

Technical data sheet

Safety light curtain receiver

Part no.: 68017213
MLC510R20-1350H/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 | 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 | 1,350 mm |

Optical data

| | |
|-----------------|--|
| Number of beams | 108 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 | 24 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, 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 1,416 mm x 53 mm |
| Housing material | Metal |
| Metal housing | Aluminum |
| Lens cover material | Plastic / PMMA |
| Material of end caps | Diecast zinc |
| Net weight | 1,575 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 |
| Certifications | 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 |

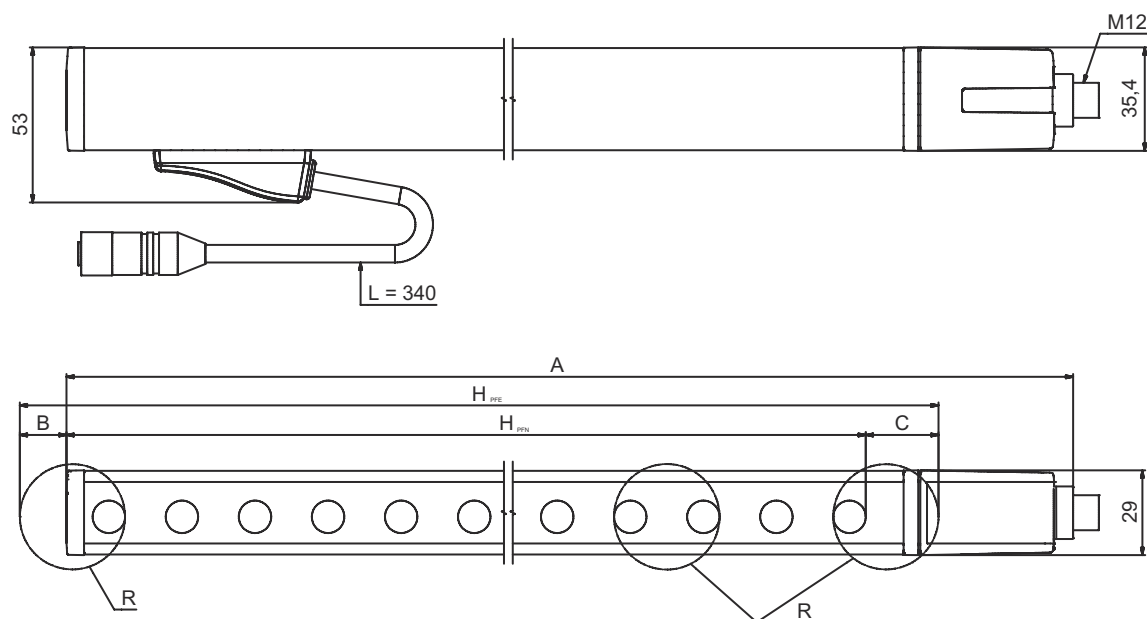
Technical data

| | |
|-----------------------|----------|
| 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 |
| ETIM 5.0 | EC002549 |
| ETIM 6.0 | EC002549 |
| ETIM 7.0 | EC002549 |
| ETIM 8.0 | EC002549 |
| ETIM 9.0 | 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 = 1367 mm

H_{PFN} Nominal protective field height = 1350 mm

A Total height = 1416 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

| | |
|--------------------|-------------------|
| 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 |
|---|----------|-------------------|----------------------------------|--|
|  | 68016213 | MLC500T20-1350H/A | Safety light curtain transmitter | Resolution: 20 mm Protective field height: 1,350 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 |
| 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 |

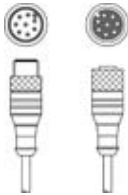
| Note | |
|--|--|
|  | A list with all available device types can be found on the Leuze website at www.leuze.com . |

Notes


|  Observe intended use! | |
|---|--|
|  | <p>The product may only be put into operation by competent persons.</p> <p>Only use the product in accordance with its intended use.</p> |

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. |
|--|---|