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Россия +7(495)268-04-70

Казахстан +7(727) 345-47-04

Беларусь +(375) 257-127-884

Узбекистан +998(71)205-18-59

Киргизия +996(312)96-26-47

эл.почта: phb@nt-rt.ru || сайт: <https://pepperl-fuchs.nt-rt.ru/>



Accessories – Cables, connectors, mating connectors

Screw terminal connectors in M8, M12, M18 and Rd24 x 1/8:

Design	Model number	Design	Connection system	Number of pins	Conductor cross section (mm ²)	Fig.
M8	V3-G	Socket, straight	Penetration system	3-pins	0.25 ... 0.34	1
	V3-W	Socket, angled	Penetration system	3-pins	0.25 ... 0.34	2
M12	V1-G	Socket, straight	Screw terminal system, PG7 screwed connection	4-pins	max. 2.5	3
	V1-W	Socket, angled		4-pins	max. 2.5	4
	V1S-G	Connector, straight		4-pins	max. 2.5	-
	V1S-W	Angled connector		4-pins	max. 2.5	-
	V1-E-LED	LED printed circuit board (nnp)	Suitable for installation into V1-G and V1-W	-	-	-
	V1-E2-LED	LED printed circuit board (pnp)		-	-	-
	V1-G-Q2	Socket, straight	Penetration system	4-pins	0.34 ... 0.75	5
	V1S-G-Q2	Connector, straight	Penetration system	4-pins	0.34 ... 0.75	-
	V1S-W-PG9	Socket, straight	Screw terminal system	5-pins	max. 0.75	-
Rd24 x 1/8	V16-G	Rd24 x 1/8 socket, straight	Screw terminal system	6-pins + PE	max. 0.75	6
	V16S-G	Rd24 x 1/8 connector, straight	Screw terminal system	6-pins + PE	max. 0.75	-
M18	V18-G	Socket, straight	Screw terminal system	4-pins	max. 1.5	7
	V18-W	Socket, angled	Screw terminal system	4-pins	max. 1.5	8
With central screw	V-W	Socket with central screw, angled	Screw terminal system	5-pins	max. 2.5	-
	V-W-E2	Socket with central screw, angled	Screw terminal system, with integrated LED	5-pins	max. 2.5	-
	V-W-N	Socket with central screw, angled	Screw terminal system	5-pins	max. 2.5	-



Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6



Fig. 7



Fig. 8

For pin assignment see page 467

Accessories – Cables, connectors, mating connectors



Technical data for connectors with injected cable

Connectors and sockets

Rectangular housing	Number of pins	2-, 3-, 4- or 5-pin
	Settings	Screw settings
	Self-locking	with O-ring in cap nut
Cylindrical housing	Color of the body of the handle	green
	Material of the body of the handle	PUR
	Material of the contacts	CuSn/Au
Fibre optic devices	Material of the contact surface	Au
	Material of the cap nut	CuSn/Ni
	Material of the sealing ring	NBR
	Protection class as per DIN 40050	IP68 in screwed state
	Max. operating voltage	60 V DC or 250 V AC (for V13-... types)
Fork type sensors	Max. operating current	4 A
	Contact resistance	< 5 mΩ
	Insulation resistance	as per VDE 0295
	Test voltage	1500 V _{eff.} AC, 50 Hz

Lead

Vision systems	Lead structure	fine wires, flexible
	Conductor cross-section	Leads for M12 connections: 0.34 mm ² for NAMUR cable sockets, however: 0.50 mm ² Leads for M8 connections: 0.25 mm ²
	Color of coating	black for M12 and gray for M8
Sensors for hazardous areas	Temperature range for PVC leads	with motion: -5 °C to +70 °C with no motion: -30 °C to +80 °C
	Temperature range for PUR leads ¹⁾	with motion: -5 °C to +70 °C with no motion: -30 °C to +100 °C
Light grids	Minimum permissible bending radius	> 10 x diameter of the lead
	Diameter of coating	Ø4.6 mm for M8 and Ø4.8 mm for M12, but Ø5.2 mm for 5-pin design
	Material of the conductor insulation	PVC
Optical data coupler	Conductor colors as per VDE 293	2-pin: BN, BU 3-pin: BN, BU, BK 4-pin: BN, BU, BK, WH 5-pin: BN, BU, BK, WH, GY

¹⁾ For PUR cables, reduced mechanical values must be taken into consideration for temperatures above +80 °C.



Accessories – Cables, connectors, mating connectors

Cable sockets in M8 design with metal cap nut ¹⁾

Suitable for sensors using 2, 3 and 4-wire system						
Cable coating	Length	No. of conductors	Ø (mm ²)	Design straight	Design angled	Design angled with 2 LEDs
PUR, gray	2 m	3	0.25			V3-WM-E2-2M-PUR
	5 m	3	0.25	V3-GM-5M-PUR	V3-WM-5M-PUR	V3-WM-E2-5M-PUR
	10 m	3	0.25			V3-WM-E2-10M-PUR
PVC, gray	2 m	3	0.25	V3-GM-2M-PVC	V3-WM-2M-PVC	
	5 m	3	0.25	V3-GM-5M-PVC	V3-WM-5M-PVC	
	10 m	3	0.25	V3-GM-10M-PVC	V3-WM-10M-PVC	
PUR, gray	2 m	4	0.25			
	5 m	4	0.25	V31-GM-5M-PUR	V31-WM-5M-PUR	
	10 m	4	0.25			
PVC, gray	2 m	4	0.25	V31-GM-2M-PVC	V31-WM-2M-PVC	
	5 m	4	0.25	V31-GM-5M-PVC	V31-WM-5M-PVC	
	10 m	4	0.25	V31-GM-10M-PVC	V31-WM-10M-PVC	

¹⁾ M8 cable sockets with locknuts on request.

For pin assignment see page 467

Cable sockets in M12 variant for NAMUR sensors

Suitable for NAMUR sensors Handles and cable coating in blue					
Cable coating	Length	No. of conductors	Ø (mm ²)	Design straight	Design angled
PVC, blue	5 m	4	0.5		V1-W-N4-5M-PVC
	10 m	4	0.5		V1-W-N4-10M-PVC
PUR, blue	2 m	2	0.5	V1-G-N-2M-PUR	V1-W-N-2M-PUR
	5 m	2	0.5	V1-G-N-5M-PUR	V1-W-N-5M-PUR
	10 m	2	0.5	V1-G-N-10M-PUR	V1-W-N-10M-PUR

For pin assignment see page 467

Accessories – Cables, connectors, mating connectors



Cable connectors in M12 variant for DC sensors

Suitable for DC sensors using 2, 3 and 4-wire system						
Cable coating	Length	No. of conductors	Ø (mm ²)	Design straight	Design angled	Design angled with 2 LEDs
PVC, black	2 m	4	0.34	V1-G-2M-PVC	V1-W-2M-PVC	
	5 m	4	0.34	V1-G-5M-PVC	V1-W-5M-PVC	
	10 m	4	0.34	V1-G-10M-PVC	V1-W-10M-PVC	
PUR, black	2 m	4	0.34	V1-G-2M-PUR	V1-W-2M-PUR	V1-W-A2-2M-PUR
	5 m	4	0.34	V1-G-5M-PUR	V1-W-5M-PUR	V1-W-A2-5M-PUR V1-A0-5M-PUR V1-W-E2/E3-5M-PUR
	10 m	4	0.34	V1-G-10M-PUR	V1-W-10M-PUR	V1-W-A2-10M-PUR
PUR, black	2 m	3	0.34			V1-W-E2-2M-PUR
	5 m	3	0.34			V1-W-E2-5M-PUR V1-W-E-5M-PUR
	10 m	3	0.34			V1-W-E2-10M-PUR
PVC, black	2 m	5	0.34	V15-G-2M-PVC	V15-W-2M-PVC	
	5 m	5	0.34	V15-G-5M-PVC	V15-W-5M-PVC	
	10 m	5	0.34	V15-G-10M-PVC	V15-W-10M-PVC	
PUR, black	2 m	5	0.25		V15-W-2M-PUR	
	5 m	5	0.25		V15-W-5M-PUR	

For pin assignment see page 467

M12 connector cables in PUR 4 x 0.34 mm², black coating

Suitable for all DC sensors using 2, 3 and 4-wire system				
	Connector, straight	Length	Socket, straight	Socket, angled
		1 m	V1-G-1M-PUR-V1-G	V1-W-1M-PUR-V1-G
		2 m	V1-G-2M-PUR-V1-G	V1-W-2M-PUR-V1-G
		5 m	V1-G-5M-PUR-V1-G	V1-W-5M-PUR-V1-G

For pin assignment see page 467

These connection cables can be used together with DC proximity switches using 2, 3 and 4-wire systems.



Accessories – Cables, connectors, mating connectors

Electrical connection accessories for AS Interface

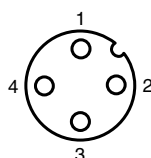
Model number	Description	Illustration
VAZ-FK-CL1	Fastening clip for mechanical fastening of the AS Interface flat cable over a rear adhesive strip	
VAZ-2FK-B1	Distributor for 2 AS Interface flat cables in protection class IP65 with screw fasteners	
VAZ-T1-FK-V1	M12 x 1 cable connection to the AS-Interface flat cable with protection class IP67, spring terminals and screw fixing	
VAZ-G6F-V1	M12 x 1 cable connection to the AS-Interface flat cable with protection class IP67 and screw fixing	
VAZ-G6F-W2M	2 m cable output with 2 x 1.5 mm ² conductor cross-section from the AS-Interface flat cable for connecting AS-Interface-capable sensors with protection class IP67	
VAZ-T1-FK-PG9	Cable connection for AS-Interface flat cable on PG9 screwed connection with protection class IP67	
VAZ-T1-FK-PG13.5	Cable connection for AS-Interface flat cable on PG13.5 screwed connection with protection class IP67	
VAZ-T1-G2F	Assembled cable output housing from AS-Interface flat cable with protection class IP52 for conductor cross-sections 0.14 mm ² ... 0.34 mm ² and diameter of coating between 5 mm and 6 mm	
VAZ-2T1-FK-V1	2 m cable output with ready to use assembled M12 x 1 cable socket from AS-Interface flat cable with parallel power supply	without illustration

Conductor colors and connection assignment (EN 60947-5-2)

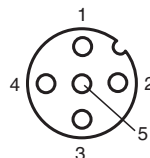
Color assignment for pre-assembled mating connectors V1, V15, V3:

Pin	Color	Abbreviation
1	Brown	BN
2	White	WH
3	Blue	BU
4	Black	BK
5	Gray	GY

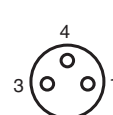
Steckverbindung -V1
(Rundsteckverbindung M12)



Steckverbindung -V15
(Rundsteckverbindung M12)



Steckverbindung -V3
(Rundsteckverbindung M8)



Accessories – Cables, connectors, mating connectors



Special connector cable/connection accessories:

Connector cables for VCS110 color sensor			
Model number	Description	Cable length	Color assignment
V17-G-2M-PUR	M12 connector plug, 8-pin, straight, with metal cap nut and PUR cable (7 x 0.25 mm ²)	2 m	1 WH 2 BN 3 GN 4 YE 5 GY 6 PK 7 BU 8 Shielding
V17-G-5M-PUR		5 m	
V17-G-10M-PUR		10 m	
V15-G-2M-PUR	M12 connector plug, 5-pin, straight, with metal cap nut and PUR cable (5 x 0.34 mm ²)	2 m	1 BK 2 BU 3 BN 4 WH 5 GY
V15-G-5M-PUR		5 m	
V15-G-10M-PUR		10 m	

Connector cables for EDM-EHB-5-R distance sensor			
Model number	Description	Cable length	Color assignment
KBL-F62	M12 all-metal plug, 4-pin, straight, shielded (cable shield is connected to the all-metal plug)	1,20 m	

Connector cable for PR16-A light grid			
Model number	Description	Cable length	Color assignment
V18-PR-ASK-VIS-P	Connector plug, 7-pin, straight	10 m	
V18-PR-VERB-VIS-P	Connector cable, 7-pin, straight	4 m	

Connection accessories for LS610-DA data transmission light beam switches			
Model number	Description	Cable length	Color assignment
V15-SBG	M12 customizable plug, 5-pin, B-coded with shielded metal housing	-	
V15-B-G	M12 customizable cable socket, 5-pin, B-coded with shielded metal housing	-	

Connection accessories for LS610-DA-P (Profibus) data transmission light beam switches			
Model number	Description	Cable length	Color assignment
ICZ-TR-V15B	Profibus terminating impedance for M12 plug, B-coded	-	
ICZ-3T-V15B	Profibus T connector for M12 plug, B-coded	-	
ICZ-3T-0,2M-PUR ABG-V15-G	Profibus Y connection cable for M12 plug, B-coded	0,20 m	

Connection cable for light beam switches ML29			
Model number	Description	Cable length	Color assignment
	ML29 coupler socket, 4-pin	3 m	
	ML29 coupler socket, 4-pin	6 m	



Accessories – Cables, connectors, mating connectors

Type code for mating connectors

V1-W-2M-PVC	_____	– Cable material	– PVC – PUR
	_____	– Cable length	– 2 m – 5 m – Additional lengths available on request
	_____	– Cable exit	– W angled – G straight – WM angled, cap nut – WR angled, clasp lock – GR straight, clasp lock
	_____	– Connection method	– V1 M12 x 1, 4-pin, DC – V1S M12 x 1, 4-pin, DC, connector – V15 M12 x 1, 5-pin, DC

