



Figure can vary

Part no.: 68017404
MLC510R40-450H/A
Safety light curtain receiver



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Technical data

Basic data	
Series	MLC 500
Device type	Receiver
Cascading	Host
Contains	2x BT-NC sliding block
Application	Access guarding Hand protection Danger zone guarding
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	40 mm
Protective field height	450 mm
Optical data	
Number of beams	18 Piece(s)
Synchronization	Optical between transmitter and receiver
Electrical data	
Protective circuit	Short circuit protected Overvoltage protection
Performance data	
Supply voltage	26.5 ... 31.6 V
Current consumption from AS-i circuit	150 mA
Timing	
Response time	5 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
Connection	
Number of connections	2 Piece(s)

Part no.: 68017404 – MLC510R40-450H/A – Safety light curtain receiver
Connection 1

Type of connection	Connector
Function	Machine interface
Thread size	M12
Material	Metal
No. of pins	5 -pin

Connection 2

Type of connection	Cable with connector
Function	Cascade, Middle Guest Out Cascade, Guest Out
Cable length	330 mm
Sheathing material	PUR
Thread size	M12
Material	Plastic
No. of pins	8 -pin

Cable properties

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

Mechanical data

Dimension (W x H x L)	29 mm x 516 mm x 35.4 mm
Housing material	Metal, Aluminum
Lens cover material	Plastic / PMMA
Material of end caps	Diecast zinc
Net weight	675 g
Housing color	Yellow, RAL 1021
Type of fastening	Mounting bracket Swivel mount Groove mounting

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
Protection class	III
Certifications	c TÜV NRTL US c CSA US TÜV Süd
Vibration resistance	50 m/s ²
Shock resistance	100 m/s ²
US patents	US 6,418,546 B

Classification

eCl@ss 8.0	27272704
eCl@ss 9.0	27272704
ETIM 5.0	EC002549

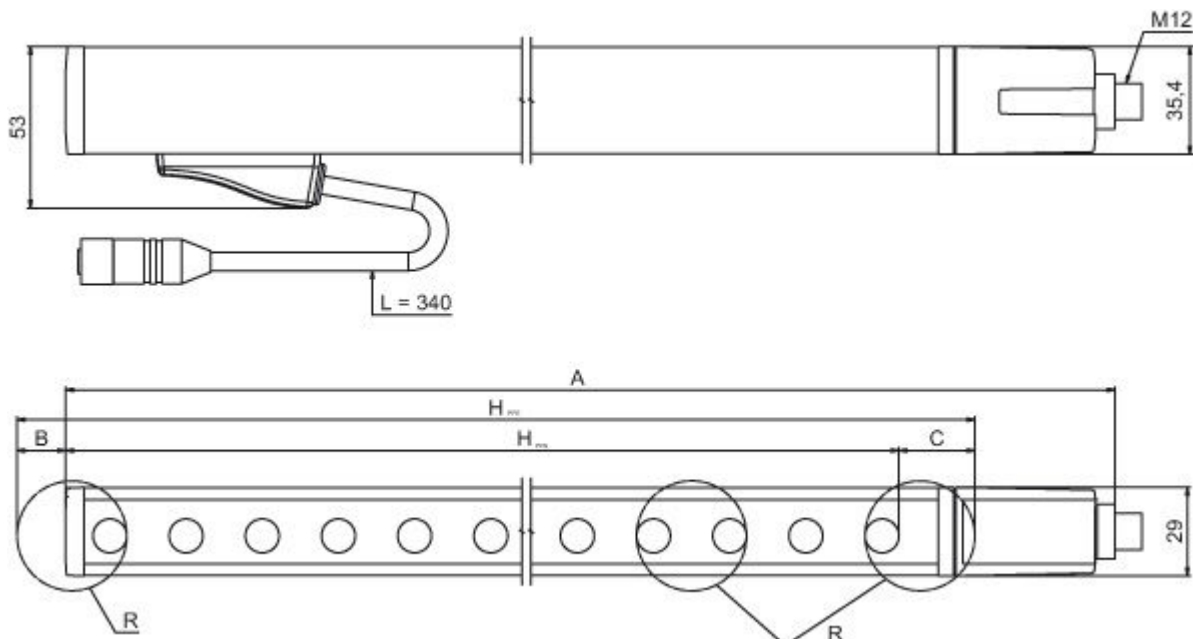
Suitable transmitters

	Part no.	Designation	Article	Description
	68016404	MLC500T40-450H/A	Safety light curtain transmitter	Resolution: 40 mm Protective field height: 450 mm Operating range: 0 ... 20 m Interface: AS-Interface Safety at Work Connection: Connector, M12, Metal, 5 -pin

Dimensioned drawings

All dimensions in millimeters

Calculation of the effective protective field height $HPFE = HPFN + B + C$



HPFE	Effective protective field height = 490 mm
HPFN	Nominal protective field height = 450 mm
A	Total height = 516 mm
B	25 mm
C	15 mm
R	Effective protective field height $HPFE$ goes beyond the dimensions of the optics area to the outer borders of the circles labeled with R.

