

# Technical data sheet Safety light curtain transmitter

Part no.: 68016915

MLC500T90-1500H/A



#### Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Operation and display
- Suitable receivers
- Part number code
- Notes
- Accessories

















## **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	1,500 mm
Operating range	0 20 m

#### **Optical data**

Number of beams	20 Piece(s)
Synchronization	Optical between transmitter and receiver
Light source	LED, Infrared
LED light 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	. 0 0
Current consumption from AS-i 50 mA circuit	

#### 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, typ.	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 specifications	- Max. 5 ms ms

#### Connection

**Number of connections** 2 Piece(s)

Function	Machine interface
Type of connection	Connector
Thread size	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

ouble properties	
Permissible conductor cross section, typ.	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 1,566 mm x 35.4 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic / PMMA
Material of end caps	Diecast zinc
Net weight	1,725 g
Housing color	Yellow, RAL 1021
Type of fastening	Groove mounting
	Mounting bracket
	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
Certifications	c CSA US
	c TÜV NRTL US
	TÜV Süd
Vibration resistance	50 m/s²
Shock resistance	100 m/s <sup>2</sup>
US patents	US 6,418,546 B

## **Technical data**

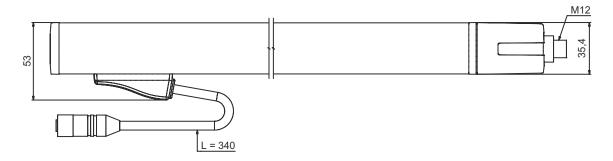


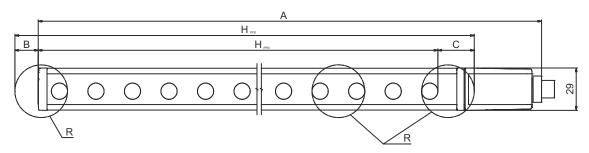
Customs tariff number	85365019
eCl@ss 5.1.4	27272704
eCl@ss 8.0	27272704
eCl@ss 9.0	27272704
eCl@ss 10.0	27272704
eCl@ss 11.0	27272704
ETIM 5.0	EC002549
ETIM 6.0	EC002549
FTIM 7.0	EC002549

## **Dimensioned drawings**

All dimensions in millimeters

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





 ${\rm H}_{\rm PFE}$  Effective protective field height = 1590 mm

 ${\rm H}_{\rm PFN}$  Nominal protective field height = 1500 mm

A Total height = 1566 mm

B 50 mm

- C 40 mm
- R Effective protective field height H<sub>PFE</sub> goes beyond the dimensions of the optics area to the outer borders of the circles labeled with R.

## **Electrical connection**

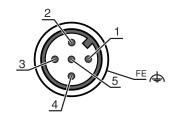
### **Connection 1**

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

## **Electrical connection**



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
68017915	MLC510R90-1500H/ A	Safety light curtain receiver	Resolution: 90 mm Protective field height: 1,500 mm Response time: 6 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
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 - blanking/muting
z	Device type T: transmitter R: receiver

## Part number code



MLC	Safety light curtain
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
е	Host/Guest (optional) H: Host MG: Middle Guest G: Guest
i	Interface (optional) /A: AS-i
000	Option  /V: high Vibration-proof  EX2: explosion protection (zones 2 + 22)  SPG: Smart Process Gating

#### Note



## **Notes**



## Observe intended use!



## **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

## **Accessories**



## Alignment aids

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

## Services

Part no.	Designation	Article	Description
S981050	CS40-I-140	Safety inspection "Safety light barriers"	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.  Restrictions: Travel costs and accommodation expenses charged separately and according to expenditure.
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.  Restrictions: Max. 2 h., no mechanical (mounting) and electrical (wiring) work performed, no changes (attachments, wiring, programming) to third-party components in the nearby environment.

#### Note



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