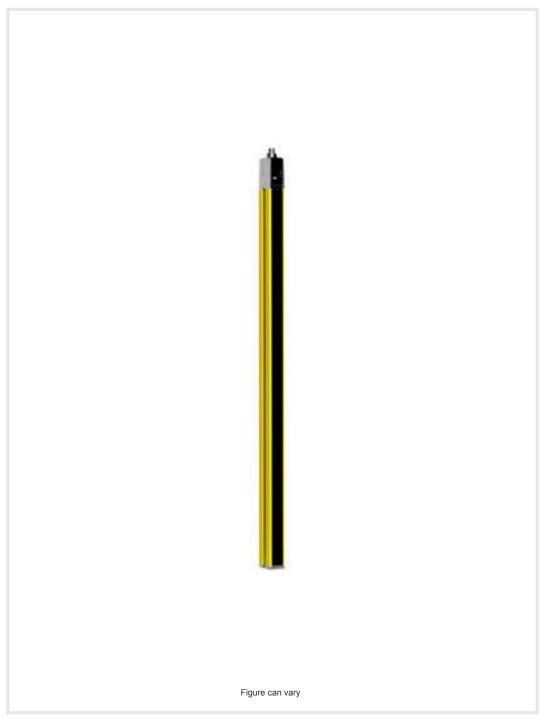


Technical data sheet Safety light curtain receiver

Part no.: 68001122

MLC510R14-2250



Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Circuit diagrams
- Operation and display
- Suitable transmitters
- Part number code
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Technical data



Basic data

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

Functions

| Function package | Basic |
|------------------|---------------------------------|
| | Automatic start/restart |
| | Transmission channel changeover |

Characteristic parameters

| Туре | 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 | 2,250 mm |

Optical data

Electrical data

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

| Periormance data | |
|-------------------------------|--------------------|
| Supply voltage U _B | 24 V, DC, -20 20 % |
| Current consumption, max. | 150 mA |
| Fuse | 2 A semi time-lag |

Outputs

| Number of safety-related switching | 2 Piece(s) |
|------------------------------------|------------|
| outputs (OSSDs) | |

Safety-related switching outputs

| Туре | Safety-related switching output OSSD |
|------------------------------|--------------------------------------|
| Switching voltage high, min. | 18 V |
| Switching voltage low, max. | 2.5 V |
| Switching voltage, typ. | 22.5 V |
| Voltage type | DC |
| Current load, max. | 380 mA |
| Load inductivity | 2,000 μΗ |
| Load capacity | 0.3 μF |
| Residual current, max. | 0.2 mA |
| Residual current, typ. | 0.002 mA |
| Voltage drop | 1.5 V |
| | |

Safety-related switching output 1

| curety related curtering co | icput i |
|-----------------------------|---------------------|
| Assignment | Connection 1, pin 2 |
| Switching element | Transistor, PNP |

Safety-related switching output 2

| Calety-related Switching Output 2 | | |
|-----------------------------------|---------------------|--|
| Assignment | Connection 1, pin 4 | |
| Switching element | Transistor PNP | |

Timing

| Response time | 48 ms |
|--------------------|--------|
| Restart delay time | 100 ms |

Connection

Number of connections

| Connection 1 Function | Machine interface |
|-----------------------|-------------------|
| Type of connection | Connector |
| Thread size | M12 |
| Material | Metal |
| No. of pins | 5 -pin |
| No. of pins | 5 -pin |
| Cable properties | |

1 Piece(s)

| 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 2,316 mm x 35.4 mm |
|-----------------------|----------------------------|
| Housing material | Metal |
| Metal housing | Aluminum |
| Lens cover material | Plastic / PMMA |
| Material of end caps | Diecast zinc |
| Net weight | 2,400 g |
| Housing color | Yellow, RAL 1021 |
| Type of fastening | Groove mounting |
| | Mounting bracket |
| | Mounting on Device Column |
| | Swivel mount |
| | |

Operation and display

| Type of display | LED |
|-----------------|------------|
| Number of LEDs | 2 Piece(s) |

Environmental data

| Ambient temperature, operation | -30 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 |
| | S Mark |
| | TÜV Süd |
| Vibration resistance | 50 m/s ² |
| Shock resistance | 100 m/s ² |
| US patents | US 6,418,546 B |