Electrical connection

Connection 1	
Type of connection	Connector
Function	Machine interface
Thread size	M12
Type	Male
Material	Metal
No. of pins	5 -pin
Encoding	A-coded

Pin	Pin assignment
1	AS-i+
2	n.c.
3	AS-i-
4	n.c.
5	n.c.



Connection 2	
Type of connection	Cable with connector
Function	Cascade, Middle Guest Out Cascade, Guest Out
Cable length	330 mm
Sheathing material	PUR
Cable color	Black
Wire cross section	0.14 mm ²
Type of stranding	Pair stranding (twisted pair)
Thread size	M12
Type	Female
Material	Plastic
No. of pins	8 -pin
Encoding	A-coded

Operation and display

LEDs

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

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LED	Display	Meaning
	Red/green, flashing alternately	Periphery error

Part number code

Part designation: MLCxyy-za-hhhhei-ooo



MLC	Safety light curtain
x	Series: 3: MLC 300 5: MLC 500
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
z	Device type: T: transmitter R: receiver
a	Resolution: 14: 14 mm 20: 20 mm 30: 30 mm 40: 40 mm 90: 90 mm
hhh	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

Note



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

Accessories



Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
	429056	BT-2L	Mounting bracket set	Design of mounting device: Angle, L-shape Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Screw type Material: Metal
	429006	BT-2L-HG	Mounting device set	Mounting bracket, at device: Screw type Material: Metal






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	Part no.	Designation	Article	Description
	429057	BT-2Z	Mounting bracket set	Design of mounting device: Angle, Z-shape Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Screw type Material: Metal
	429005	BT-L-HG	Mounting device set	Mounting bracket, at device: Screw type Material: Metal

Mounting technology - Swivel mounts


	Part no.	Designation	Article	Description
	429393	BT-2HF	Mounting bracket set	Contains: 2x BT-HF swivel mount, 1 cylinder for mounting on the light curtain Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 360° Material: Metal, Plastic
	429394	BT-2HF-S	Mounting bracket set	Contains: 2x BT-HF swivel mount, 1 cylinder for mounting on the light curtain Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 360° Material: Metal, Plastic Shock absorber: Yes

Mounting technology - Other




	Part no.	Designation	Article	Description
	425740	BT-10NC60	Sliding block set	Contains: 10x BT-NC sliding block Bore hole 1: Ø 4.7 mm Bore hole 2: M6 Design of mounting device: Sliding block Mounting bracket, at system: Mounting thread Mounting bracket, at device: Groove mounting Material: Metal
	425741	BT-10NC64	Sliding block set	Contains: 10x BT-NC-M4-M6 sliding block Bore hole 1: M4 Bore hole 2: M6 Design of mounting device: Sliding block Mounting bracket, at system: Mounting thread Mounting bracket, at device: Groove mounting Material: Metal
	425742	BT-10NC65	Sliding block set	Contains: 10x BT-NC-M5-M6 sliding block Bore hole 1: M5 Bore hole 2: M6 Design of mounting device: Sliding block Mounting bracket, at system: Mounting thread Mounting bracket, at device: Groove mounting Material: Metal
	424422	BT-2SB10	Mounting bracket set	Contains: 2x BT-SB10 Design of mounting device: Mounting clamp Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Clampable, an der seitlichen C-Nut Type of mounting device: Swiveling Swivel range: -8 ... 8° Material: Metal
	424423	BT-2SB10-S	Mounting bracket set	Contains: 2x BT-SB10-S Design of mounting device: Mounting clamp Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Clampable, an der seitlichen C-Nut Swivel range: -8 ... 8° Material: Metal Shock absorber: Yes

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Test rods

	Part no.	Designation	Article	Description
	349939	AC-TR20/40	Test piece	Diameter 1: 20 mm Diameter 2: 40 mm Housing material: Plastic, Terluran HH106 black

Alignment aids

	Part no.	Designation	Article	Description
	427300	AC-ALM	Alignment aid	Housing material: Plastic
	520101	AC-ALM-M	Alignment aid	Housing material: Plastic
	560020	LA-78U	Alignment aid	Light source: laser, Red Housing material: Metal

Protective screens

	Part no.	Designation	Article	Description
	429038	MLC-2PSF	Mounting bracket set	Type of fastening: Clampable Mounting device material: Metal
	347073	MLC-PS450	Protective screen	Protective field height: 450 mm Material: PMMA, clear

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.