



Figure can vary

Part no.: 68006904
MLC500T90-450/A
Safety light curtain transmitter



Contents

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- Suitable receivers
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Technical data

Basic data	
Series	MLC 500
Device type	Transmitter
Contains	2x BT-NC sliding block
Application	Danger zone guarding Access guarding
Characteristic parameters	
Type	4, IEC/EN 61496
SIL	3, IEC 61508
SILCL	3, IEC/EN 62061
Mission time T_M	20 years, EN ISO 13849-1
Protective field data	
Resolution	90 mm
Protective field height	450 mm
Operating range	0 ... 20 m
Optical data	
Synchronization	Optical between transmitter and receiver
Light source	LED, Infrared
LED light wavelength	940 nm
Transmitted-signal shape	Pulsed
LED group	Exempt group in acc. with EN 62471:2008
Electrical data	
Protective circuit	Overvoltage protection Short circuit protected
Performance data	
Supply voltage	26.5 ... 31.6 V
Current consumption from AS-i circuit	50 mA
Inputs	
Number of digital switching inputs	1 Piece(s)
Switching inputs	
Type	Digital switching input
Switching voltage high, min.	18 V
Switching voltage low, max.	2.5 V
Switching voltage, typ.	22.5 V
Voltage type	DC
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

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Connection

Number of connections	1 Piece(s)
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Connection 1

Type of connection	Connector
Function	Machine interface
Thread size	M12
Material	Metal
No. of pins	5 -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	600 g
Housing color	Yellow, RAL 1021
Type of fastening	Groove mounting Swivel mount Mounting on Device Column Mounting bracket

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 CSA US TÜV Süd c TÜV NRTL US
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

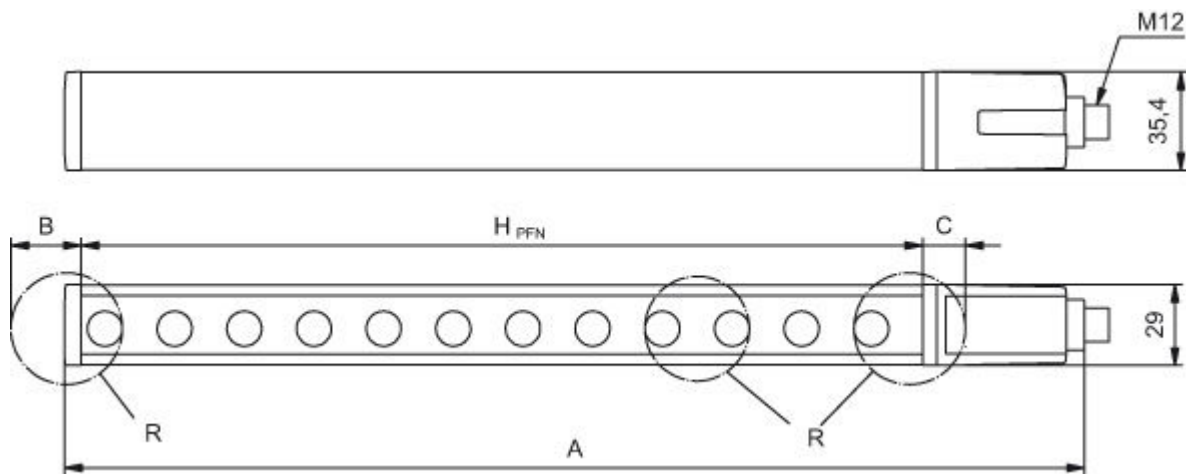
Suitable receivers

	Part no.	Designation	Article	Description
	68007904	MLC510R90-450/A	Safety light curtain receiver	Resolution: 90 mm Protective field height: 450 mm Response time: 3 ms 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 $HPFE = HPFN + B + C$



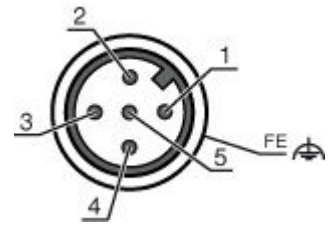
HPFE	Effective protective field height = 540 mm
HPFN	Nominal protective field height = 450 mm
A	Total height = 516 mm
B	50 mm
C	40 mm
R	Effective protective field height $HPFE$ goes beyond the dimensions of the optics area to the outer borders of the circles labeled with R.

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

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



Operation and display

LEDs

LED	Display	Meaning
1	Off	Device switched off
	Red, continuous light	Device error
	Green, continuous light	Normal operation
2		

Part number code

Part designation: **MLC**xyy-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
	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



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
	424417	BT-2P40	Mounting bracket set	Contains: 2x BT-P40 clamp bracket Design of mounting device: Mounting clamp Mounting bracket, at system: Groove mounting Mounting bracket, at device: Groove mounting Type of mounting device: Clampable Material: Metal



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	Part no.	Designation	Article	Description
	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


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
	520004	LA-78UDC	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


Deflecting mirror

	Part no.	Designation	Article	Description
	529604	UM60-450	Deflecting mirror	Dimensions: 25 mm x 520 mm x 68 mm Protected field height up to: 450 mm Mirror length: 510 mm

Device columns

	Part no.	Designation	Article	Description
	549856	UDC-1000-S2	Device column	Dimensions: 160 mm x 1,060 mm x 149 mm Column height without foot: 1,000 mm Functions: Mounting and protection of light curtains and multiple light beam devices, Adjustable, 3 directions
	549852	UDC-1300-S2	Device column	Dimensions: 160 mm x 1,360 mm x 149 mm Column height without foot: 1,300 mm Functions: Mounting and protection of light curtains and multiple light beam devices, Adjustable, 3 directions
	549853	UDC-1600-S2	Device column	Dimensions: 160 mm x 1,660 mm x 149 mm Column height without foot: 1,600 mm Functions: Mounting and protection of light curtains and multiple light beam devices, Adjustable, 3 directions
	549854	UDC-1900-S2	Device column	Dimensions: 160 mm x 1,960 mm x 149 mm Column height without foot: 1,900 mm Functions: Mounting and protection of light curtains and multiple light beam devices, Adjustable, 3 directions
	549867	UDC-2100-S2	Device column	Dimensions: 160 mm x 2,160 mm x 149 mm Column height without foot: 2,100 mm Functions: Adjustable, 3 directions, Mounting and protection of light curtains and multiple light beam devices
	549857	UDC-2500-S2	Device column	Dimensions: 160 mm x 2,560 mm x 149 mm Column height without foot: 2,500 mm Functions: Adjustable, 3 directions, Mounting and protection of light curtains and multiple light beam devices
	549865	UDC-3100-S2	Device column	Dimensions: 160 mm x 3,160 mm x 149 mm Column height without foot: 3,100 mm Functions: Mounting and protection of light curtains and multiple light beam devices, Adjustable, 3 directions

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	Part no.	Designation	Article	Description
	549855	UDC-900-S2	Device column	Dimensions: 160 mm x 960 mm x 149 mm Column height without foot: 900 mm Functions: Mounting and protection of light curtains and multiple light beam devices, Adjustable, 3 directions

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.