

Technical data sheet

Safety light curtain receiver

Part no.: 68017110

MLC510R14-1050H/A



For illustration purposes only

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Technical data

Basic data

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

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 _D | 7.73E-09 per hour |
| Mission time T _M | 20 years, EN ISO 13849-1 |
| Category | 4, EN ISO 13849 |

Protective field data

| | |
|-------------------------|----------|
| Resolution | 14 mm |
| Protective field height | 1,050 mm |

Optical data

| | |
|-----------------|--|
| Number of beams | 105 Piece(s) |
| Synchronization | Optical between transmitter and receiver |

Electrical data

| | |
|--------------------|---|
| Protective circuit | Overvoltage protection Short circuit protected |
|--------------------|---|

Performance data

| | |
|---------------------------------------|-----------------|
| Supply voltage U _B | 26.5 ... 31.6 V |
| Current consumption from AS-i circuit | 150 mA |

Time behavior

| | |
|--------------------|--|
| Response time | 23 ms, plus response times of the Middle Guest/Guest devices |
| Restart delay time | 100 ms |

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 ms |

Connection

| | |
|-----------------------|-------------------|
| Number of connections | 2 Piece(s) |
| Connection 1 | |
| 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

| | |
|--|----------------------|
| Permissible conductor cross section, type. | 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 1,116 mm x 53 mm |
| Housing material | Metal |
| Metal housing | Aluminum |
| Lens cover material | Plastic / PMMA |
| Material of end caps | Diecast zinc |
| Net weight | 1,275 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

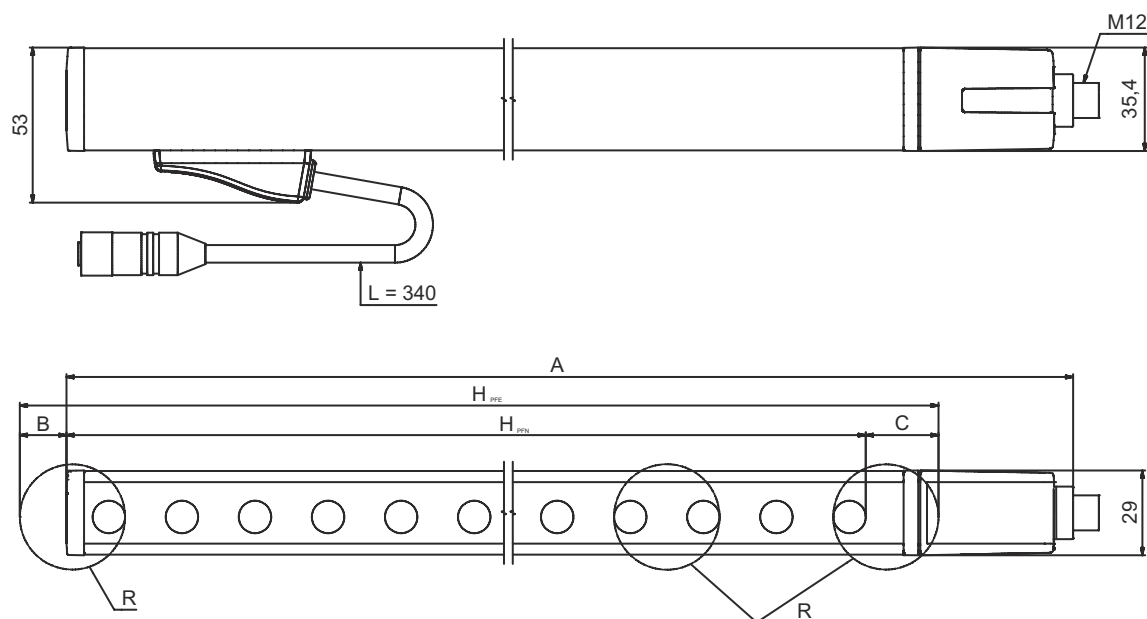
| | |
|----------------------|-------------------------------------|
| Degree of protection | IP 65 |
| Protection class | III |
| Approvals | c TÜV NRTL US c UL US TÜV Süd |
| Vibration resistance | 50 m/s ² |
| Shock resistance | 100 m/s ² |
| US patents | US 6,418,546 B |

Technical data

| | |
|-----------------------|----------|
| 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 |

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 = 1062 mm H_{PFN} Nominal protective field height = 1050 mm

A Total height = 1116 mm

B 6 mm

C 6 mm

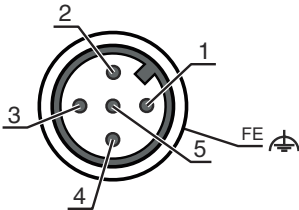
R Effective protective field height H_{PFE} goes beyond the dimensions of the optics area to the outer borders of the circles labeled with R.

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. |




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 |
| Type | 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 | 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 |
| 2 | Off | No voltage |
| | 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 |
| | 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 |
|---|----------|-------------------|----------------------------------|---|
|  | 68016110 | MLC500T14-1050H/A | Safety light curtain transmitter | Resolution: 14 mm Protective field height: 1,050 mm Operating range: 0 ... 6 m Interface: AS-Interface Safety at Work Connection: Connector, M12, Metal, 5 -pin |

Part number code

Part designation: **MLCxyy-za-hhhh-e-iii-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 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 |
| 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 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!

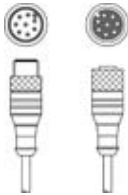


The product may only be put into operation by competent persons.


Only use the product in accordance with its 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 |
|--|----------|-------------|----------------------|---|
|  | 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.