Type code for connection cable

V1-G-5M-PUR-V1-G	_____	– straight
	_____	– V1 connector M12 x 1, 4-pin

Miniature sensors

Rectangular housing

Cylindrical housing

Fibre optic devices

Fork type sensors

Contrast sensors, Color sensors

Vision systems

Sensors for hazardous areas

Light grids

Optical data coupler

Distance measurement

Accessories

Accessories



Model Number

REFLEKTOR H40

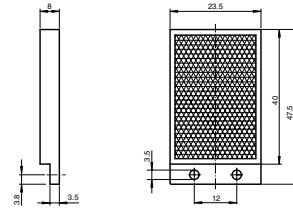
Reflector, rectangular 47.5 mm x 23.5 mm, mounting holes, fixing strap



Technical Data

General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	47.5 mm x 23.5 mm x 8 mm
Mounting	mounting holes

Dimensions



Model Number

REFLEKTOR H48

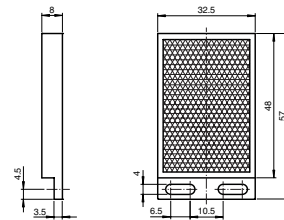
Reflector, rectangular 32.5 mm x 57 mm, mounting holes, fixing strap



Technical Data

General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	32.5 mm x 57 mm x 8 mm
Mounting	mounting holes

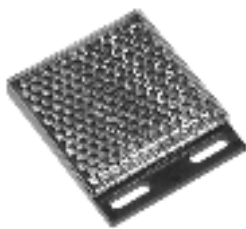
Dimensions



Model Number

REFLEKTOR H50

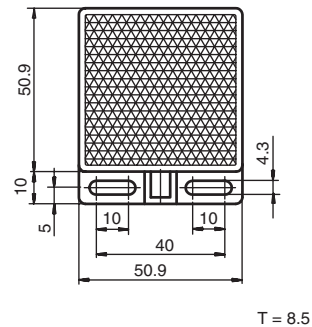
Reflector, rectangular 50.9 mm x 60.9 mm, mounting holes, fixing strap



Technical Data

General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	50.9 mm x 50.9 mm x 8.5 mm
Mounting	mounting holes

Dimensions



Model Number

REFLEKTOR H60

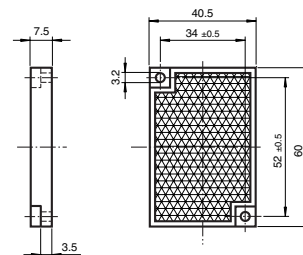
Reflector, rectangular 40.5 mm x 60 mm, mounting holes



Technical Data

General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	60 mm x 40.5 mm x 7.5 mm
Mounting	mounting holes

Dimensions





Accessories

Miniature sensors

Rectangular housing

Cylindrical housing

Fibre optic devices

Fork type sensors

Contrast sensors, Color sensors

Vision systems

Sensors for hazardous areas

Light grids

Optical data coupler

Distance measurement

Accessories

Model Number

REFLEKTOR H65

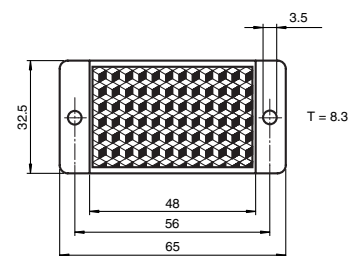
Reflector, rectangular 65 mm x 32.5 mm, mounting holes



Technical Data

General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	65 mm x 32.5 mm x 8.3 mm
Mounting	mounting holes

Dimensions



Model Number

REFLEKTOR H72

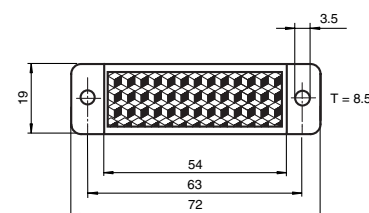
Reflector, rectangular 72 mm x 19 mm, mounting holes



Technical Data

General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	72 mm x 19 mm x 8.5 mm
Mounting	mounting holes

Dimensions



Model Number

REFLEKTOR H75

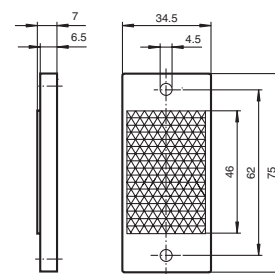
Reflector, rectangular 75 mm x 34.5 mm, mounting holes



Technical Data

General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	75 mm x 34.5 mm x 7 mm
Mounting	mounting holes

Dimensions



Accessories

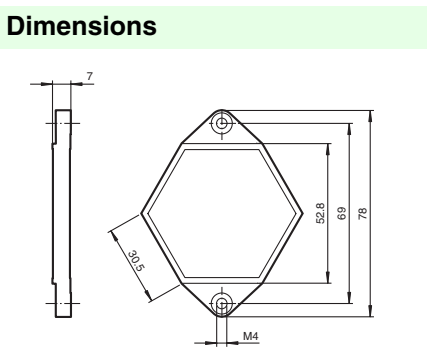


Model Number

REFLEKTOR H78

Reflector, hexagonal 78 mm x 61 mm, mounting holes

Technical Data	
General specifications	
Construction type	hexagonal
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	78 mm x 61 mm x 7 mm
Mounting	mounting holes

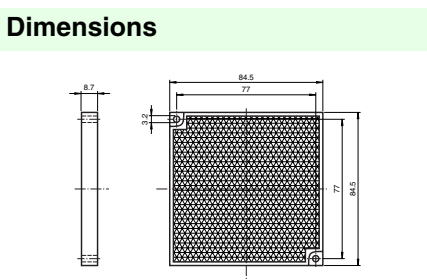


Model Number

REFLEKTOR H85

Reflector, rectangular 84.5 mm x 84.5 mm, mounting holes

Technical Data	
General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	84.5 mm x 84.5 mm x 8.7 mm
Mounting	mounting holes

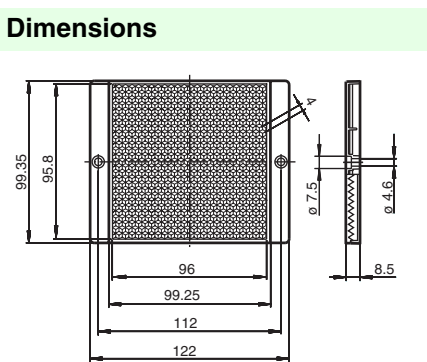


Model Number

REFLEKTOR H100

Reflector, rectangular 124.6 mm x 103.1 mm, mounting holes

Technical Data	
General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-40 ... 70 °C (233 ... 343 K)
Mechanical specifications	
Material	PMMA
Dimensions	122 mm x 99.35 mm x 8.5 mm
Mounting	mounting holes





Accessories

Miniature sensors

Rectangular housing

Cylindrical housing

Fibre optic devices

Fork type sensors

Contrast sensors, Color sensors

Vision systems

Sensors for hazardous areas

Light grids

Optical data coupler

Distance measurement

Accessories

Model Number

REFLEKTOR H180

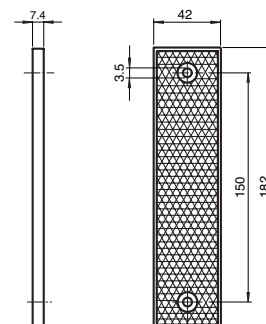
Reflector, rectangular 180 mm x 40 mm, mounting holes



Technical Data

General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	180 mm x 40 mm x 7.4 mm
Mounting	mounting holes

Dimensions



Model Number

REFLEKTOR C110-2

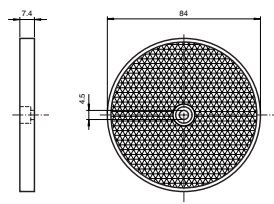
Reflector, round ø 84 mm, central mounting hole



Technical Data

General specifications	
Construction type	round
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	Diameter: 84 mm
Mounting	mounting hole

Dimensions



Model Number

REFLEKTOR H160

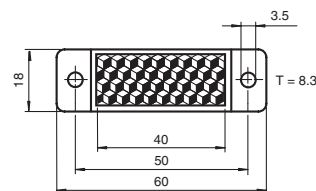
Reflector, rectangular 60 mm x 18 mm, mounting holes



Technical Data

General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	60 mm x 18 mm x 8.3 mm
Mounting	mounting holes

Dimensions



Miniature sensors
Rectangular housing
Cylindrical housing
Fibre optic devices
Fork type sensors
Contrast sensors, Color sensors
Vision systems
Sensors for hazardous areas
Light grids
Optical data coupler
Distance measurement
Accessories

Accessories



Model Number

REFLEKTOR VR10

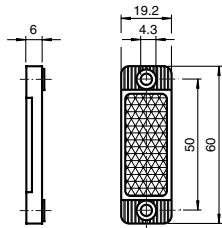
Reflector, rectangular 60 mm x 19 mm, mounting holes



Technical Data

General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	60 mm x 19 mm x 6 mm
Mounting	mounting holes

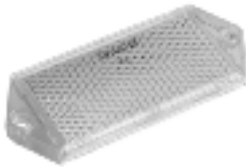
Dimensions



Model Number

REFLEKTOR H116HT

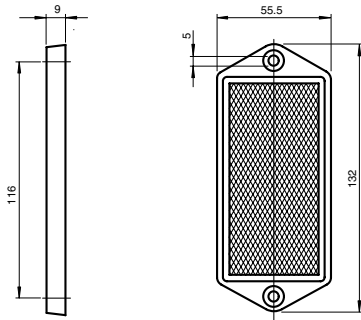
Reflector, rectangular 55.5 mm x 132 mm, mounting holes, high temperature applications



Technical Data

General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 110 °C (253 ... 383 K)
Mechanical specifications	
Dimensions	55.5 mm x 132 mm x 9 mm
Mounting	mounting holes

Dimensions



Model Number

REFLEKTOR ORR50G

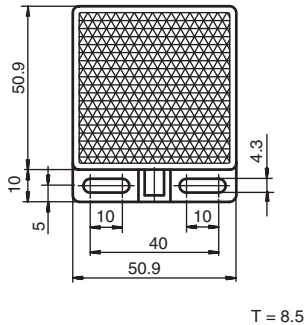
Reflector, rectangular 50.9 mm x 50.9 mm, mounting holes, fixing strap and Polarisation filter



Technical Data

General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	0 ... 50 °C (273 ... 323 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	50.9 mm x 50.9 mm x 8.5 mm
Mounting	mounting holes

Dimensions





Accessories

Miniature sensors

Rectangular housing

Cylindrical housing

Fibre optic devices

Fork type sensors

Contrast sensors, Color sensors

Vision systems

Sensors for hazardous areas

Light grids

Optical data coupler

Distance measurement

Accessories

Model Number

REFLEKTOR A80

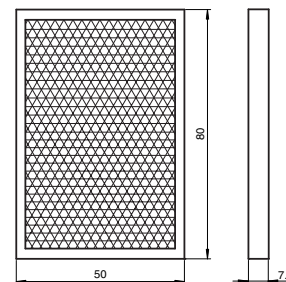
Reflector, rectangular 80 mm x 50 mm, self-adhesive



Technical Data

General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	80 mm x 50 mm x 7.2 mm
Mounting	self-adhesive

Dimensions



Model Number

REFLEKTOR A48

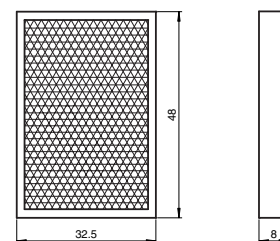
Reflector, rectangular 48 mm x 32.5 mm, self-adhesive



Technical Data

General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	48 mm x 32.5 mm x 8 mm
Mounting	self-adhesive

Dimensions



Model Number

REFLEKTOR A46

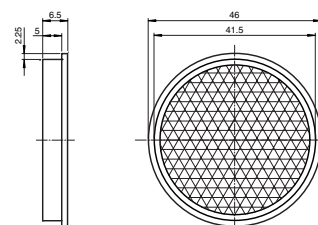
Reflector, round ø 46 mm, self-adhesive



Technical Data

General specifications	
Construction type	round
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	Diameter: 46 mm
Mounting	self-adhesive

Dimensions



Accessories																			
Miniature sensors	Model Number REFLEKTOR A35 Reflector, round ø 35 mm, self-ahesive	Technical Data <table><tr><td colspan="2">General specifications</td></tr><tr><td>Construction type</td><td>round</td></tr><tr><td colspan="2">Ambient conditions</td></tr><tr><td>Ambient temperature</td><td>-20 ... 85 °C (253 ... 358 K)</td></tr><tr><td colspan="2">Mechanical specifications</td></tr><tr><td>Material</td><td>PMMA/ABS</td></tr><tr><td>Dimensions</td><td>Diameter: 35 mm</td></tr><tr><td>Mounting</td><td>self-adhesive</td></tr></table>	General specifications		Construction type	round	Ambient conditions		Ambient temperature	-20 ... 85 °C (253 ... 358 K)	Mechanical specifications		Material	PMMA/ABS	Dimensions	Diameter: 35 mm	Mounting	self-adhesive	Dimensions
	General specifications																		
Construction type	round																		
Ambient conditions																			
Ambient temperature	-20 ... 85 °C (253 ... 358 K)																		
Mechanical specifications																			
Material	PMMA/ABS																		
Dimensions	Diameter: 35 mm																		
Mounting	self-adhesive																		
Rectangular housing																			
Cylindrical housing																			
Fibre optic devices	Model Number REFLEKTOR A25 Reflector, round ø 25 mm, self-ahesive	Technical Data <table><tr><td colspan="2">General specifications</td></tr><tr><td>Construction type</td><td>round</td></tr><tr><td colspan="2">Ambient conditions</td></tr><tr><td>Ambient temperature</td><td>-20 ... 85 °C (253 ... 358 K)</td></tr><tr><td colspan="2">Mechanical specifications</td></tr><tr><td>Material</td><td>PMMA/ABS</td></tr><tr><td>Dimensions</td><td>Diameter: 25 mm</td></tr><tr><td>Mounting</td><td>self-adhesive</td></tr></table>	General specifications		Construction type	round	Ambient conditions		Ambient temperature	-20 ... 85 °C (253 ... 358 K)	Mechanical specifications		Material	PMMA/ABS	Dimensions	Diameter: 25 mm	Mounting	self-adhesive	Dimensions
	General specifications																		
Construction type	round																		
Ambient conditions																			
Ambient temperature	-20 ... 85 °C (253 ... 358 K)																		
Mechanical specifications																			
Material	PMMA/ABS																		
Dimensions	Diameter: 25 mm																		
Mounting	self-adhesive																		
Fork type sensors																			
Contrast sensors, Color sensors																			
Vision systems	Model Number REFLEKTOR A17 Reflector, round ø 20.5 mm, self-ahesive	Technical Data <table><tr><td colspan="2">General specifications</td></tr><tr><td>Construction type</td><td>round</td></tr><tr><td colspan="2">Ambient conditions</td></tr><tr><td>Ambient temperature</td><td>-20 ... 85 °C (253 ... 358 K)</td></tr><tr><td colspan="2">Mechanical specifications</td></tr><tr><td>Material</td><td>PMMA/ABS</td></tr><tr><td>Dimensions</td><td>Diameter: 20.5 mm</td></tr><tr><td>Mounting</td><td>self-adhesive</td></tr></table>	General specifications		Construction type	round	Ambient conditions		Ambient temperature	-20 ... 85 °C (253 ... 358 K)	Mechanical specifications		Material	PMMA/ABS	Dimensions	Diameter: 20.5 mm	Mounting	self-adhesive	Dimensions
	General specifications																		
Construction type	round																		
Ambient conditions																			
Ambient temperature	-20 ... 85 °C (253 ... 358 K)																		
Mechanical specifications																			
Material	PMMA/ABS																		
Dimensions	Diameter: 20.5 mm																		
Mounting	self-adhesive																		
Sensors for hazardous areas																			
Light grids																			
Optical data coupler																			
Distance measurement																			
Accessories																			



