



Figure can vary

Part no.: 68017216
MLC510R20-1650H/A
Safety light curtain receiver



Contents

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

Technical data

| Basic data | |
|--|---|
| Series | MLC 500 |
| Device type | Receiver |
| Cascading | Host |
| Contains | 2x BT-NC sliding block |
| Application | Hand 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 | 20 mm |
| Protective field height | 1,650 mm |
| Optical data | |
| Number of beams | 132 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 |
| Timing | |
| Response time | 29 ms |
| 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 |
| Connection | |
| Number of connections | 2 Piece(s) |

Part no.: 68017216 – MLC510R20-1650H/A – Safety light curtain receiver

Connection 1

| | |
|--------------------|-------------------|
| Type of connection | Connector |
| Function | Machine interface |
| Thread size | M12 |
| Material | Metal |
| No. of pins | 5 -pin |

Connection 2

| | |
|--------------------|---|
| Type of connection | Cable with connector |
| Function | Cascade, Guest Out Cascade, Middle Guest Out |
| Cable length | 330 mm |
| Sheathing material | PUR |
| Thread size | M12 |
| Material | Plastic |
| No. of pins | 8 -pin |

Cable properties

| | |
|--|----------------------|
| Permissible conductor cross section, typ. | 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 1,716 mm x 35.4 mm |
| Housing material | Metal , 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 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/s ² |
| Shock resistance | 100 m/s ² |
| US patents | US 6,418,546 B |

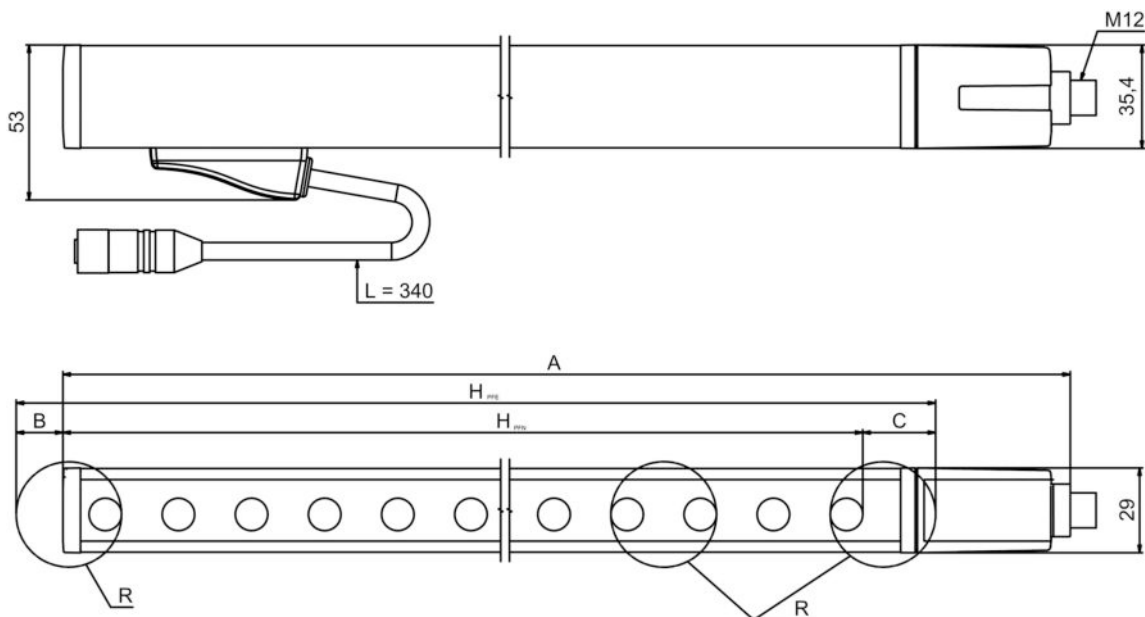
Classification

| | |
|-----------------------|----------|
| Customs tariff number | 85365019 |
| eCl@ss 8.0 | 27272704 |
| eCl@ss 9.0 | 27272704 |
| ETIM 5.0 | EC002549 |
| ETIM 6.0 | 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 = 1667 mm

H_{PFN} Nominal protective field height = 1650 mm

A Total height = 1716 mm

B 7 mm

C 10 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 | |
|--------------------|-------------------|
| Type of connection | Connector |
| Function | Machine interface |
| 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 | |
|--------------------|---|
| Type of connection | Cable with connector |
| Function | Cascade, Guest Out Cascade, Middle Guest Out |
| Cable length | 330 mm |
| Sheathing material | PUR |
| Cable color | Black |
| Wire cross section | 0.14 mm ² |
| 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

LEDs

| 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 |

Part no.: 68017216 – MLC510R20-1650H/A – Safety light curtain receiver

Suitable transmitters

| | Part no. | Designation | Article | Description |
|---|----------|-------------------|----------------------------------|--|
|  | 68016216 | MLC500T20-1650H/A | Safety light curtain transmitter | Resolution: 20 mm Protective field height: 1,650 mm Operating range: 0 ... 15 m 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 |
| 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 |
| z | Device type: T: transmitter R: receiver |
| a | Resolution: 14: 14 mm 20: 20 mm 30: 30 mm 40: 40 mm 90: 90 mm |
| hhh | 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 |

Note

A list with all available device types can be found on the Leuze electronic 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

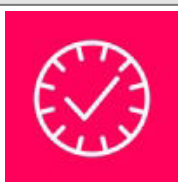
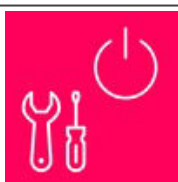
Connection technology - Interconnection cables

| | 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 | Contains: 2x BT-HF swivel mount, 1 cylinder for mounting on the light curtain 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 "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 electronic website in the Download tab of the article detailed page.