

## Technical data sheet

### Safety light curtain receiver

Part no.: 68007916

MLC510R90-1650/A



For illustration purposes only

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## Technical data

### Basic data

Series	MLC 500
Device type	Receiver
Contains	2x BT-NC sliding block
Application	Access guarding
	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 <sub>D</sub>	7.73E-09 per hour
Mission time T <sub>M</sub>	20 years, EN ISO 13849-1
Category	4, EN ISO 13849

### Protective field data

Resolution	90 mm
Protective field height	1,650 mm

### Optical data

Synchronization	Optical between transmitter and receiver
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### Electrical data

Protective circuit	Overvoltage protection
	Short circuit protected
<b>Performance data</b>	
Supply voltage U <sub>B</sub>	26.5 ... 31.6 V
Current consumption from AS-i circuit	150 mA

### Time behavior

Response time	6 ms
Restart delay time	100 ms

### Interface

Type	AS-Interface Safety at Work
<b>AS-i</b>	
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	1 Piece(s)
<b>Connection 1</b>	
Function	Machine interface
Type of connection	Connector
Thread size	M12
Material	Metal
No. of pins	5 -pin

### 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 35.4 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic / PMMA
Material of end caps	Diecast zinc
Net weight	1,800 g
Housing color	Yellow, RAL 1021
Type of fastening	Groove mounting
	Mounting brackets
	Mounting on Device Column
	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

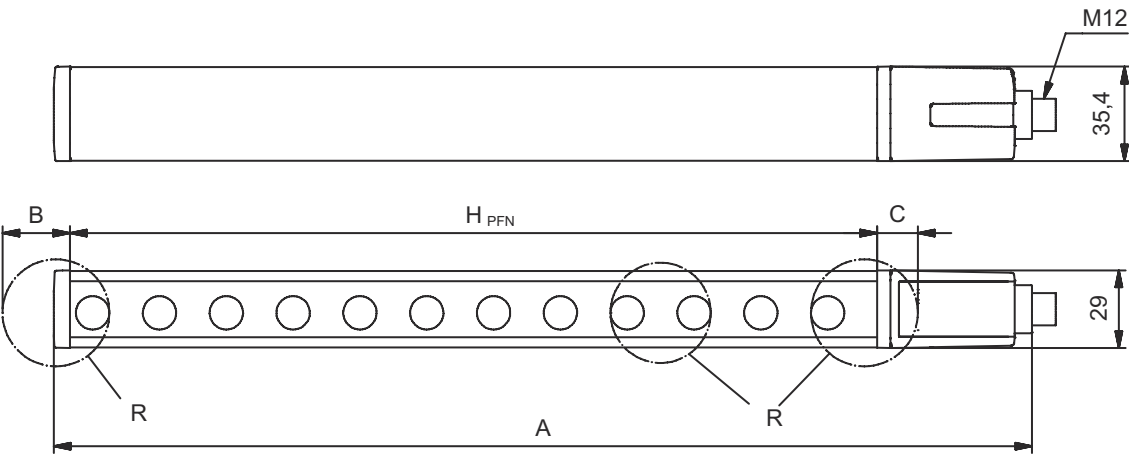
Degree of protection	IP 65
Protection class	III
Approvals	c TÜV NRTL US
	c UL US
	TÜV Süd
Vibration resistance	50 m/s <sup>2</sup>
Shock resistance	100 m/s <sup>2</sup>
US patents	US 6,418,546 B

### Classification

Customs tariff number	85365019
ECLASS 5.1.4	27272704
ECLASS 8.0	27272704
ECLASS 9.0	27272704
ECLASS 10.0	27272704
ECLASS 11.0	27272704
ECLASS 12.0	27272704
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

All dimensions in millimeters

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



- $H_{PFE}$

Effective protective field height = 1740 mm
- $H_{PFN}$

Nominal protective field height = 1650 mm
- A

Total height = 1716 mm
- B

50 mm
- C

40 mm
- R

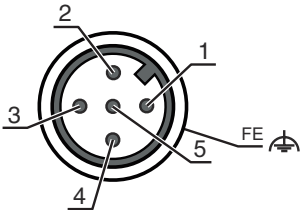
Effective protective field height  $H_{PFE}$  goes beyond the dimensions of the optics area to the outer borders of the circles labeled with R.

Electrical connection

Connection 1

Function	Machine interface
Type of connection	Connector
Thread size	M12
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.




Operation and display

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
	Off	No voltage
2	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

## Operation and display

LED	Display	Meaning
2	Yellow, flashing	AS-i slave has invalid address 0
	Red, flashing	AS-i slave device error or AS-i connection defective
	Red/green, flashing alternately	Periphery error

## Suitable transmitters

	Part no.	Designation	Article	Description
	68006916	MLC500T90-1650/A	Safety light curtain transmitter	Resolution: 90 mm Protective field height: 1,650 mm Operating range: 0 ... 20 m Interface: AS-Interface Safety at Work Connection: Connector, M12, Metal, 5 -pin

## Part number code

Part designation: MLCxyy-za-hhhh-ei-ooo

MLC	Safety light curtain
x	<b>Series</b> 3: MLC 300 5: MLC 500
yy	<b>Function classes</b> 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	<b>Device type</b> T: transmitter R: receiver
a	<b>Resolution</b> 14: 14 mm 20: 20 mm 30: 30 mm 40: 40 mm 90: 90 mm
hhhh	<b>Protective field height</b> 150 ... 3000: from 150 mm to 3000 mm
e	<b>Host/Guest (optional)</b> H: Host MG: Middle Guest G: Guest
i	<b>Interface (optional)</b> /A: AS-i
ooo	<b>Option</b> /V: 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](http://www.leuze.com).

## 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.

## Accessories

### Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
	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

## 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.