Accessories

Miniature sensors

Rectangular housing

Cylindrical housing

Fibre optic devices

Fork type sensors

Contrast sensors, Color sensors

Vision systems

Sensors for hazardous areas

Light grids

Optical data coupler

Distance measurement

Accessories

Model Number

REFLEKTOR S42

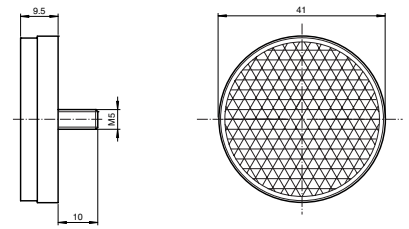
Reflector, round $\varnothing$ 42 mm, screw fixing M5



Technical Data

General specifications	
Construction type	round
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	Diameter: 42 mm
Mounting	screw fixing

Dimensions



Model Number

REFLEKTOR S25

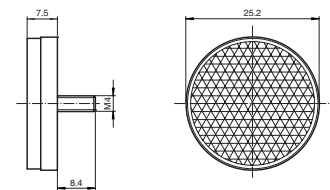
Reflector, round $\varnothing$ 25 mm, screw fixing M4



Technical Data

General specifications	
Construction type	round
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	Diameter: 25 mm
Mounting	screw fixing

Dimensions



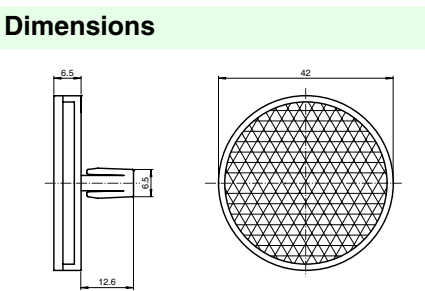
Accessories



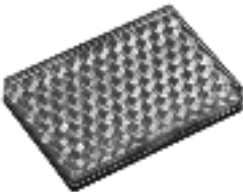
Model Number
REFLEKTOR Clip42
 Reflector, round ø 42 mm, plug-in



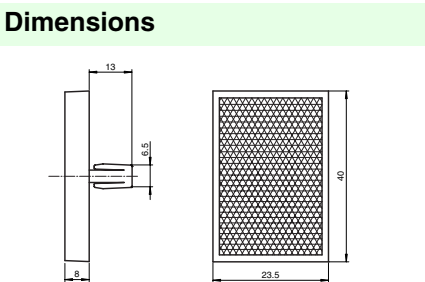
Technical Data	
General specifications	
Construction type	round
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	Diameter: 42 mm
Mounting	rivet Ø = 6.5 mm



Model Number
REFLEKTOR Clip40
 Reflector, rectangular 40 mm x 23.5 mm, plug-in



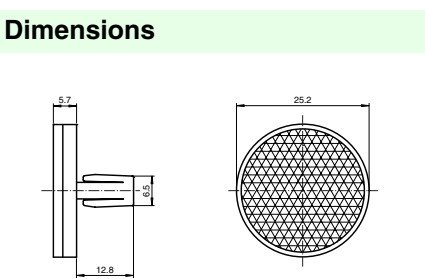
Technical Data	
General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	40 mm x 23.5 mm x 8 mm
Mounting	rivet Ø = 6.5 mm



Model Number
REFLEKTOR Clip25
 Reflector, round ø 25.2 mm, plug-in



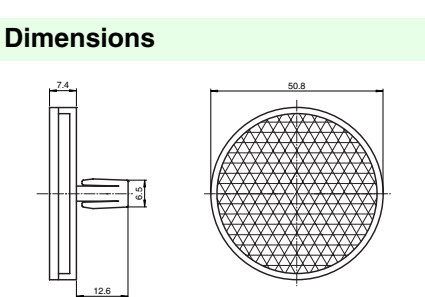
Technical Data	
General specifications	
Construction type	round
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	Diameter: 25.2 mm
Mounting	rivet Ø = 6.5 mm



Model Number
REFLEKTOR Clip 50HT
 Reflector, round ø 50 mm, plug-in, high temperature applications



Technical Data	
General specifications	
Construction type	round
Ambient conditions	
Ambient temperature	-20 ... 110 °C (253 ... 383 K)
Mechanical specifications	
Dimensions	Diameter: 50 mm
Mounting	rivet Ø = 6.5 mm





Accessories

Miniature sensors

Rectangular housing

Cylindrical housing

Fibre optic devices

Fork type sensors

Contrast sensors, Color sensors

Vision systems

Sensors for hazardous areas

Light grids

Optical data coupler

Distance measurement

Accessories

Model Number

REFLEKTOR MA21

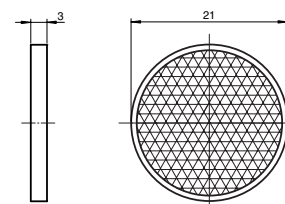
Reflector with Micro-structure, round $\varnothing$ 21 mm, self-adhesive



Technical Data

General specifications	
Construction type	round
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	Diameter: 21 mm
Mounting	self-adhesive

Dimensions



Model Number

REFLEKTOR MA50

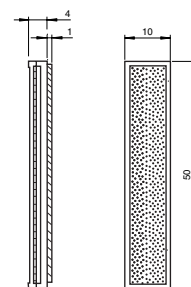
Reflector with Micro-structure, rectangular 10 mm x 50 mm, self-adhesive



Technical Data

General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	10 mm x 50 mm x 5 mm
Mounting	self-adhesive

Dimensions



Model Number

REFLEKTOR MCLIP 15HT

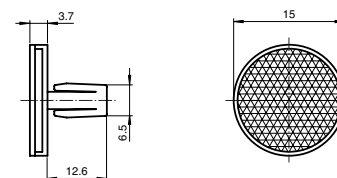
Reflector with Micro-structure, round $\varnothing$ 15 mm, plug-in, high temperature applications



Technical Data

General specifications	
Construction type	round
Ambient conditions	
Ambient temperature	-20 ... 110 °C (253 ... 383 K)
Mechanical specifications	
Dimensions	Diameter: 15 mm
Mounting	rivet $\varnothing$ = 6.5 mm

Dimensions



Model Number

REFLEKTOR MCLIP 21

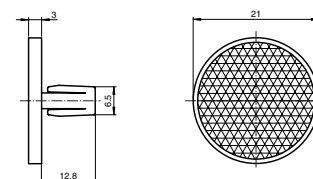
Reflector with Micro-structure, round $\varnothing$ 21 mm, plug-in



Technical Data

General specifications	
Construction type	round
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	Diameter: 21 mm
Mounting	rivet $\varnothing$ = 6.5 mm

Dimensions

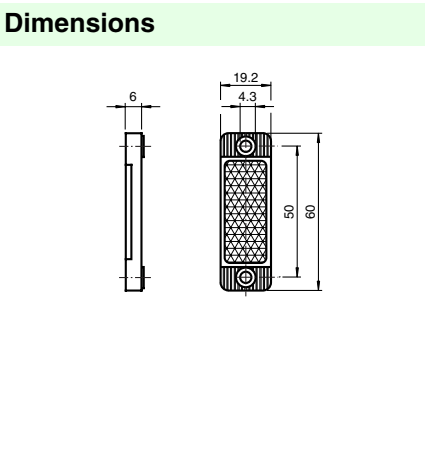


Accessories



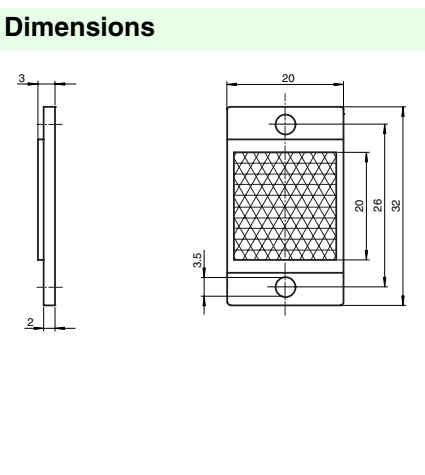
Model Number
REFLEKTOR VR10-2
Reflector with mounting holes

Technical Data	
General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	60 mm x 19 mm x 6 mm
Mounting	mounting holes



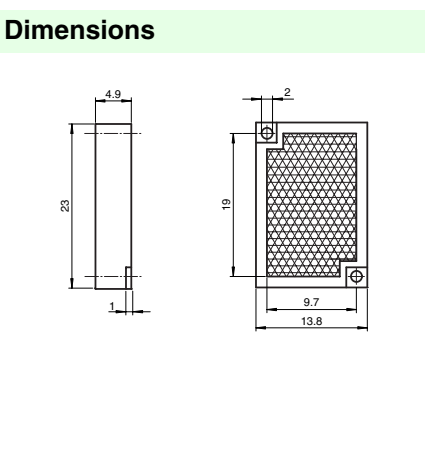
Model Number
REFLEKTOR MH20
Reflector with Micro-structure, rectangular 32 mm x 20 mm, mounting holes

Technical Data	
General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	32 mm x 20 mm x 3 mm
Mounting	mounting holes



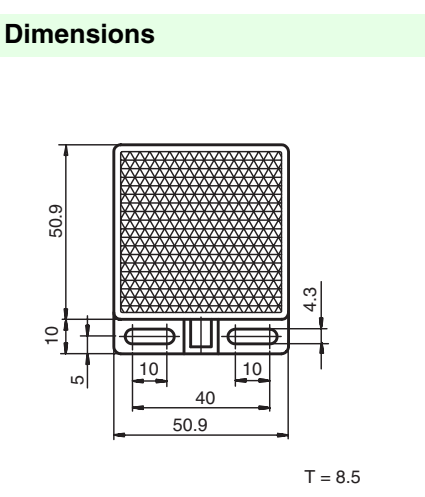
Model Number
REFLEKTOR MH23
Reflector with Micro-structure, rectangular 23 mm x 13.8 mm, diagonal mounting hole

Technical Data	
General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	23 mm x 13.8 mm x 4.9 mm
Mounting	mounting holes



Model Number
REFLEKTOR MH50
Reflector with Micro-structure, rectangular 50.9 mm x 50.9 mm, mounting holes, fixing strap

Technical Data	
General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	50.9 mm x 50.9 mm x 8.5 mm
Mounting	mounting holes



T = 8.5



Accessories

Miniature sensors

Rectangular housing

Cylindrical housing

Fibre optic devices

Fork type sensors

Contrast sensors, Color sensors

Vision systems

Sensors for hazardous areas

Light grids

Optical data coupler

Distance measurement

Accessories

Model Number

REFLEKTOR MH56

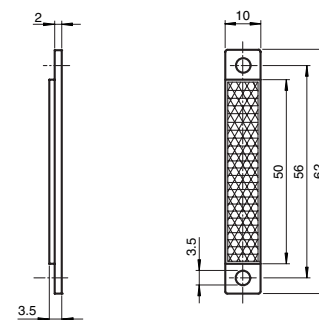
Reflector with Micro-structure, rectangular 62 mm x 10 mm, mounting holes



Technical Data

General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	62 mm x 10 mm x 3.5 mm
Mounting	mounting holes

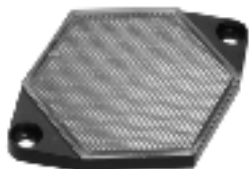
Dimensions



Model Number

REFLEKTOR MH78

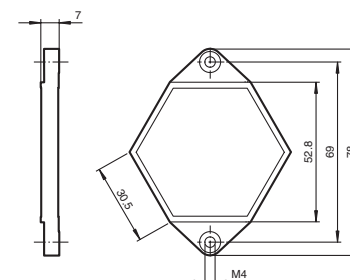
Reflector with Micro-structure, hexagonal 78 mm x 61 mm, mounting holes



Technical Data

General specifications	
Construction type	hexagonal
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	78 mm x 61 mm x 7 mm
Mounting	mounting holes

