

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

Part no.: 68016116

MLC500T14-1650H/A



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### **Technical data**



#### Basic data

Series	MLC 500
Device type	Transmitter
Cascading	Host
Contains	2x BT-NC sliding block
Application	Finger protection

### **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	14 mm
Protective field height	1,650 mm
Operating range	0 6 m

#### **Optical data**

Number of beams	165 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**

Protective 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)
Number of digital switching inputs	1 1 1000(3)

### **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	Process
AS-i profile	S-0.B.F
Slave address	131 programmable, default=0
Cycle time acc. to AS-i specifica-	Max. 5 ms ms

### Connection

Number of connections	2 Piece(s)
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Connection 1	
Function	Machine interface
Type of connection	Connector
Thread size	M12
Material	Metal

5 -pin

#### **Connection 2**

No. of pins

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

Cable properties	
Permissible conductor cross section, type.	0.25 mm <sup>2</sup>
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 1,716 mm x 53 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic / PMMA
Material of end caps	Diecast zinc
Net weight	1,875 g
Housing color	Yellow, RAL 1021
Type of fastening	Groove mounting
	Mounting brackets
	Swivel mount

### 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
Vibration resistance	50 m/s <sup>2</sup>
Shock resistance	100 m/s <sup>2</sup>
US patents	US 6,418,546 B

### **Technical data**

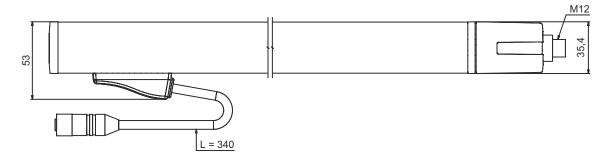


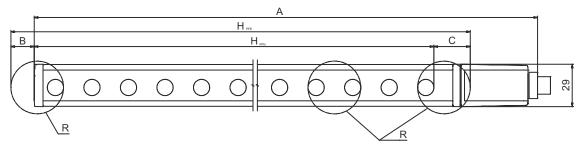
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ECLASS 13.0	27272704
ECLASS 14.0	27272704
ECLASS 15.0	27272704
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549
ETIM 8.0	EC002549
ETIM 9.0	EC002549
ETIM 10.0	EC002549

### **Dimensioned drawings**

All dimensions in millimeters

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





 $H_{\mathsf{PFE}}$  Effective protective field height = 1662 mm H<sub>PFN</sub> Nominal protective field height = 1650 mm

Total height = 1716 mm

6 mm

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

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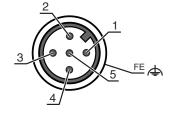
### **Electrical connection**



### **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.



### **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 mm²
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
68017116	MLC510R14-1650H/ A	Safety light curtain receiver	Resolution: 14 mm Protective field height: 1,650 mm Response time: 36 ms Interface: AS-Interface Safety at Work Connection: Connector, M12, Metal, 5 -pin

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We reserve the right to make technical changes

### Part number code



Part designation: MLCxyy-za-hhhhei-ooo

MLC	Safety light curtain
х	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 - Banking/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
е	Host/Guest (optional) H: Host MG: Middle Guest G: Guest
i	Interface (optional) /A: AS-i
000	Option  N: 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!



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### **Accessories**



# 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
Paga	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
-1-	520101	AC-ALM-M	Alignment aid	Housing material: Plastic

### Services

Part no.	Designation	Article	Description
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



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