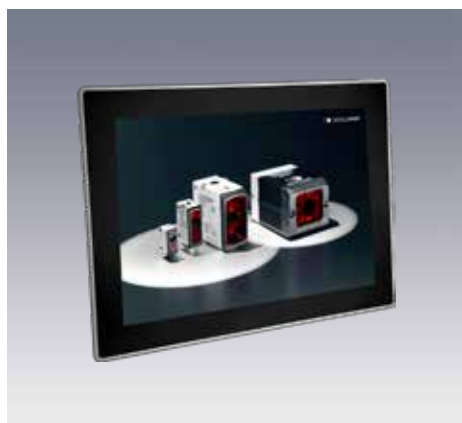
Connection cable (L4F/L4M-0,48 PUR / 902-51670)

From Page A-40

Dimensional drawing	Connection 5-pin																																				
 153-01277 1 2 3 4 1 2 3 4 1 USB 2.0 (mini USB) 2 LED 3 24V DC D5.5/2.1 mm 4 M12, Type A	 155-02036 <table><tr><th>IO-LINK</th><th>PIN</th><th>SIGNAL</th></tr><tr><td></td><td>1</td><td>24V DC</td></tr><tr><td></td><td>2</td><td>not connected</td></tr><tr><td></td><td>3</td><td>GND</td></tr><tr><td></td><td>4</td><td>IO-Link</td></tr><tr><td></td><td>5</td><td>not connected</td></tr></table><table><tr><th>USB</th><th>PIN</th><th>SIGNAL</th></tr><tr><td></td><td>1</td><td>5V DC</td></tr><tr><td></td><td>2</td><td>D-</td></tr><tr><td></td><td>3</td><td>D+</td></tr><tr><td></td><td>4</td><td>not connected</td></tr><tr><td></td><td>5</td><td>GND</td></tr></table>	IO-LINK	PIN	SIGNAL		1	24V DC		2	not connected		3	GND		4	IO-Link		5	not connected	USB	PIN	SIGNAL		1	5V DC		2	D-		3	D+		4	not connected		5	GND
IO-LINK	PIN	SIGNAL																																			
	1	24V DC																																			
	2	not connected																																			
	3	GND																																			
	4	IO-Link																																			
	5	not connected																																			
USB	PIN	SIGNAL																																			
	1	5V DC																																			
	2	D-																																			
	3	D+																																			
	4	not connected																																			
	5	GND																																			

PV-AW10IoT10.4TX(-V)

Display and configuration device for SensoPart vision sensors



PRODUCT HIGHLIGHTS

- Display and configuration device for SensoPart vision sensors and systems
- Suitable for installation in switching cabinet doors and operating panels
- Completely preconfigured

Functions

Resolution	1024 x 768
Aspect ratio	4 : 3
Technology	TFT
Colors	16.2 millions
Backlight	LED
Backlight life time	30,000 h
Luminance ¹⁾	350 cd/m²
Contrast ratio ¹⁾	1200 : 1
Operating system	Windows® 10 IoT

Electrical data

Operating voltage +U _B	24V DC ± 20 %
CPU	AMD® GX-415GA / Quad Core™ / 1.5 GHz 64 Bit / 2 MB Cache
USB	2 x USB Host 3.0
Ethernet	2 x 1 Gbit Ethernet
Communication	1 x RS232
Video	1 x DVI-I
Memory	4 GB DDR3L
Storage	64 GB MLC
BIOS	AMI BIOS, supports ACPI function

Mechanical data

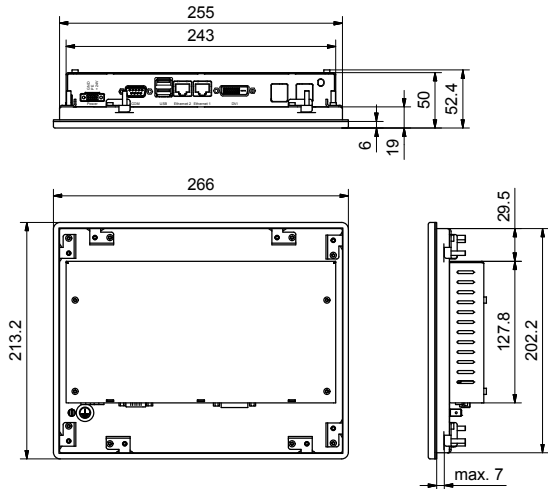
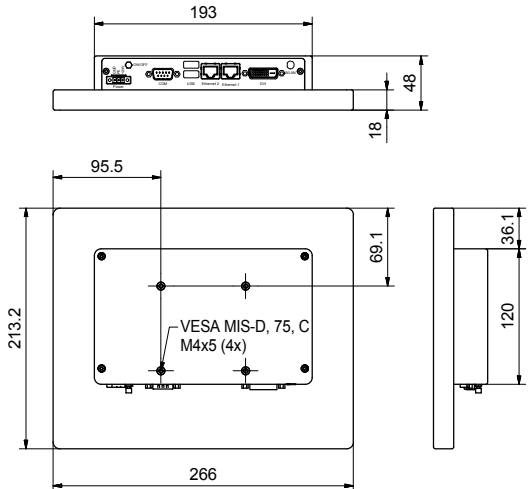
Dimensions	266 x 213.2 x 52.4 mm
Enclosure rating	IP 65
Ambient temperature: operation	0 ... +50 °C
Ambient temperature: storage	-10 ... +70 °C
Weight	1700 g

¹⁾ The values are referring to the displays only

Part number	Article number	Description
PV-AW10IoT10.4TX	533-01031	Panel PC 10.4", Win10 IoT, XGA, Touch, front panel mount
PV-AW10IoT10.4TX-V	533-01032	Panel PC 10.4", Win10 IoT, XGA, VESA mount

Accessories

Connection cable (Ethernet cable)	From Page A-40
-----------------------------------	----------------

Dimensional drawing PV-AW10loT10.4TX	Dimensional drawing PV-AW10loT10.4TX-V
 153-13536	 153-13539