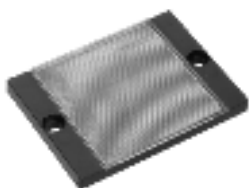
Dimensions



Model Number

REFLEKTOR MH82

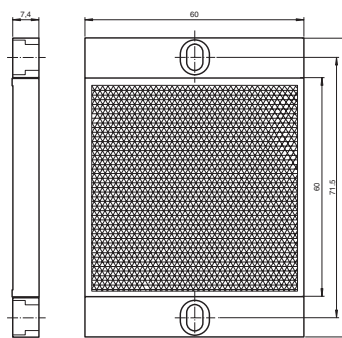
Reflector with Micro-structure, rectangular 82 mm x 60 mm, mounting holes



Technical Data

General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	82 mm x 60 mm 7.4 mm
Mounting	mounting holes

Dimensions



Model Number

REFLEKTOR MS21

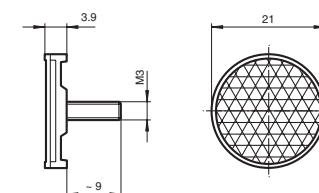
Reflector with Micro-structure, round ø 21 mm, screw fixing M3



Technical Data

General specifications	
Construction type	round
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	PMMA/ABS
Dimensions	Diameter: 21 mm
Mounting	screw fixing

Dimensions



Accessories



Model Number

REFLEKTOR HEATER 120

Reflector, rectangular 120 mm x 51 mm, mounting holes, heatable 24 V DC

Technical Data	
General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-48 ... 70 °C (225 ... 343 K)
Mechanical specifications	
Dimensions	119 mm x 51,5 mm x 27 mm
Mounting	mounting holes
Connection	connector M12 x 1, 4-pin
Electrical specifications	
Operating voltage	24 V DC

Dimensions

Model Number

OFR-100/100

Reflector foil Diamond Grade 100 mm x 100 mm

Technical Data	
General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	Diamond Grade
Dimensions	100 mm x 100 mm
Mounting	self-adhesive

Model Number

OFR-A4

Reflector foil Diamond Grade DIN A4

Technical Data	
General specifications	
Construction type	rectangular
Ambient conditions	
Ambient temperature	-20 ... 85 °C (253 ... 358 K)
Mechanical specifications	
Material	Diamond Grade
Dimensions	297 mm x 210 mm
Mounting	self-adhesive

Model Number

Linsenreflektor 140

Lens reflector for distance sensors

Technical Data	
Suitable series	
Series	EDM , VDM

Dimensions



Accessories

Miniature sensors

Rectangular housing

Cylindrical housing

Fibre optic devices

Fork type sensors

Contrast sensors, Color sensors

Vision systems

Sensors for hazardous areas

Light grids

Optical data coupler

Distance measurement

Accessories

Model Number

OMH-4.1

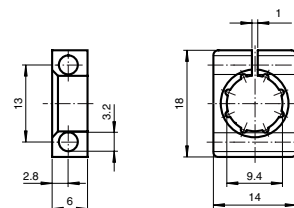
Fixation clamp



Technical Data

Mechanical specifications	
Material	plastic
Dimensions	14 mm x 18 mm x 6 mm
Mass	approx. 2 g
Suitable series	
Series	ML4.1 ML4.2 ML6

Dimensions



Model Number

OMH-ML6

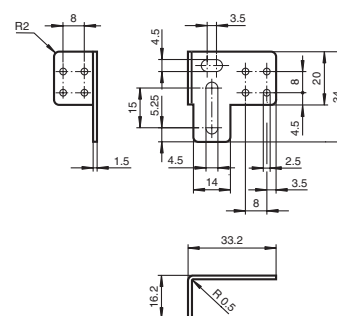
Mounting bracket



Technical Data

Mechanical specifications	
Material	stainless steel, nickel-plated
Mass	approx. 10 g
Suitable series	
Series	ML6 ML4.1 ML4.2

Dimensions



Model Number

OMH-ML6-Z

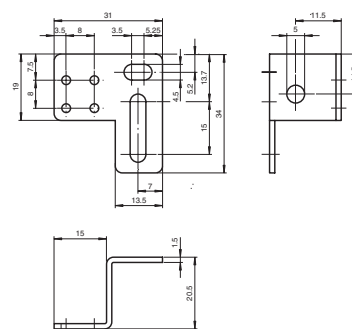
Mounting bracket



Technical Data

Mechanical specifications	
Material	stainless steel, nickel-plated
Suitable series	
Series	ML6 ML4.1 ML4.2

Dimensions



Model Number

OMH-ML6-U

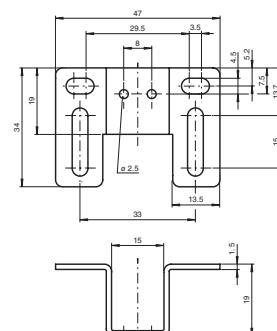
Mounting bracket



Technical Data

Mechanical specifications	
Material	stainless steel, nickel-plated
Suitable series	
Series	ML6 ML4.1 ML4.2

Dimensions



Accessories														
	Model Number OMH-ML5 Mounting bracket for series ML5 sensors	Technical Data <table> <tr> <td colspan="2">Mechanical specifications</td></tr> <tr> <td>Material</td><td>Stainless steel</td></tr> <tr> <td>Mass</td><td>approx. 10 g</td></tr> <tr> <td colspan="2">Suitable series</td></tr> <tr> <td>Series</td><td>ML5</td></tr> </table>	Mechanical specifications		Material	Stainless steel	Mass	approx. 10 g	Suitable series		Series	ML5	Dimensions	
Mechanical specifications														
Material	Stainless steel													
Mass	approx. 10 g													
Suitable series														
Series	ML5													
Model Number OMH-ML7-01 Mounting bracket	Technical Data <table> <tr> <td colspan="2">Mechanical specifications</td></tr> <tr> <td>Material</td><td>Stainless steel</td></tr> <tr> <td>Mounting</td><td>Mounting accessories included</td></tr> <tr> <td>Mass</td><td>approx. 15 g</td></tr> <tr> <td colspan="2">Suitable series</td></tr> <tr> <td>Series</td><td>ML7 ML8</td></tr> </table>	Mechanical specifications		Material	Stainless steel	Mounting	Mounting accessories included	Mass	approx. 15 g	Suitable series		Series	ML7 ML8	Dimensions
Mechanical specifications														
Material	Stainless steel													
Mounting	Mounting accessories included													
Mass	approx. 15 g													
Suitable series														
Series	ML7 ML8													
Model Number OMH-ML7-02 Mounting bracket	Technical Data <table> <tr> <td colspan="2">Mechanical specifications</td></tr> <tr> <td>Material</td><td>Stainless steel</td></tr> <tr> <td>Mounting</td><td>Mounting accessories included</td></tr> <tr> <td>Mass</td><td>approx. 8 g</td></tr> <tr> <td colspan="2">Suitable series</td></tr> <tr> <td>Series</td><td>ML71 ML8</td></tr> </table>	Mechanical specifications		Material	Stainless steel	Mounting	Mounting accessories included	Mass	approx. 8 g	Suitable series		Series	ML71 ML8	Dimensions
Mechanical specifications														
Material	Stainless steel													
Mounting	Mounting accessories included													
Mass	approx. 8 g													
Suitable series														
Series	ML71 ML8													
	Model Number OMH-ML7-03 Fixing plate	Technical Data <table> <tr> <td colspan="2">Mechanical specifications</td></tr> <tr> <td>Material</td><td>Stainless steel</td></tr> <tr> <td>Mass</td><td>approx. 5 g</td></tr> <tr> <td colspan="2">Suitable series</td></tr> <tr> <td>Series</td><td>ML7 ML71 ML8</td></tr> </table>	Mechanical specifications		Material	Stainless steel	Mass	approx. 5 g	Suitable series		Series	ML7 ML71 ML8	Dimensions	
Mechanical specifications														
Material	Stainless steel													
Mass	approx. 5 g													
Suitable series														
Series	ML7 ML71 ML8													



Accessories

Miniature sensors
Rectangular housing
Cylindrical housing
Fibre optic devices
Fork type sensors
Contrast sensors, Color sensors
Vision systems
Sensors for hazardous areas
Light grids
Optical data coupler
Distance measurement
Accessories

Model Number

Montagekit OMH-ML7-01

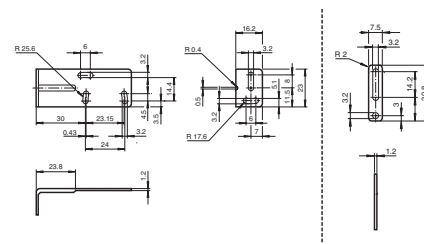
Mounting set consisting of bracket OMH-ML-01 sheet ONH-ML7-03, and fastening material



Technical Data

Mechanical specifications	
Material	Stainless steel
Mounting	Mounting accessories included
Mass	approx. 30 g
Suitable series	
Series	ML7 ML71 ML8

Dimensions



Model Number

Montagekit OMH-ML7-02

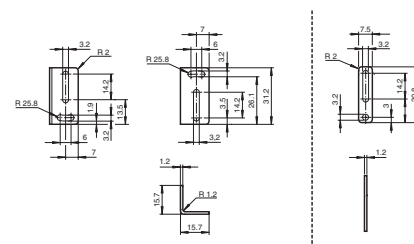
Mounting set consisting of bracket OMH-ML-02 sheet ONH-ML7-03, and fastening material



Technical Data

Mechanical specifications	
Material	Stainless steel
Mounting	Mounting accessories included
Mass	approx. 23 g
Suitable series	
Series	ML7 ML71 ML8

Dimensions



Model Number

OMH-MLV11

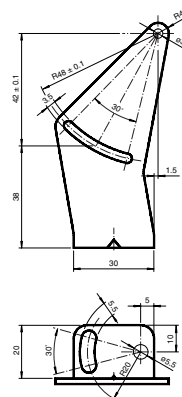
Mounting bracket for series MLV11 sensors



Technical Data

Mechanical specifications	
Material	Stainless steel
Mounting	Mounting accessories included
Mass	approx. 40 g
Suitable series	
Series	MLV11

Dimensions



Model Number

OMH-MLV11-K

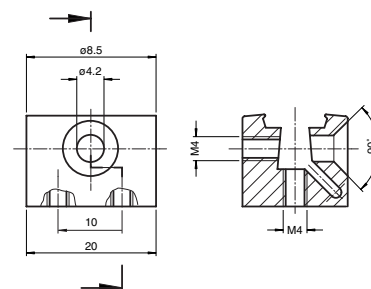
Fixation clamp for sensors with dove tail



Technical Data

Mechanical specifications	
Material	aluminium
Mass	approx. 8 g
Suitable series	
Series	MLV11 MLV12 RL28 RL29
Safety Series	
	SL12, SLA12, SLA28, SL29, SLA29

Dimensions



Accessories

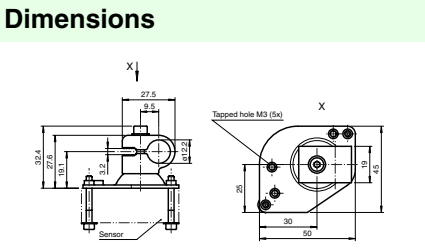


Model Number

OMH-01

Mounting aid for round steel $\varnothing$ 12 mm or sheet 1.5 mm ... 3 mm

Technical Data	
Mechanical specifications	
Material	Metal sheet (steel), zinc plated aluminium
Mass	approx. 50 g
Suitable series	
Series	MLV11 MLV12

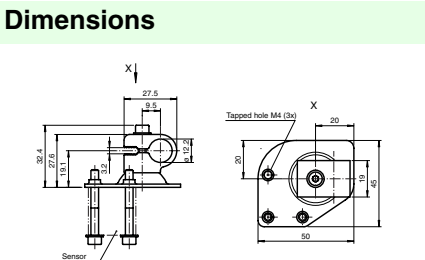


Model Number

OMH-02

Mounting aid for round steel $\varnothing$ 12 mm or sheet 1.5 mm ... 3 mm

Technical Data	
Mechanical specifications	
Material	Metal sheet (steel), zinc plated aluminium
Mass	approx. 50 g
Suitable series	
Series	VariKont M

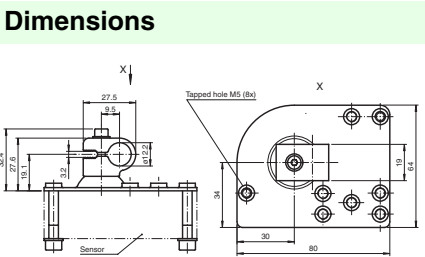


Model Number

OMH-03

Mounting aid for round steel $\varnothing$ 12 mm or sheet 1.5 mm ... 3 mm

Technical Data	
Mechanical specifications	
Material	Metal sheet (steel), zinc plated aluminium
Mass	approx. 85 g
Suitable series	
Series	RL36 RL39 EDM3,5 EDM5 EDM20

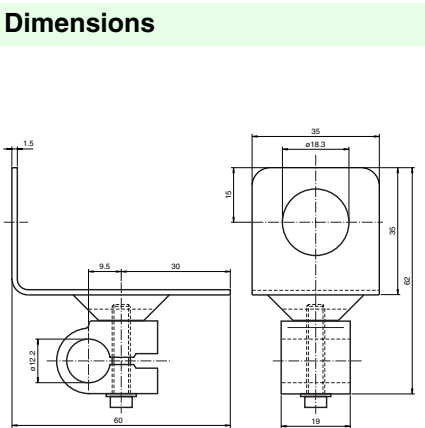


Model Number

OMH-04

Mounting aid for round steel $\varnothing$ 12 mm or sheet 1.5 mm ... 3 mm

Technical Data	
Mechanical specifications	
Material	Metal sheet (steel), nickel-plated aluminium
Mass	approx. 60 g
Suitable series	
Series	VL18 18GM60 CP18





