

Technical data sheet

Safety sensor/receiver set

Part no.: 544029
MLC510R14-450/A-IP



For illustration purposes only

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Technical data

Basic data

Series	MLC 500
Device type	Receiver
Contains	2x BT-IP swivel mount
Application	Finger protection

Characteristic parameters

Type	4, IEC/EN 61496
SIL	3, IEC 61508
SILCL	3, IEC/EN 62061
Performance Level (PL)	e, EN ISO 13849-1
PFH _D	7.73E-09 per hour
Mission time T _M	20 years, EN ISO 13849-1
Category	4, EN ISO 13849

Protective field data

Resolution	14 mm
Protective field height	450 mm

Optical data

Synchronization	Optical between transmitter and receiver
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Electrical data

Protective circuit	Overvoltage protection Short circuit protected
Performance data	
Supply voltage U _B	26 V
Current consumption from AS-i circuit	150 mA

Time behavior

Response time	11 ms
Restart delay time	100 ms

Interface

Type	AS-Interface Safety at Work
AS-i	
Function	Process
AS-i profile	S-0.B.F
Slave address	1..31 programmable, default=0
Cycle time acc. to AS-i specifications	Max. 5 ms ms

Connection

Number of connections	1 Piece(s)
Connection 1	
Function	Machine interface
Type of connection	Cable with connector
Cable length	10,000 mm
Sheathing material	PVC
Thread size	M12
Material	Metal
No. of pins	5 -pin

Cable properties

Permissible conductor cross section, type.	0.25 mm ²
Length of connection cable, max.	100 m
Permissible cable resistance to load, max.	200 Ω

Mechanical data

Dimension (Ø x L)	52.5 mm x 650 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic / PMMA
Material of end caps	Diecast zinc
Net weight	600 g
Housing color	Yellow, RAL 1021
Type of fastening	Swivel mount

Protective tube

Material	PMMA, clear
Material of end caps	V4A stainless steel (1.4404)
Material of clamping cylinder	PA 6
Material of pressure-equalization membrane	PA 6
Cable gland material	PA 6

Operation and display

Type of display	LED
Number of LEDs	2 Piece(s)

Environmental data

Ambient temperature, operation	0 ... 55 °C
Ambient temperature, storage	-30 ... 70 °C
Relative humidity (non-condensing)	0 ... 95 %

Certifications

Degree of protection	IP 65 IP 66 IP 67 IP 69K
Protection class	III
Approvals	c TÜV NRTL US c UL US TÜV Süd
Vibration resistance	50 m/s ²
Shock resistance	100 m/s ²
US patents	US 6,418,546 B

