

## **Technical data sheet** Safety light curtain transmitter

## Part no.: 68016909 MLC500T90-900H/A



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### **Technical data**

#### Basic data

Series	MLC 500
Device type	Transmitter
Cascading	Host
Contains	2x BT-NC sliding block
Application	Access guarding
	Danger zone guarding

#### **Characteristic parameters**

Туре	4, IEC/EN 61496
SIL	3, IEC 61508
SILCL	3, IEC/EN 62061
Mission time T <sub>M</sub>	20 years, EN ISO 13849-1

#### Protective field data

Resolution	90 mm
Protective field height	900 mm
Operating range	0 20 m

#### **Optical data**

Number of beams	12 Piece(s)
Synchronization	Optical between transmitter and receiver
Light source	LED, Infrared
Wavelength	940 nm
Transmitted-signal shape	Pulsed
LED risk group	Exempt group (in acc. with EN 62471:2008)

#### **Electrical data**

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2	rotective circuit	Overvoltage protection
		Short circuit protected
	Performance data	
	Supply voltage U <sub>B</sub>	26.5 31.6 V
	Current consumption from AS-i circuit	50 mA
	Inputs	
	Number of digital switching inputs	1 Piece(s)
	Switching inputs	
	Туре	Digital switching input
	Switching voltage high, min.	18 V
	Switching voltage low, max.	2.5 V
	Switching voltage, type.	22.5 V
	Voltage type	DC

#### Interface

Туре

AS-Interface Safety at Work

AS-i
Function
AS-i profile
Slave address
Cycle time acc. to AS-i specifica- tions

S-0.B.F 1..31 programmable, default=0

Max. 5 ms ms

#### Connection

Number of connections

2 Piece(s)

Process

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Connection 1 Function Type of connection	
	Machine interface
Thread size	Connector M12
Material	Metal
No. of pins	5 -pin
Connection 2	
Function	Cascade, Guest Out
	Cascade, Middle Guest Out
Type of connection	Cable with connector
Cable length	330 mm
Sheathing material	PUR
Thread size	M12
Material	Plastic
No. of pins	8 -pin
Cable properties	
Permissible conductor cross section, type.	0.25 mm²
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 966 mm x 53 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic / PMMA
Material of end caps	Diecast zinc
Net weight	1,125 g
Housing color	Yellow, RAL 1021
Type of fastening	Groove mounting
	Mounting brackets Swivel mount
	Swivermount
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
Approvals	c TÜV NRTL US
	c UL US
	TÜV Süd
	50 m/s²
Vibration resistance Shock resistance US patents	100 m/s² US 6,418,546 B

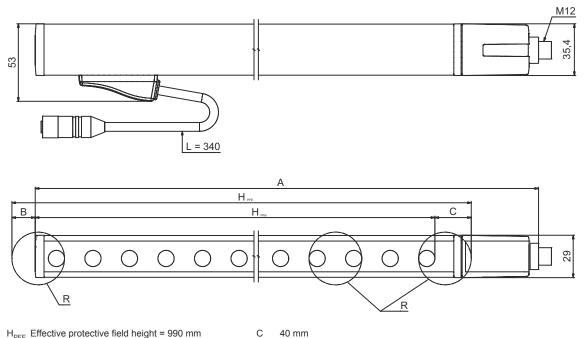
### **Technical data**

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### **Dimensioned drawings**

All dimensions in millimeters

### Calculation of the effective protective field height $H_{PFE} = H_{PFN} + B + C$



 $H_{PFE}$  Effective protective field height = 990 mm

 $H_{PFN}$  Nominal protective field height = 900 mm

- А Total height = 966 mm
- В 50 mm

- 40 mm Effective protective field height  $\rm H_{\rm PFE}$  goes beyond the dimensions of the optics area to R
  - the outer borders of the circles labeled with R.

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### **Electrical connection**

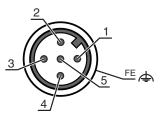
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#### **Connection 1**

Function	Machine interface
Type of connection	Connector
Thread size	M12
Туре	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.			
3         AS-i-           4         n.c.	1	AS-i+	
4 n.c.	2	n.c.	
	3	AS-i-	
5 n.c.	4	n.c.	
	5	n.c.	



#### **Connection 2**

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

### **Operation and display**

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

### Suitable receivers

	Part no.	Designation	Article	Description
l	68017909	MLC510R90-900H/A	Safety light curtain receiver	Resolution: 90 mm Protective field height: 900 mm Response time: 4 ms Interface: AS-Interface Safety at Work Connection: Connector, M12, Metal, 5 -pin

### Part number code

#### Part designation: MLCxyy-za-hhhhei-ooo



MLC	Safety light curtain
x	Series 3: MLC 300 5: MLC 500
уу	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
а	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
000	Option //: 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

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#### Observe intended use!

The product may only be put into operation by competent persons.

### Accessories

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### Connection technology - Interconnection cables

	Part no.	Designation	Article	Description
	429278	CB-M12-2000E-8TP	Interconnection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin Connection 2: Connector, M12, Axial, Male, A-coded, 8 -pin Shielded: Yes Cable length: 2,000 mm Sheathing material: PUR

### Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
P.G.	429393	BT-2HF	Mounting bracket set	Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 360° Material: Metal, Plastic

### Alignment aids

	Part no.	Designation	Article	Description
-	520101	AC-ALM-M	Alignment aid	Housing material: Plastic

### Services

	Part no.	Designation	Article	Description
$\bigcirc$	S981050	CS40-I-140	Safety inspection	Details: Checking of a safety light barrier application in accordance with current standards and guidelines. Inclusion of the device and machine data in a database, production of a test log per application. Conditions: It must be possible to stop the machine, support provided by customer's employees and access to the machine for Leuze employees must be ensured.
	S981046	CS40-S-140	Start-up support	Details: For safety devices including stopping time measurement and initial inspection. Conditions: Devices and connection cables are already mounted, price not including travel costs and, if applicable, accommodation expenses.

### Note

the A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.