Accessories

Miniature sensors

Rectangular housing

Cylindrical housing

Fibre optic devices

Fork type sensors

Contrast sensors, Color sensors

Vision systems

Sensors for hazardous areas

Light grids

Optical data coupler

Distance measurement

Accessories

Model Number

OMH-05

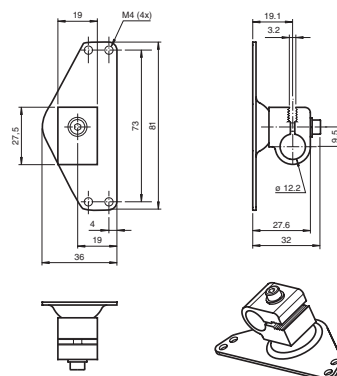
Mounting aid for round steel $\varnothing$ 12 mm or sheet 1.5 mm ... 3 mm



Technical Data

Mechanical specifications	
Material	Metal sheet (steel), zinc plated aluminium
Mass	approx. 50 g
Suitable series	
Series	RL23 RL28 RL29 RL30 RL32
Safety Series	SLA28 SL29, SLA29
Reflector series	H75 reflector

Dimensions



Model Number

OMH-06

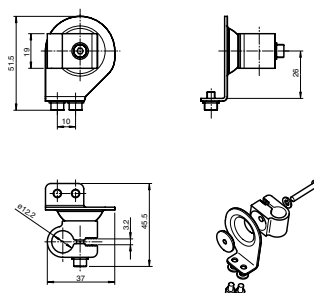
Mounting aid for round steel $\varnothing$ 12 mm or sheet 1.5 mm ... 3 mm



Technical Data

Mechanical specifications	
Material	Metal sheet (steel), zinc plated aluminium
Mounting	Mounting accessories included
Mass	approx. 50 g
Suitable series	
Series	MLV12
Safety Series	SL12, SLA12

Dimensions



Model Number

OMH-07

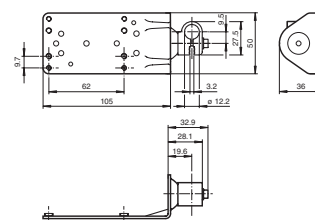
Mounting aid for round steel $\varnothing$ 12 mm or sheet 1.5 mm ... 3 mm



Technical Data

Mechanical specifications	
Material	Metal sheet (steel), zinc plated aluminium
Mass	approx. 120 g
Suitable series	
Series	RL23 RL28 RL29 RL30 RL32
Safety Series	SLA28 SL29, SLA29
Reflector series	reflector C110_2 VR10 reflector

Dimensions



Model Number

OMH-40

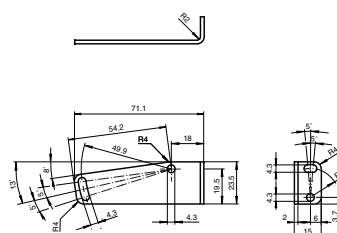
Mounting bracket

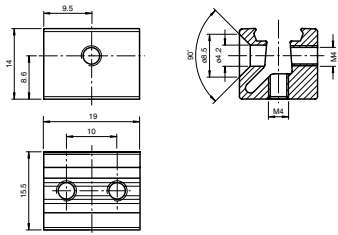
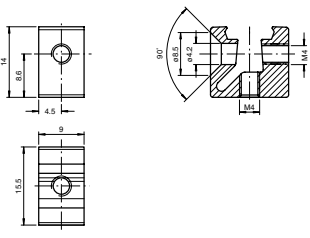
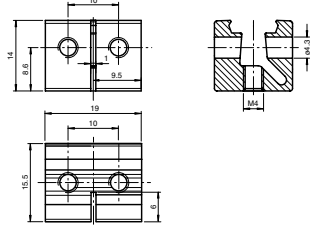


Technical Data

Mechanical specifications	
Material	Metal sheet (steel), nickel-plated
Dimensions	136 mm x 52 mm x 3 mm
Mounting	Mounting accessories included
Mass	approx. 30 g
Suitable series	
Series	MLV40
Safety Series	SLA40

Dimensions



Accessories			
Miniature sensors	Model Number		Technical Data
	OMH-K01		
	Fixation clamp for sensors with dove tail		
			
Rectangular housing	Model Number		Technical Data
	OMH-K02		
	Fixation clamp for sensors with dove tail		
			
Cylindrical housing	Model Number		Technical Data
	OMH-K03		
	Fixation clamp for sensors with dove tail		
			
Fibre optic devices	Model Number		Technical Data
	OMH-K04		
	Fixation clamp for sensors with dove tail		
			
Fork type sensors	Model Number		Technical Data
	OMH-K05		
	Fixation clamp for sensors with dove tail		
Contrast sensors, Color sensors	Model Number		Technical Data
	OMH-K06		
	Fixation clamp for sensors with dove tail		
Vision systems	Model Number		Technical Data
	OMH-K07		
	Fixation clamp for sensors with dove tail		
Sensors for hazardous areas	Model Number		Technical Data
	OMH-K08		
	Fixation clamp for sensors with dove tail		
Light grids	Model Number		Technical Data
	OMH-K09		
	Fixation clamp for sensors with dove tail		
Optical data coupler	Model Number		Technical Data
	OMH-K10		
	Fixation clamp for sensors with dove tail		
Distance measurement	Model Number		Technical Data
	OMH-K11		
	Fixation clamp for sensors with dove tail		
Accessories	Model Number		Technical Data
	OMH-K12		
	Fixation clamp for sensors with dove tail		
Dimensions			
Dimensions			
Dimensions			



Accessories

Miniature sensors

Rectangular housing

Cylindrical housing

Fibre optic devices

Fork type sensors

Contrast sensors, Color sensors

Vision systems

Sensors for hazardous areas

Light grids

Optical data coupler

Distance measurement

Accessories

Model Number

OMH-MLV12-HWG

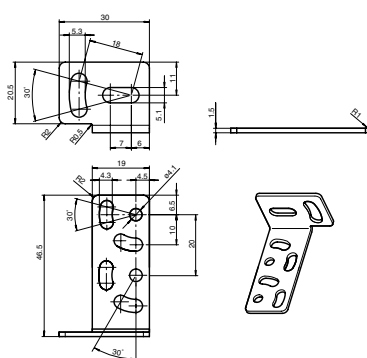
Mounting bracket for series MLV12 sensors



Technical Data

Mechanical specifications	
Material	Metal sheet (steel), nickel-plated
Mass	approx. 15 g
Suitable series	
Series	MLV12
Safety Series	SL12, SLA12

Dimensions



Model Number

OMH-MLV12-HWK

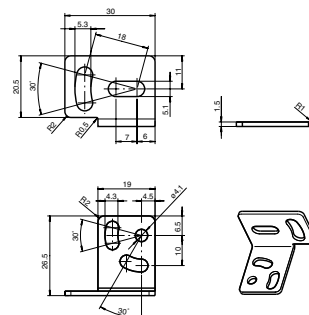
Mounting bracket for series MLV12 sensors



Technical Data

Mechanical specifications	
Material	Metal sheet (steel), nickel-plated
Mass	approx. 10 g
Suitable series	
Series	MLV12
Safety Series	SL12, SLA12

Dimensions



Model Number

OMH-RLK29

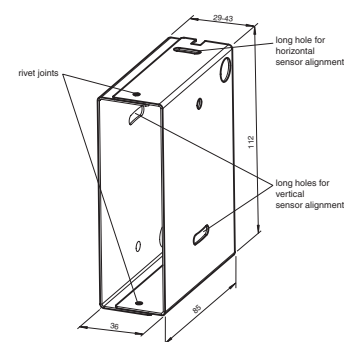
Mounting bracket



Technical Data

Mechanical specifications	
Material	Stainless steel
Mass	approx. 85 g
Suitable series	
Series	RLK28 RLK29

Dimensions



Model Number

OMH-RLK29-HW

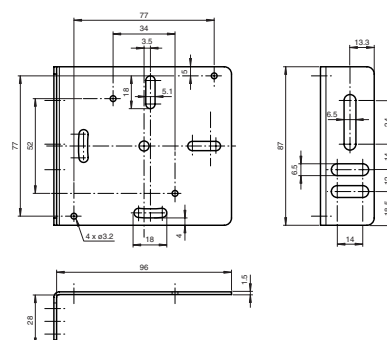
Mounting bracket for rear wall mounting



Technical Data

Mechanical specifications	
Material	Stainless steel
Dimensions	136 mm x 52 mm x 3 mm
Mass	approx. 150 g
Suitable series	
Series	RL23 RL28 RL29 RL32
Reflector series	C110-2

Dimensions



Model Number

OMH-21

Mounting bracket

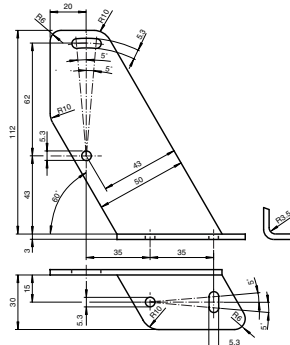


Technical Data

Mechanical specifications

Material	Steel, powder coated
Mounting	Mounting accessories included
Mass	approx. 175 g
Suitable series	
Series	RL23 RL28 RL29
Safety Series	SLA20 SLA28 SL29, SLA29

Dimensions



Model Number

OMH-22

Mounting bracket

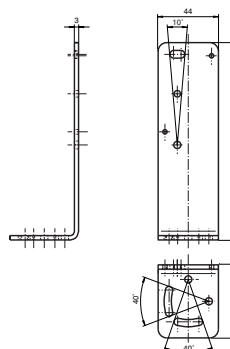


Technical Data

Mechanical specifications

Material	aluminium, black anodised
Mass	approx. 180 g
Suitable series	
Series	RL23 RL28 RL29 RL32
Safety Series	SLA20 SLA28 SL29, SLA29
Reflector series	reflector C110_2 h60 reflector

Dimensions



Model Number

OMH-RL36

Mounting bracket

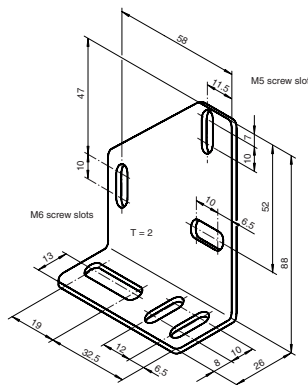


Technical Data

Mechanical specifications

Material	Metal sheet (steel), zinc plated
Mounting	Mounting accessories included
Mass	approx. 95 g
Suitable series	
Series	RL36 EDM3,5 EDM5 EDM20

Dimensions



Model Number

OMH-RL39

Mounting bracket for sensors of RL39 series

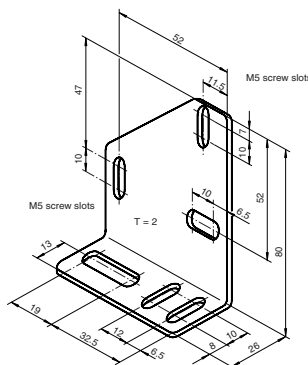


Technical Data

Mechanical specifications

Material	Metal sheet (steel), zinc plated
Mounting	Mounting accessories included
Mass	approx. 85 g
Suitable series	
Series	RL39

Dimensions





Accessories

Miniature sensors

Rectangular housing

Cylindrical housing

Fibre optic devices

Fork type sensors

Contrast sensors, Color sensors

Vision systems

Sensors for hazardous areas

Light grids

Optical data coupler

Distance measurement

Accessories

Model Number

OMH-91

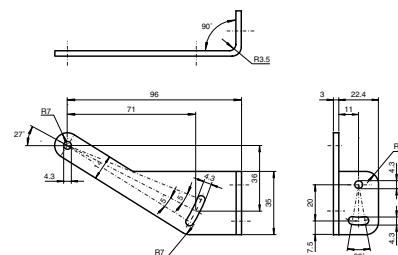
Mounting bracket



Technical Data

Mechanical specifications	
Material	Metal sheet (steel), black coated
Mounting	Mounting accessories included
Mass	approx. 70 g
Suitable series	
Series	RL91

Dimensions



Model Number

OMH-RL31-01

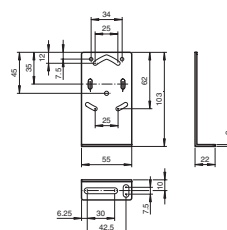
Mounting bracket



Technical Data

Mechanical specifications	
Material	Metal sheet (steel), zinc plated
Suitable series	
Series	Series 31

Dimensions



Model Number

OMH-RL31-02

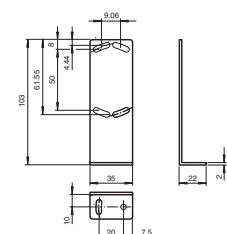
Mounting bracket



Technical Data

Mechanical specifications	
Material	Metal sheet (steel), zinc plated
Suitable series	
Series	Series 31

Dimensions



Model Number

OMH-RL31-03

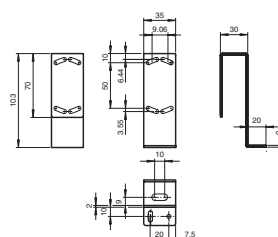
Mounting bracket



Technical Data

Mechanical specifications	
Material	Metal sheet (steel), zinc plated
Suitable series	
Series	Series 31

Dimensions



Accessories

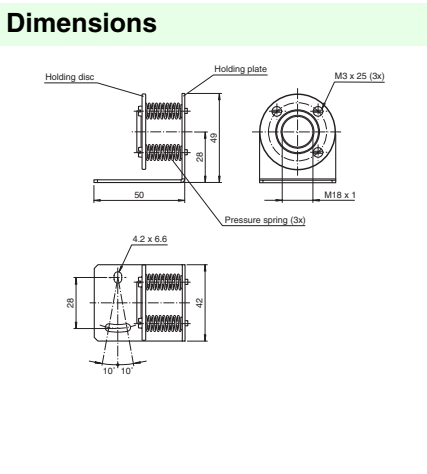


Model Number

OMH-VL18

Mounting aid with tumble mechanism

Technical Data	
Mechanical specifications	
Material	Metal sheet (steel), /High-grade steel
Mass	approx. 70 g
Suitable series	
Series	VL18