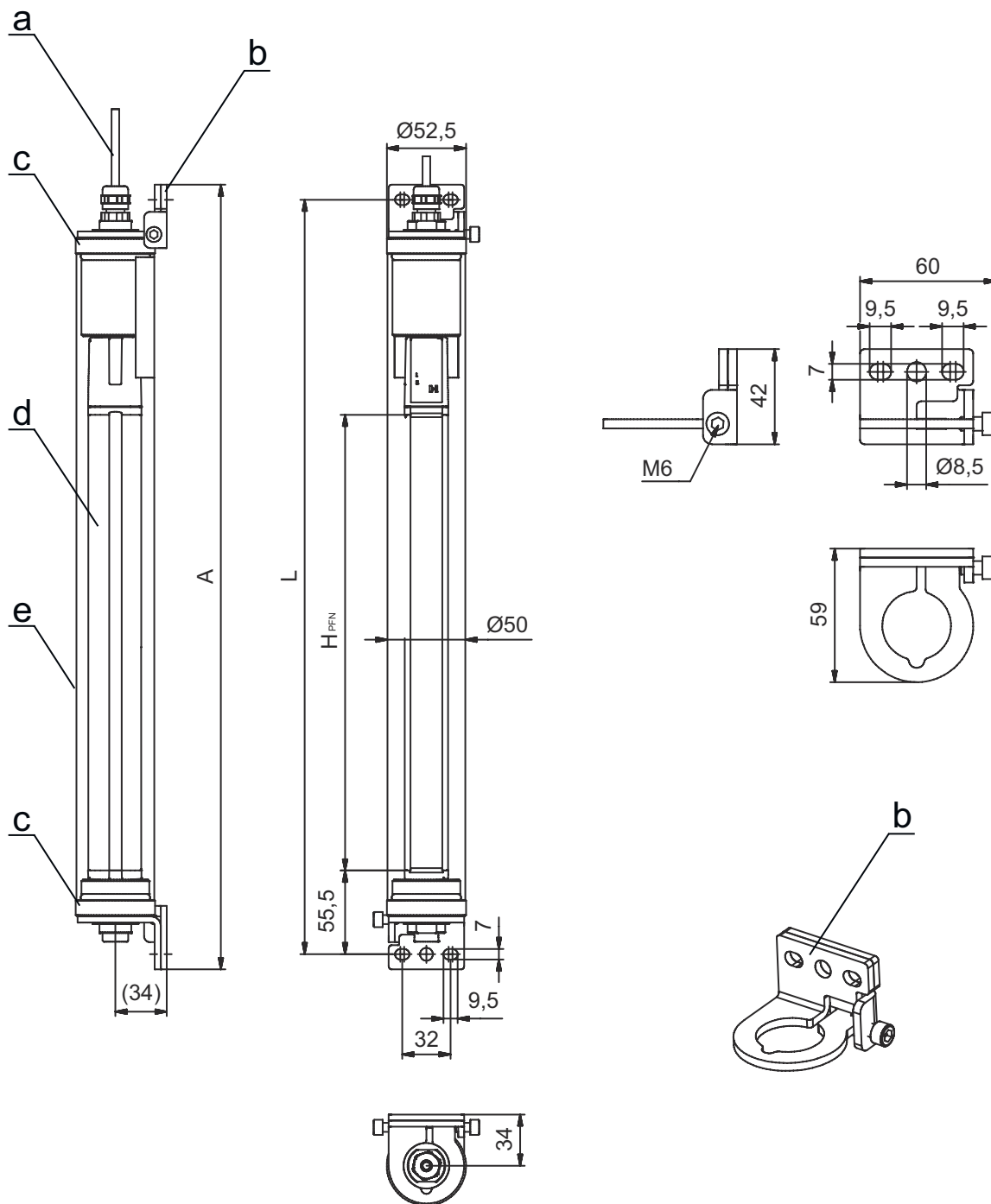
Technical data

Customs tariff number	85365019
ECLASS 5.1.4	27272704
ECLASS 8.0	27272704
ECLASS 9.0	27272704
ECLASS 10.0	27272704
ECLASS 11.0	27272704
ECLASS 12.0	27272704
ECLASS 13.0	27272704
ECLASS 14.0	27272704
ECLASS 15.0	27272704
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549
ETIM 8.0	EC002549
ETIM 9.0	EC002549
ETIM 10.0	EC002549

Dimensioned drawings

All dimensions in millimeters

MLC safety light curtains pre-mounted in the IP protective tube



- a Connection cable
- b Mounting brackets for mounting
- c End caps, stainless steel V4A
- d MLC receiver
- e IP protective tube

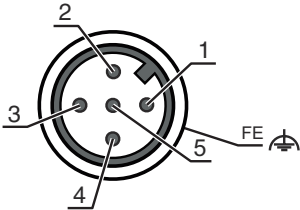
- A Total height incl. mounting brackets = 670 mm
- L Spacing of drilled holes for mounting brackets = 650 mm
- H_{PFN} Effective protective field height = 450 mm

Electrical connection

Connection 1

Function	Machine interface
Type of connection	Cable with connector
Cable length	10,000 mm
Sheathing material	PVC
Cable color	Black
Thread size	M12
Type	Male
Material	Metal
No. of pins	5 -pin
Encoding	A-coded
Connector housing	FE/SHIELD

Pin	Pin assignment	Conductor color
1	AS-i+	Brown
2	n.c.	White
3	AS-i-	Blue
4	n.c.	Black
5	n.c.	Gray



Operation and display

LED	Display	Meaning
1	Off	Device switched off
	Red, continuous light	Protective field interrupted
	Red, flashing, 1 Hz	External error
	Red, flashing, 10 Hz	Internal error
	Green, flashing, 1 Hz	Protective field free, weak signal
	Green, continuous light	Protective field free
2	Off	No voltage
	On	OSSD off, transmission channel C2
	Green, continuous light	AS-i slave communicating with AS-i master
	Red, continuous light	AS-i slave not communicating with AS-i master
	Yellow, flashing	AS-i slave has invalid address 0
	Red, flashing	AS-i slave device error or AS-i connection defective
	Red/green, flashing alternately	Periphery error

Suitable transmitters

	Part no.	Designation	Article	Description
	544028	MLC500T14-450/A-IP	Safety sensor/ transmitter set	Resolution: 14 mm Protective field height: 450 mm Operating range: 0 ... 4.8 m Interface: AS-Interface Safety at Work Connection: Cable with connector, M12, Metal, 5 -pin, 15,000 mm, PVC

Part number code

Part designation: MLCxyy-za-hhhhei-ooo

MLC Safety light curtain

x	Series
	3: MLC 300
	5: MLC 500

Part number code

MLC Safety light curtain

yy	Function classes 00: transmitter 01: transmitter (AIDA) 02: transmitter with test input 10: basic receiver - automatic restart 11: basic receiver - automatic restart (AIDA) 20: standard receiver - EDM/RES selectable 30: Extended receiver blanking/muting or gating 35: Extended receiver – Gating
z	Device type T: transmitter R: receiver
a	Resolution 14: 14 mm 20: 20 mm 30: 30 mm 40: 40 mm 90: 90 mm
hhhh	Protective field height 150 ... 3000: from 150 mm to 3000 mm
e	Host/Guest (optional) H: Host MG: Middle Guest G: Guest
i	Interface (optional) /A: AS-i
ooo	Option /V: high Vibration-proof EX2: explosion protection (zones 2 + 22) SPG: Smart Process Gating SPG RR: Smart Process Gating – Reduced resolution

Note	
	A list with all available device types can be found on the Leuze website at www.leuze.com .

Notes

 Observe intended use!	
	The product may only be put into operation by competent persons. Only use the product in accordance with its intended use.