

Technical data sheet Safety light curtain receiver

Part no.: 68091215 MLC310R20-1500



The Sensor People In der Braike 1, 73277 Owen

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Technical data

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Basic data

| Series | MLC 300 |
|-------------|------------------------|
| Device type | Receiver |
| Contains | 2x BT-NC sliding block |
| Application | Hand protection |
| | |

Functions

Function package Functions

Basic Automatic start/restart Transmission channel changeover

Characteristic parameters

| Туре | 2, IEC/EN 61496 |
|-----------------------------|--------------------------|
| SIL | 1, IEC 61508 |
| SILCL | 1, IEC/EN 62061 |
| Performance Level (PL) | c, EN ISO 13849-1 |
| PFH _D | 5.06E-08 per hour |
| Mission time T _M | 20 years, EN ISO 13849-1 |
| Category | 2, EN ISO 13849 |
| | |

20 mm

1,500 mm

Protective field data

Resolution Protective field height

Optical data

| Synchronization | Optical between transmitter and receiver |
|-----------------|--|

Electrical data

Protective circuit Overvoltage protection Short circuit protected Performance data Supply voltage U_B Current consumption, max.

24 V, DC, -20 ... 20 % 150 mA 2 A semi time-lag

Outputs

Fuse

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 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 Connection 1, pin 2 Switching element Transistor, PNP

Safety-related switching output 2 Assignment Connection 1, pin 4 Switching element

Transistor, PNP

Timina

| Thing | | |
|--|----------------------------|--|
| Response time | 26 ms | |
| Restart delay time | 100 ms | |
| Connection | | |
| Number of connections | 1 Piece(s) | |
| Connection 1 | | |
| Function | Machine interface | |
| Type of connection | Connector | |
| Thread size | M12 | |
| Material | Metal 5 -pin | |
| No. of pins | | |
| Cable properties | | |
| Permissible conductor cross section, typ. | 0.25 mm² | |
| 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 1,566 mm x 35.4 mm | |
| Housing material | Metal | |
| Metal housing | Aluminum | |
| Lens cover material | Plastic / PMMA | |
| Material of end caps | Diecast zinc | |
| Nat | 4.050 - | |

N Net weight 1,650 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 I FD

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/s² | |
| Shock resistance | 100 m/s² | |
| US patents | US 6,418,546 B | |

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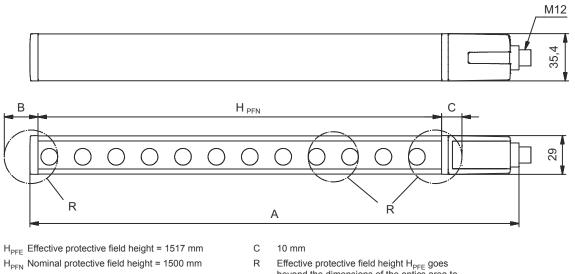
Technical data

| 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 $H_{PFF} = H_{PFN} + B + C$



Total height = 1566 mm А В

7 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 |
| | |

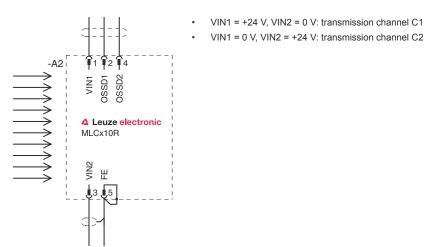
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Electrical connection

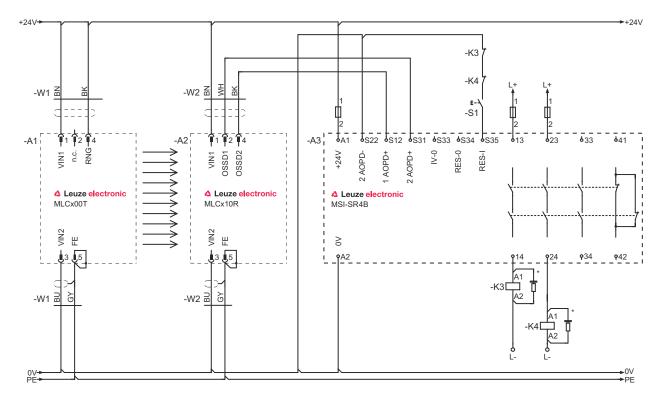
| Pin | Pin assignment | Conductor color | 2 |
|-----|----------------|-----------------|---|
| 1 | VIN1 | Brown | |
| 2 | OSSD1 | White | |
| 3 | VIN2 | Blue | 3 |
| 4 | OSSD2 | Black | |
| 5 | FE/SHIELD | Gray | 4 |

Circuit diagrams

Connection diagram receiver



Circuit diagram example with downstream MSI-SR4B safety relay



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Operation and display

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| 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

| Par | rt no. I | Designation | Article | Description |
|-----|----------|-------------|-------------|--|
| 680 |)90215 I | | transmitter | Resolution: 20 mm Protective field height: 1,500 mm Operating range: 0 15 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 //: 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.

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5/6

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