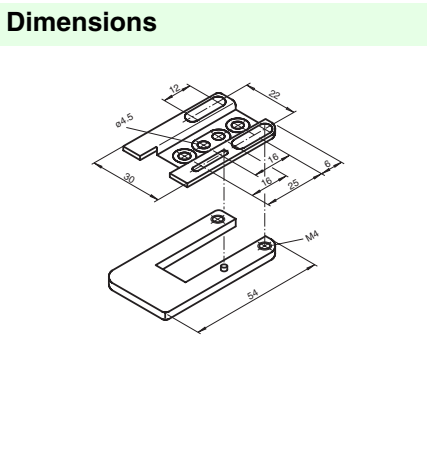


Model Number

MH 04-3742A

Mounting aid for VariKont and -M1K-

Technical Data	
Mechanical specifications	
Material	aluminium
Dimensions	54 mm x 30 mm

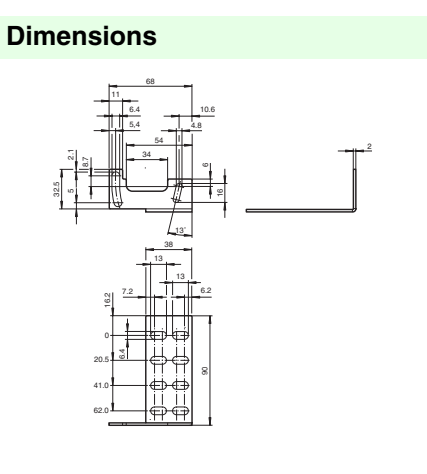


Model Number

OMH-SBL-01

Mounting bracket for sensors of SBL series

Technical Data	
Mechanical specifications	
Material	Metal sheet (steel), zinc plated
Mass	approx. 70 g
Suitable series	
Series	SBL

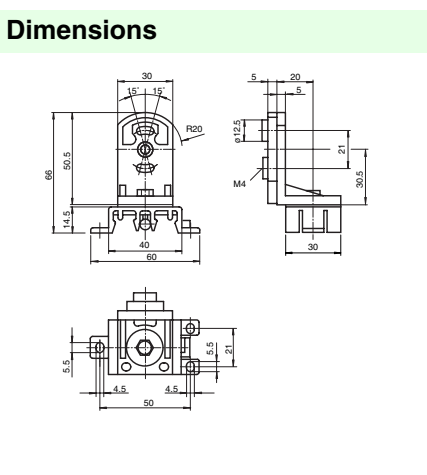


Model Number

OMH 4-4950

Retainer

Technical Data	
Mechanical specifications	
Material	plastic
Mounting	Mounting accessories included
Mass	approx. 50 g
Suitable series	
Series	VariKont M





Accessories

Miniature sensors

Rectangular housing

Cylindrical housing

Fibre optic devices

Fork type sensors

Contrast sensors, Color sensors

Vision systems

Sensors for hazardous areas

Light grids

Optical data coupler

Distance measurement

Accessories

Model Number

OMH-LS610-01

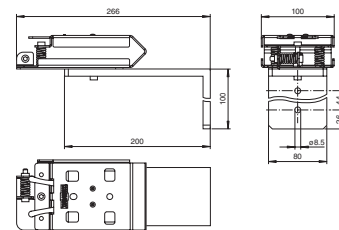
Mounting bracket for optical data coupler



Technical Data

Mechanical specifications	
Material	Aluminium, black coated steel, zinc plated black
Mass	approx. 1500 g
Suitable series	
Series	LS610 LS611

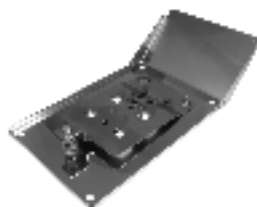
Dimensions



Model Number

OMH-LS610-03

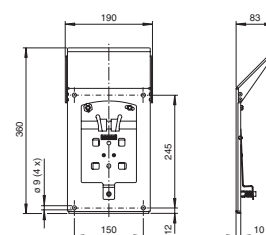
Mounting bracket for optical data coupler with deviation mirror



Technical Data

Suitable series	
Series	LS610 LS611

Dimensions



Model Number

OMH-DAD10

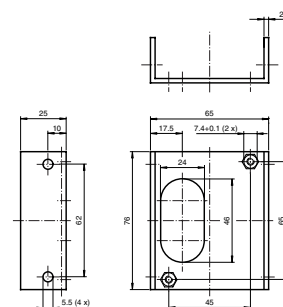
Mounting bracket



Technical Data

Mechanical specifications	
Material	aluminium
Mass	approx. 50 g
Suitable series	
Series	DAD10 DAD15

Dimensions



Model Number

OMH-VDM35

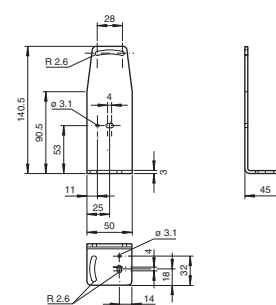
Mounting bracket



Technical Data

Mechanical specifications	
Material	Metal sheet (steel), zinc plated
Mounting	Mounting accessories included
Suitable series	
Series	VDM35

Dimensions



Accessories

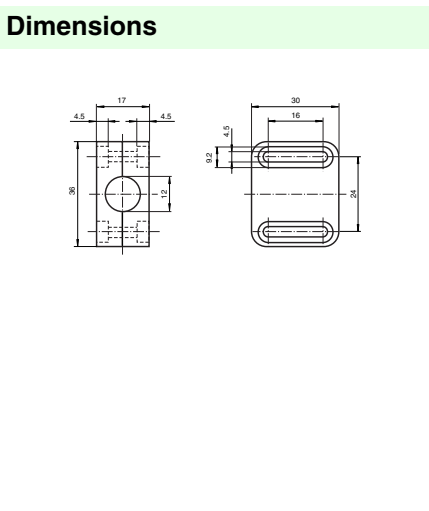
Model Number

BF 12

Mounting flange, 12 mm



Technical Data	
General specifications	
Inside diameter	12 mm
Mechanical specifications	
Material	Lower section: PBT (green) Upper section: PA (transparent)
Dimensions	30 mm x 36 mm x 17 mm



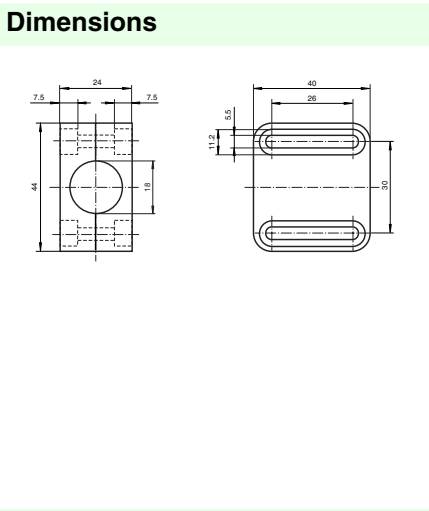
Model Number

BF 18

Mounting flange, 18 mm



Technical Data	
General specifications	
Inside diameter	18 mm
Mechanical specifications	
Material	Lower section: PBT (green) Upper section: PA (transparent)
Dimensions	40 mm x 44 mm x 24 mm



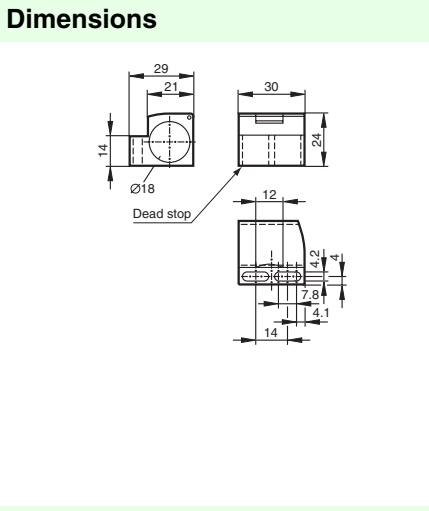
Model Number

BF 18-F

Mounting flange with dead stop, 18 mm



Technical Data	
General specifications	
Inside diameter	18 mm
Ambient conditions	
Ambient temperature	-25 ... 85 °C (248 ... 358 K)
Mechanical specifications	
Material	Polycarbonate (PC), black



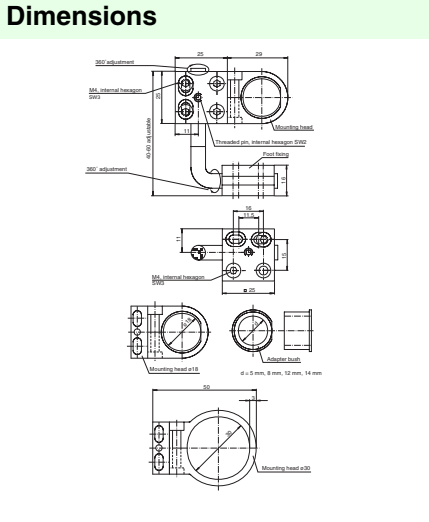
Model Number

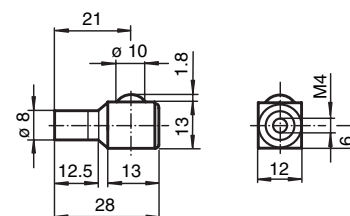
BF 5-30

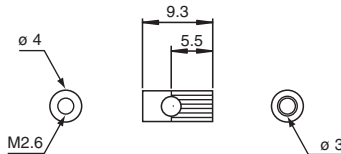
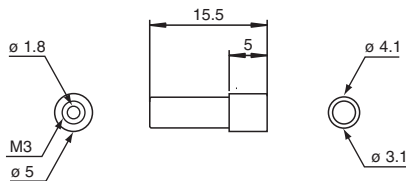
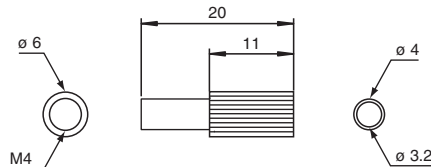
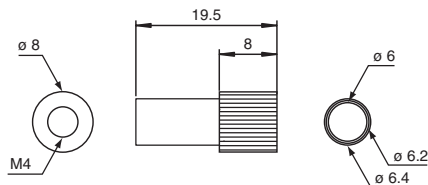
Universal mounting holder for cylindrical sensors with a diameter of 5 ... 30 mm



Technical Data	
Mechanical specifications	
Note	Also suited for threaded photodetectors in series KT10, GLV12, VL18, 18GM60, CP18 and GLV30.





Accessories													
Miniature sensors	Model Number	Technical Data	Dimensions										
	K-LA02 Auxiliary lens 90°	<table><tr><td>Mechanical specifications</td><td></td></tr><tr><td>Material</td><td>Stainless steel</td></tr><tr><td>Mass</td><td>approx. 1 g</td></tr><tr><td>Suitable series</td><td></td></tr><tr><td>Series</td><td>Fibre optics</td></tr></table>		Mechanical specifications		Material	Stainless steel	Mass	approx. 1 g	Suitable series		Series	Fibre optics
Mechanical specifications													
Material	Stainless steel												
Mass	approx. 1 g												
Suitable series													
Series	Fibre optics												
Rectangular housing													
Cylindrical housing													
Fibre optic devices													
Fork type sensors													
Contrast sensors, Color sensors	Model Number	Technical Data	Dimensions										
	K-LA03 Auxiliary lens M3	<table><tr><td>Mechanical specifications</td><td></td></tr><tr><td>Material</td><td>plastic</td></tr><tr><td>Mass</td><td>approx. 1 g</td></tr><tr><td>Suitable series</td><td></td></tr><tr><td>Series</td><td>Fibre optics</td></tr></table>	Mechanical specifications		Material	plastic	Mass	approx. 1 g	Suitable series		Series	Fibre optics	
	Mechanical specifications												
Material	plastic												
Mass	approx. 1 g												
Suitable series													
Series	Fibre optics												
Vision systems	Model Number	Technical Data	Dimensions										
	K-LA04 Auxiliary lens M4	<table><tr><td>Mechanical specifications</td><td></td></tr><tr><td>Material</td><td>plastic</td></tr><tr><td>Mass</td><td>approx. 1 g</td></tr><tr><td>Suitable series</td><td></td></tr><tr><td>Series</td><td>Fibre optics</td></tr></table>	Mechanical specifications		Material	plastic	Mass	approx. 1 g	Suitable series		Series	Fibre optics	
	Mechanical specifications												
Material	plastic												
Mass	approx. 1 g												
Suitable series													
Series	Fibre optics												
Sensors for hazardous areas													
Light grids													
Optical data coupler													
Distance measurement													
Accessories	Model Number	Technical Data	Dimensions										
	K-LA06 Auxiliary lens M6	<table><tr><td>Mechanical specifications</td><td></td></tr><tr><td>Material</td><td>plastic</td></tr><tr><td>Mass</td><td>approx. 1 g</td></tr><tr><td>Suitable series</td><td></td></tr><tr><td>Series</td><td>Fibre optics</td></tr></table>	Mechanical specifications		Material	plastic	Mass	approx. 1 g	Suitable series		Series	Fibre optics	
	Mechanical specifications												
Material	plastic												
Mass	approx. 1 g												
Suitable series													
Series	Fibre optics												



Accessories

Miniature sensors

Rectangular housing

Cylindrical housing

Fibre optic devices

Fork type sensors

Contrast sensors, Color sensors

Vision systems

Sensors for hazardous areas

Light grids

Optical data coupler

Distance measurement

Accessories

Model Number

KM3-0,5

Metal protection for plastic fibre optics
M3 x 0,5 m



Technical Data

Mechanical specifications	
Material	Stainless steel
Suitable series	
Series	Plastic fibre optics