Leuze electronic GmbH + Co. KG info@leuze.com • www.leuze.com Phone: +49 7021 573-0 • Fax: +49 7021 573-199

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Technical data

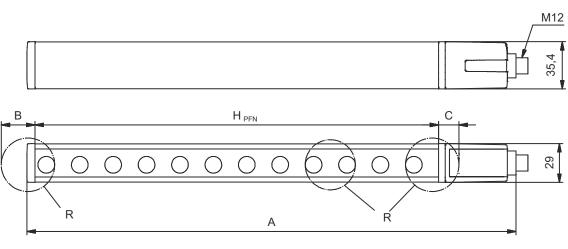


| Customs tariff number | 85365019 |
|-----------------------|----------|
| eCI@ss 5.1.4 | 27272704 |
| eCI@ss 8.0 | 27272704 |
| eCI@ss 9.0 | 27272704 |
| eCI@ss 10.0 | 27272704 |
| eCI@ss 11.0 | 27272704 |
| ETIM 5.0 | EC002549 |
| ETIM 6.0 | EC002549 |
| ETIM 7.0 | EC002549 |

Dimensioned drawings

All dimensions in millimeters

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



 H_{PFE} Effective protective field height = 2262 mm ${\rm H}_{\rm PFN}$ Nominal protective field height = 2250 mm

Total height = 2316 mm

6 mm

- С 6 mm
- 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

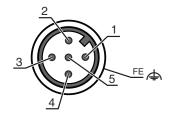
Connection 1

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

Electrical connection

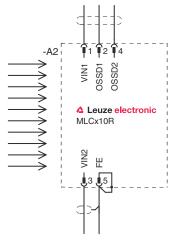


| Pin | Pin assignment | Conductor color |
|-----|----------------|-----------------|
| 1 | VIN1 | Brown |
| 2 | OSSD1 | White |
| 3 | VIN2 | Blue |
| 4 | OSSD2 | Black |
| 5 | FE/SHIELD | Grav |



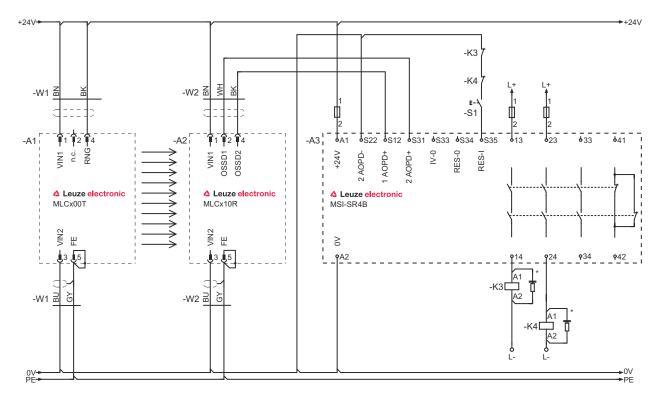
Circuit diagrams

Connection diagram receiver



- VIN1 = +24 V, VIN2 = 0 V: transmission channel C1
- VIN1 = 0 V, VIN2 = +24 V: transmission channel C2

Circuit diagram example with downstream MSI-SR4B safety relay







| LED | Display | Meaning |
|-----|-------------------------|-----------------------------------|
| 1 | Off | Device switched off |
| | Red, continuous light | OSSD off. |
| | Red, flashing, 1 Hz | External error |
| | Red, flashing, 10 Hz | Internal error |
| | Green, flashing, 1 Hz | OSSD on, weak signal |
| | Green, continuous light | OSSD on |
| 2 | Off | Transmission channel C1 |
| | Red, continuous light | OSSD off, transmission channel C2 |

Suitable transmitters

| Part no. | Designation | Article | Description |
|----------|----------------|----------------------------------|--|
| 68000122 | MLC500T14-2250 | Safety light curtain transmitter | Resolution: 14 mm Protective field height: 2,250 mm Operating range: 0 6 m 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 |
| 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 |
| 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



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

Notes





Observe intended use!



Accessories

Connection technology - Connection cables

| Part no. | Designation | Article | Description |
|----------|--------------------|------------------|--|
| 50133860 | KD S-M12-5A-P1-050 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Open end Shielded: Yes Cable length: 5,000 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 |

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.