

Technical data sheet Safety light curtain receiver

Part no.: 68001928 MLC510R90-2850



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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 |

Functions

Function package Functions

Automatic start/restart Transmission channel changeover

Optical between transmitter and receiver

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 |
| | |

Basic

Protective field data

| Resolution | 90 mm |
|-------------------------|----------|
| Protective field height | 2,850 mm |

Optical data

Synchronization

Electrical data

| Protective circuit | Overvoltage protection |
|------------------------------------|-----------------------------|
| | Short circuit protected |
| | |
| Performance 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 | $2 \operatorname{Piece}(s)$ |

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

Safety-related switching outputs

| Type Safety-related switching output | |
|--------------------------------------|----------|
| 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 µH |
| 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

Assignment Switching element Connection 1, pin 2 Transistor, PNP

| Safety-related switching o Assignment | Connection 1, pin 4 |
|---|----------------------------|
| - | |
| Switching element | Transistor, PNP |
| iming | |
| Response time | 9 ms |
| Restart delay time | 100 ms |
| Connection | |
| lumber of connections | 1 Piece(s) |
| Connection 1 | |
| Function | Machine interface |
| Type of connection | Connector |
| Thread size | M12 |
| Material | Metal |
| No. of pins | 5 -pin |
| Cable properties | |
| Cable properties Permissible conductor cross | 0.25 mm ² |
| section, typ. | |
| Length of connection cable, max. | 100 m |
| Permissible cable resistance to | 200 Ω |
| load, max. | |
| Vechanical data | |
| Dimension (W x H x L) | 29 mm x 2,916 mm x 35.4 mm |
| Housing material | Metal |
| Metal housing | Aluminum |
| _ens cover material | Plastic / PMMA |
| Material of end caps | Diecast zinc |
| Net weight | 3,000 g |
| Housing color | Yellow, RAL 1021 |
| Type of fastening | Groove mounting |
| .,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | Mounting bracket |
| | Mounting on Device Column |
| | Swivel mount |
| Operation and display | |
| Гуре 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 % |
| (introductions) | |
| Certifications | |
| Degree of protection | IP 65 |
| Protection class | III |
| | c CSA US |
| Certifications | c TÜV NRTL US |
| Certifications | |
| Sertifications | S Mark |
| Certifications | |
| Jertifications | S Mark |
| | S Mark TÜV Süd |



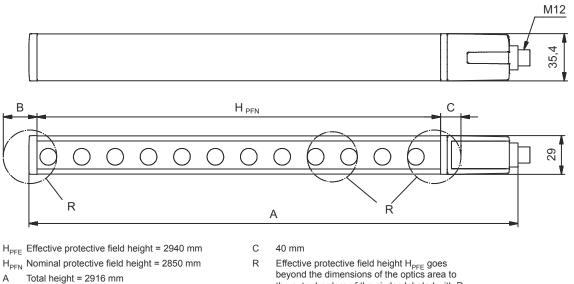
Technical data

| Customs tariff number | 85365019 |
|-----------------------|----------|
| eCl@ss 5.1.4 | 27272704 |
| eCl@ss 8.0 | 27272704 |
| eCl@ss 9.0 | 27272704 |
| eCl@ss 10.0 | 27272704 |
| eCl@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 $H_{PFF} = H_{PFN} + B + C$



В 50 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 |
| | |

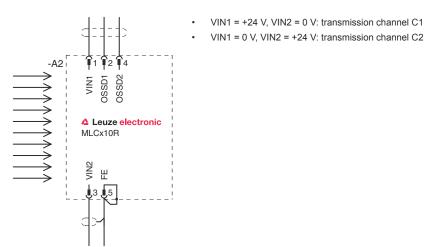
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Electrical connection

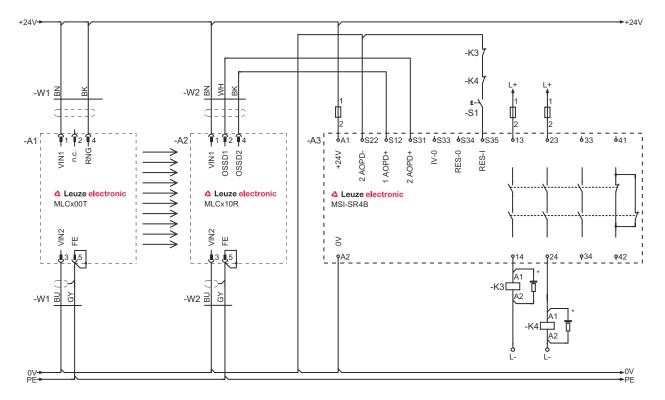
| Pin | Pin assignment | Conductor color | 2 |
|-----|----------------|-----------------|---|
| 1 | VIN1 | Brown | |
| 2 | OSSD1 | White | |
| 3 | VIN2 | Blue | 3 |
| 4 | OSSD2 | Black | |
| 5 | FE/SHIELD | Gray | 4 |

Circuit diagrams

Connection diagram receiver



Circuit diagram example with downstream MSI-SR4B safety relay



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Operation and display



| 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 |
|--------------|----------------|-------------------------------------|--|
| 68000928 | MLC500T90-2850 | Safety light curtain transmitter | Resolution: 90 mm Protective field height: 2,850 mm Operating range: 0 20 m Connection: Connector, M12, Metal, 5 -pin |

Part number code

Part designation: MLCxyy-za-hhhhei-ooo

MIC Safety light curtain

| MLC | Safety light curtain |
|------|--|
| x | 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 |
| а | 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 |
| 000 | Option /V: high Vibration-proof EX2: explosion protection (zones 2 + 22) SPG: Smart Process Gating |
| N | Note |
| H H | |

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

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Notes





Observe intended use!

 $\ensuremath{^{\textcircled{\tiny b}}}$ The product may only be put into operation by competent persons.

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 |
|----------|----------|-------------|----------------------|---|
| R. R. GA | 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 |
|---|--------|
| 6 | ∜ A li |

A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.

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