Dimensions



Model Number

KM3-1,0

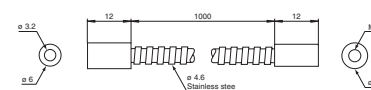
Metal protection for plastic fibre optics
M3 x 1,0 m



Technical Data

Mechanical specifications	
Material	Stainless steel
Suitable series	
Series	Plastic fibre optics

Dimensions



Model Number

KM4-0,5

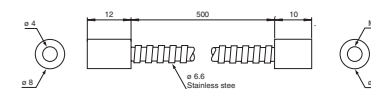
Metal protection for plastic fibre optics
M4 x 0,5 m



Technical Data

Mechanical specifications	
Material	Stainless steel
Suitable series	
Series	Plastic fibre optics

Dimensions



Model Number

KM4-1,0

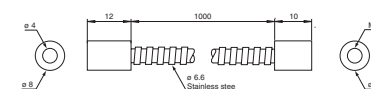
Metal protection for plastic fibre optics
M4 x 1,0 m

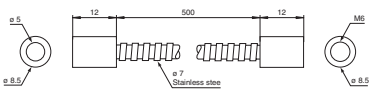
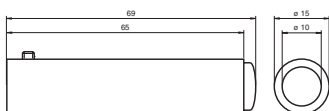
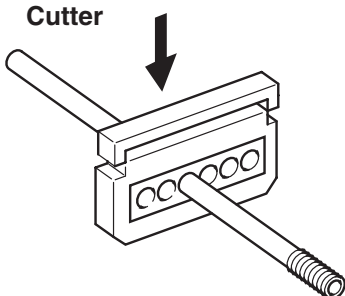


Technical Data

Mechanical specifications	
Material	Stainless steel
Suitable series	
Series	Plastic fibre optics

Dimensions



Accessories																
Model Number KM6-0,5 Metal protection for plastic fibre optics M6 x 0,5 m 	Technical Data <table><tr><th colspan="2">Mechanical specifications</th></tr><tr><td>Material</td><td>Stainless steel</td></tr><tr><td>Suitable series</td><td></td></tr><tr><td>Series</td><td>Plastic fibre optics</td></tr></table>	Mechanical specifications		Material	Stainless steel	Suitable series		Series	Plastic fibre optics	Dimensions 						
Mechanical specifications																
Material	Stainless steel															
Suitable series																
Series	Plastic fibre optics															
Model Number KM6-1,0 Metal protection for plastic fibre optics M6 x 1,0 m 	Technical Data <table><tr><th colspan="2">Mechanical specifications</th></tr><tr><td>Material</td><td>Stainless steel</td></tr><tr><td>Suitable series</td><td></td></tr><tr><td>Series</td><td>Plastic fibre optics</td></tr></table>	Mechanical specifications		Material	Stainless steel	Suitable series		Series	Plastic fibre optics	Dimensions 						
Mechanical specifications																
Material	Stainless steel															
Suitable series																
Series	Plastic fibre optics															
Model Number Linsenaufsatz VCS110 Lens, non-reflective, for VCS110 fibre optics with 10mm smooth tube head 	Technical Data <table><tr><th colspan="2">Mechanical specifications</th></tr><tr><td>Material</td><td></td></tr><tr><td>Optical face</td><td>glass</td></tr><tr><td>Housing</td><td>Stainless steel</td></tr><tr><td>Mass</td><td>approx. 47 g</td></tr><tr><td>Suitable series</td><td></td></tr><tr><td>Series</td><td>VCS110</td></tr></table>	Mechanical specifications		Material		Optical face	glass	Housing	Stainless steel	Mass	approx. 47 g	Suitable series		Series	VCS110	Dimensions 
Mechanical specifications																
Material																
Optical face	glass															
Housing	Stainless steel															
Mass	approx. 47 g															
Suitable series																
Series	VCS110															
Model Number KL-CUT Cutter for plastic fibre optics 	Technical Data <table><tr><th colspan="2">Mechanical specifications</th></tr><tr><td>Material</td><td>plastic</td></tr><tr><td>Mass</td><td>approx. 8 g</td></tr><tr><td>Suitable series</td><td></td></tr><tr><td>Series</td><td>Plastic fibre optics</td></tr></table>	Mechanical specifications		Material	plastic	Mass	approx. 8 g	Suitable series		Series	Plastic fibre optics	Dimensions Cutter 				
Mechanical specifications																
Material	plastic															
Mass	approx. 8 g															
Suitable series																
Series	Plastic fibre optics															



Accessories

Miniature sensors

Rectangular housing

Cylindrical housing

Fibre optic devices

Fork type sensors

Contrast sensors, Color sensors

Vision systems

Sensors for hazardous areas

Light grids

Optical data coupler

Distance measurement

Accessories

Model Number

BF 4,5

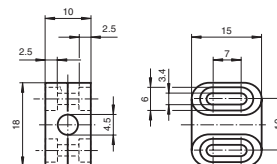
Mounting flange, 4,5 mm



Technical Data

General specifications	
Inside diameter	4.5 mm
Mechanical specifications	
Material	PBT
Dimensions	15 mm x 18 mm x 10 mm

Dimensions



Model Number

OLA18 Adapter

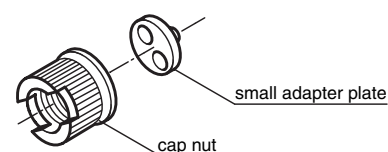
Adaptor for connection of fibre optics to photoelectric sensors



Technical Data

Mechanical specifications	
Material	
Slotted nut	Stainless steel
Spacer disk	plastic
Mass	5 g
Suitable series	
Series	VL18 18GM60 CP18

Dimensions



Model Number

OTS 18

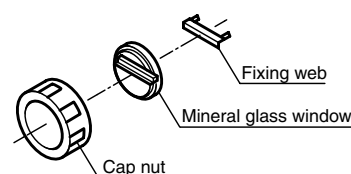
Switch set for VariKont M®



Technical Data

Mechanical specifications	
Material	plastic
Mass	approx. 2 g
Suitable series	
Series	VariKont M

Dimensions



Model Number

CPZ18B03

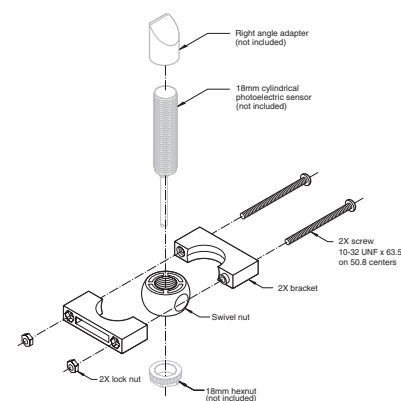
for threaded photodetectors in serie CP18



Technical Data

Mechanical specifications	
Material	plastic
Mounting	Mounting accessories included
Mass	approx. 85 g
Suitable series	
Series	CP18

Dimensions





Sensor testers



ST-03

The ST-03 sensor tester allows for rapid testing of the switching function of direct voltage sensors:

- NAMUR (EN 50227)
- Two-wire
- Four-wire

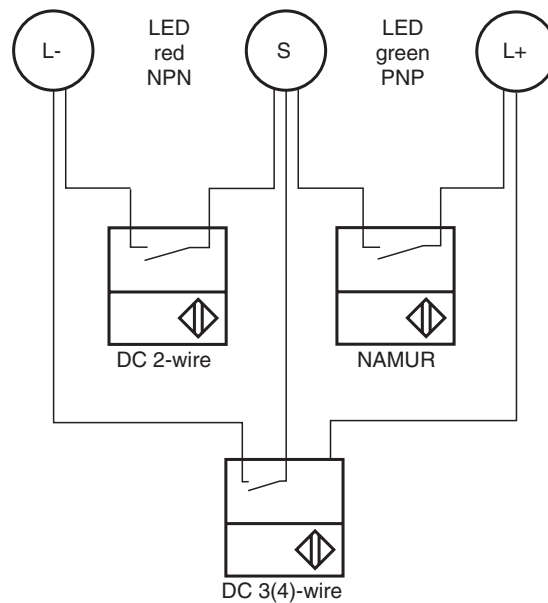
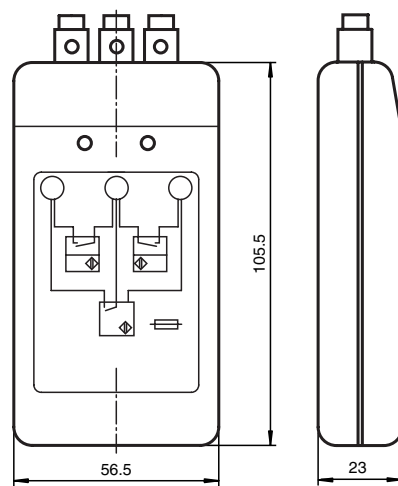
The sensors are connected to the contact terminals of the tester in accordance with the connection diagram. Depending on the output stage (pnp/npn) and switching function (N.O./N.C.), on actuation of the proximity switch, the left, LED red (npn) or the right, green LED (pnp) are illuminated, simultaneously accompanied by an acoustic signal.

The layout of the connections, terminal numbering or color of the wire of the different output stage types are standardized. The adjacent table shows typical examples.

Malfunctions in the tester function may result from the following causes:

- Incorrect sensor connected (for example sensor for alternating voltage), sensor defective.
- Sensor is incorrectly connected.
- The fine-wire fuse in the tester has been activated.
- The batteries have insufficient charge.

Check the type designation and connection diagram on the sensor.
To check or exchange the fuse (100 mA) or the batteries (2 x 9 V, e.g. E-Block 6F 22 9 V), remove the four screws on the back of the tester.



Switch type	Operating voltage		Switch output	
	L+	L-	NO	NC
NAMUR	BN/1	BU/2		
DC 2-wire	BN/1		BU/4	BU/2
	BN/3			
DC 3-wire	BN/1	BU/3	BK/4	BK/2
DC 4-wire	BN/1	BU/3	BK/4	WH/2



OPUS-PC programming software

The program is a multi-lingual user interface with which the parameters of MLV11 and SU15-series photoelectric sensors can be easily read and edited. The menu driven program contains comprehensive help functions for easy reference.

The sensors communicate with the PC by means of an optical serial interface.

The program displays which sensor is connected.

The program parameters that are used and the sensor parameters that are read can be saved to a hard drive or diskette, printed out, or exported to databases for further processing, etc.

After a brief phase of becoming acquainted with the software, it offers you a wealth of options for setting parameters of sensors of the series MLV11 and SU15, for example:

- output function selection: normally closed/normally open/pre-fault
- type of pre-fault determination: dynamic/static
- switching frequency: 1.5 kHz ... 20 Hz
- hysteresis: small/standard/large
- ON delay: no/ 0.1 s ... 25.5 s
- OFF delay/pulse extension/one-shot output function
- 3 various pulse frequencies
- keyboard disabling: OFF/automatic/always
- selection of function type: input: test/logic/div.
- parameterization disable: ON/OFF
- read/restore factory settings

Sensors that can communicate with this software:
Series MLV11 and SU15

- Single path light beam switch standard, laser
- Reflex light beam switch standard, clear glass, laser
- AS-Interface
- Energetic reflex light beam switch, laser, AS-Interface
- Fiber optics amplifier

System requirements:

The OPUS-PC program runs on any PC or laptop, running with Windows 3.x95 and a free serial interface.

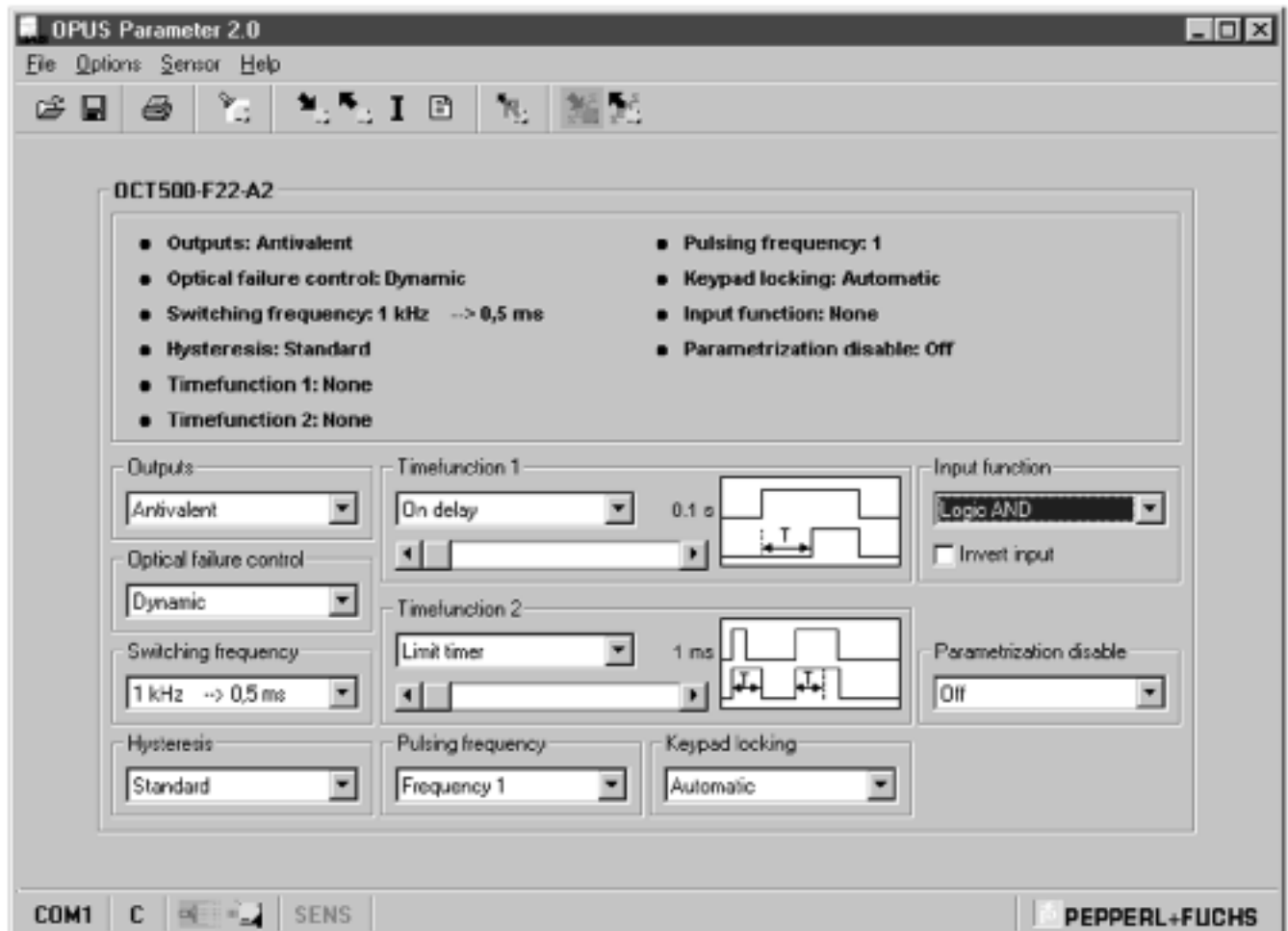
Included with delivery:

two disks 3.5", 1.44 MB for installation.

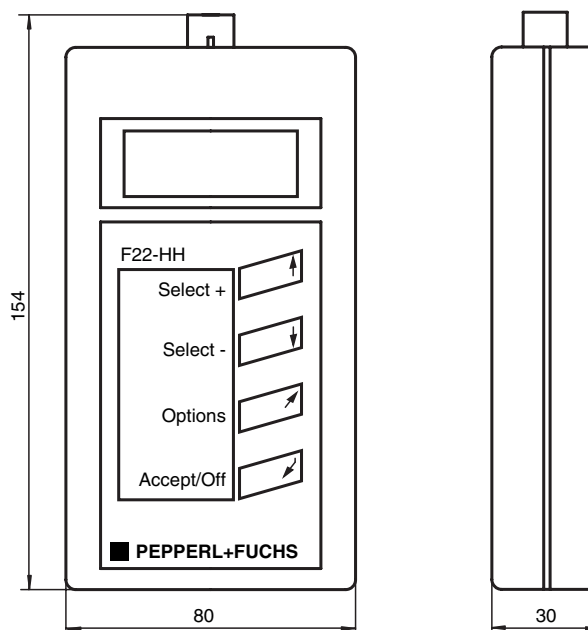
If you order the appropriate **PC programming tool**, then in addition to the two installation diskettes, the F22/F44 clip or F66 clip and the OPUS-R2 interface converter are included.

Additional literature:

- Notes on setting parameters in the data sheets
- Comprehensive on-line help in the software



Accessories – Sensor parameterization



OPUS-HH

- Indicating, editing all parameters
- Problem-free connection to all sensors of series MKV11 and SU15 via an optical interface (clip)
- Saving/loading sensor parameters

The hand-held unit is a compact device for setting parameters of photoelectric sensors of series MLV11 and SU15. Communication with the sensor takes place via the optical serial interface and the attached clip. The clip is simply snapped onto the sensor housing and connected to the hand-held unit via a connector.

The hand-held unit can read and edit the same parameter as the OPUS sensor parameterization PC software. The basic set of parameters, valid for all sensors, is expanded by sensor-specific parameters, depending on sensor type and series.

Model number

Display

Keyboard

Power supply

Operating time

Protection class as per IED 60529

Operating temperature

Storage temperature

Weight

OPUS-HH

LCD, 2 x 12 digits, alphanumeric, height of characters 6 mm

Membrane keys, 4 keys

9 V block battery

30 h/> 100 read/write functions

IP 54

Operation:

Switch on

Switch off

- pressing any key

- independently 5 min. after the last key stroke or actuation of the Accept/OFF key for > 1s

Key function

Key

Key

Key

Key



- **Select +:** up function in menu

- **Select -:** down function in menu

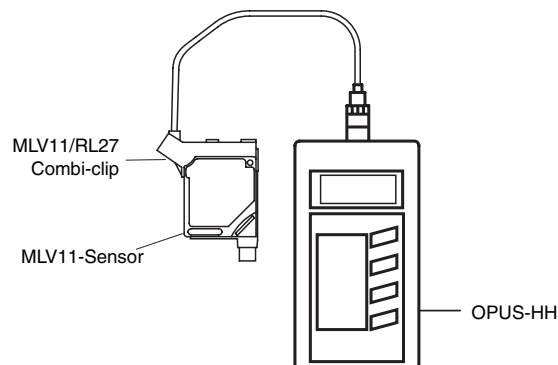
- **Options:** to subordinate menu

- **Accept/Off:** enter, initiate function, set parameter, to higher-level menu, switch-off device

Accessory: Parameter assignment clip.

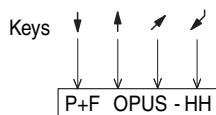
For parameter assignment using the hand-held unit, you also require a clip to match the sensor housing: Universal clip MLV11/RL27 (adjustable) or SU15 Clip.

Example: MLV11 sensor





Accessories – Sensor parameterization

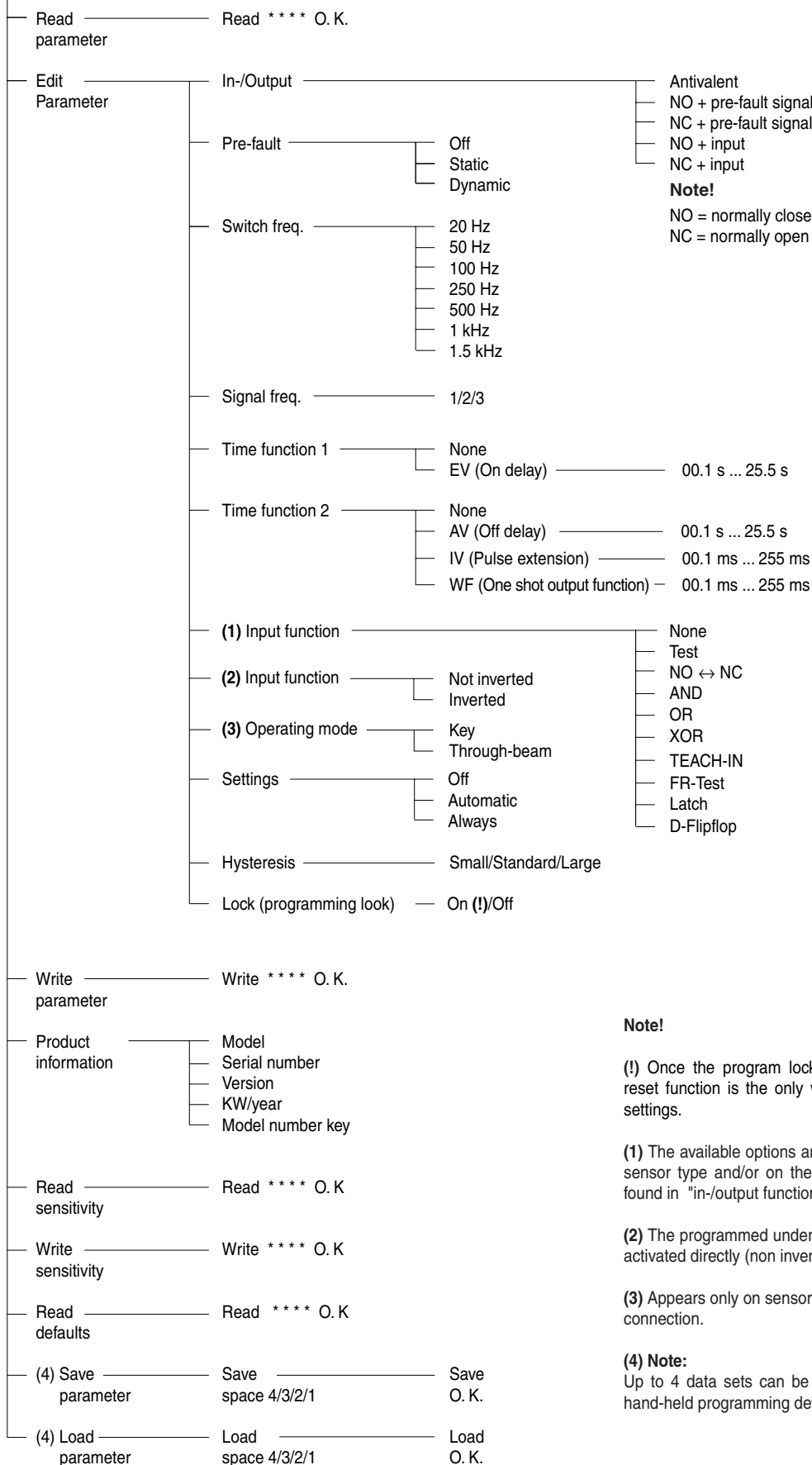


Note!

Depending on the type of the connected sensor, some parameters may not be available for editing.

Key functions

- ↓ ↑ - up or down function in menu
- ↗ - brings up subordinate menu
- ↘ - enter, clear function, set parameter, brings up next menu



Note!

(!) Once the program lock is activated, the sensor reset function is the only way to restore the default settings.

(1) The available options are dependent either on the sensor type and/or on the in-/output behavior to be found in "in-/output function".

(2) The programmed under (1) input functions can be activated directly (non inverted) or inverted.

(3) Appears only on sensors with light guide connection.

(4) Note:
Up to 4 data sets can be stored non volatile in the hand-held programming device.

Accessories – Sensor parameterization



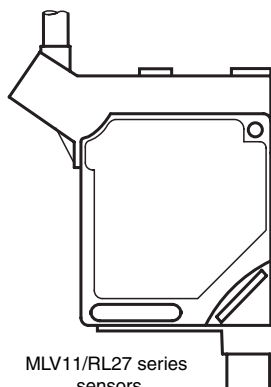
F22/F44 Clip F66 Clip

The clip creates a quick connection via an optical serial interface to a device for setting parameters (OPUS-HH) or to a PC (via the OPUS-R2 Interface converter).

This makes it possible to read or modify the parameters of photoelectric sensors of series MLV11 (F22/F44 clip) and SU15 (F66 clip) easily.

Dimensions:

Clip: L/B/H 64 mm/18 mm/30 mm
Connector: ø12 mm/32 mm

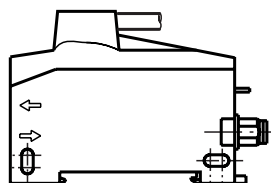


MLV11/RL27 series sensors

Cable length about 2 m

Dimensions:

Clip: L/B/H 64 mm/12 mm/23 mm



SU15 series sensors



Connector 4-pin

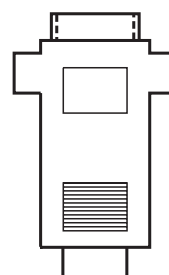
OPUS-R2 Interface converter

The converter is connected to the F22/F44 or F66 clip as a connection between the optical interface and the free COM interface on the PC.

Dimensions:

L/B/H 50 mm/31 mm/16 mm

Sub-D-socket 9-pin



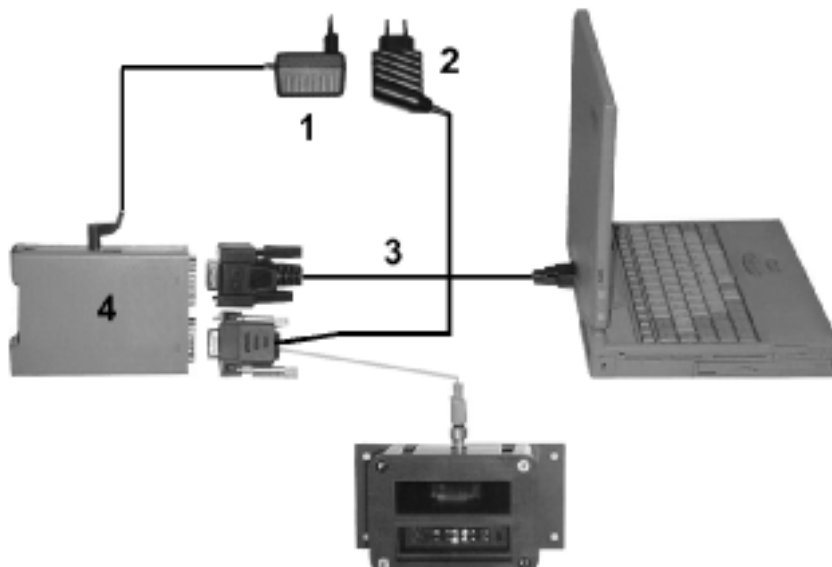
Socket 4-pin

Communications set EDM/EHB

For parameterization of the EDM/EHB distance measurement unit using a PC.

The scope of delivery includes:

- Item 1: Power supply 12 V/360 mA
- Item 2: Power supply 24 V/500 mA
- Item 3: Null modem cable (RS232)
- Item 4: Interface RS232<-->RS485



По вопросам продаж и поддержки обращайтесь:

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Белгород (4722)40-23-64
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Тверь (4822)63-31-35

Тольятти (8482)63-91-07
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Тула (4872)33-79-87
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Россия +7(495)268-04-70

Казахстан +7(727) 345-47-04

Беларусь +(375) 257-127-884

Узбекистан +998(71)205-18-59

Киргизия +996(312)96-26-47

эл.почта: phb@nt-rt.ru || сайт: <https://pepperl-fuchs.nt-rt.ru/>