

## Technical data sheet

### Safety light curtain receiver

Part no.: 68021204

MLC520R20-450G



Figure can vary

#### Contents

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



## Technical data

### Basic data

|             |                        |
|-------------|------------------------|
| Series      | MLC 500                |
| Device type | Receiver               |
| Cascading   | Guest                  |
| 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        |
| Mission time T <sub>M</sub> | 20 years, EN ISO 13849-1 |
| Category                    | 4, EN ISO 13849          |

### Protective field data

|                         |        |
|-------------------------|--------|
| Resolution              | 20 mm  |
| Protective field height | 450 mm |

### Optical data

|                 |             |
|-----------------|-------------|
| Number of beams | 36 Piece(s) |
|-----------------|-------------|

### Timing

|               |      |
|---------------|------|
| Response time | 8 ms |
|---------------|------|

### Connection

|                       |                          |
|-----------------------|--------------------------|
| Number of connections | 1 Piece(s)               |
| <b>Connection 1</b>   |                          |
| Function              | Cascade, Host In         |
|                       | Cascade, Middle Guest In |
| Type of connection    | Cable with connector     |
| Cable length          | 330 mm                   |
| Sheathing material    | PUR                      |
| Thread size           | M12                      |
| Material              | Plastic                  |
| No. of pins           | 8 -pin                   |

### Mechanical data

|                       |                        |
|-----------------------|------------------------|
| Dimension (W x H x L) | 29 mm x 464 mm x 53 mm |
| Housing material      | Metal                  |
| Metal housing         | Aluminum               |
| Lens cover material   | Plastic / PMMA         |
| Material of end caps  | Diecast zinc           |
| Net weight            | 573 g                  |
| Housing color         | Yellow, RAL 1021       |
| Type of fastening     | Groove mounting        |
|                       | Mounting bracket       |
|                       | Swivel mount           |

### 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 <sup>2</sup>  |
| Shock resistance     | 100 m/s <sup>2</sup> |
| US patents           | US 6,418,546 B       |

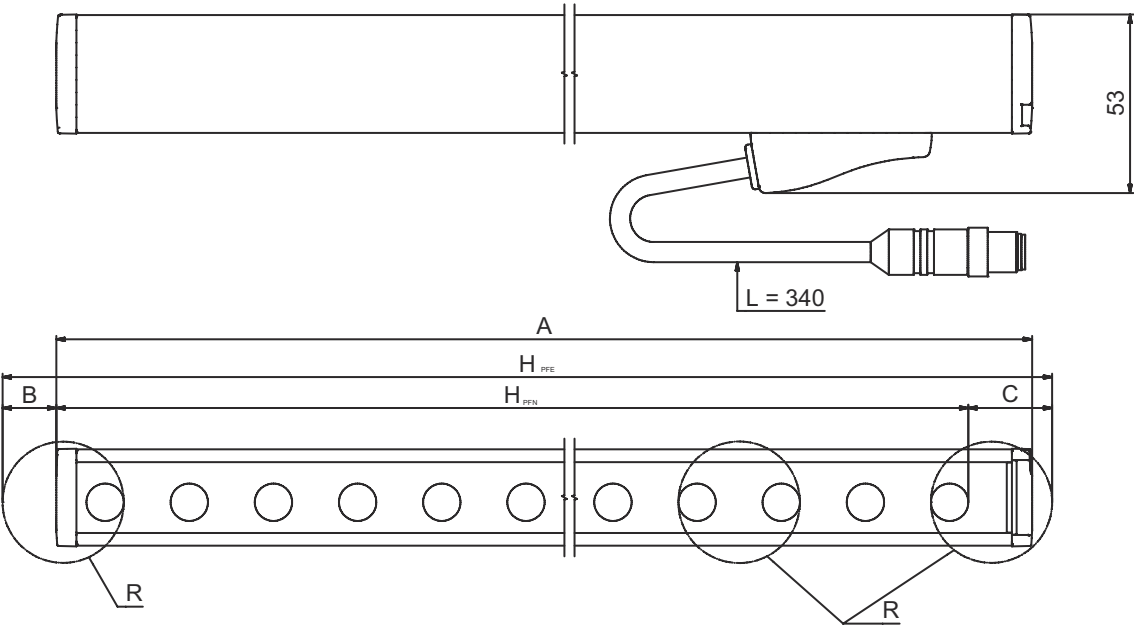
### Classification

|                       |          |
|-----------------------|----------|
| 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  $H_{PFE} = H_{PFN} + B + C$



- $H_{PFE}$  Effective protective field height = 467 mm

$H_{PFN}$  Nominal protective field height = 450 mm

A Total height = 464 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           | Cascade, Host In              |
|                    | Cascade, Middle Guest In      |
| Type of connection | Cable with connector          |
| Cable length       | 330 mm                        |
| Sheathing material | PUR                           |
| Cable color        | Black                         |
| Type of stranding  | Pair stranding (twisted pair) |
| Wire cross section | 0.14 mm²                      |
| Thread size        | M12                           |
| Type               | Male                          |
| Material           | Plastic                       |
| No. of pins        | 8 -pin                        |
| Encoding           | A-coded                       |

Suitable transmitters

|                                                                                     | Part no. | Designation    | Article                          | Description                                                                                                                                                |
|-------------------------------------------------------------------------------------|----------|----------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 68020204 | MLC500T20-450G | Safety light curtain transmitter | Resolution: 20 mm<br>Protective field height: 450 mm<br>Operating range: 0 ... 15 m<br>Connection: Cable with connector, M12, Plastic, 8 -pin, 330 mm, PUR |

Part number code

Part designation: MLCxyy-za-hhhhei-ooo

|      |                                                                                                                                                                                                                                                                                      |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MLC  | Safety light curtain                                                                                                                                                                                                                                                                 |
| x    | Series<br>3: MLC 300<br>5: MLC 500                                                                                                                                                                                                                                                   |
| yy   | Function classes<br>00: transmitter<br>01: transmitter (AIDA)<br>02: transmitter with test input<br>10: basic receiver - automatic restart<br>11: basic receiver - automatic restart (AIDA)<br>20: standard receiver - EDM/RES selectable<br>30: extended receiver - blanking/muting |
| z    | Device type<br>T: transmitter<br>R: receiver                                                                                                                                                                                                                                         |
| a    | Resolution<br>14: 14 mm<br>20: 20 mm<br>30: 30 mm<br>40: 40 mm<br>90: 90 mm                                                                                                                                                                                                          |
| hhhh | Protective field height<br>150 ... 3000: from 150 mm to 3000 mm                                                                                                                                                                                                                      |
| e    | Host/Guest (optional)<br>H: Host<br>MG: Middle Guest<br>G: Guest                                                                                                                                                                                                                     |
| i    | Interface (optional)<br>/A: AS-i                                                                                                                                                                                                                                                     |
| ooo  | Option<br>/V: high Vibration-proof<br>EX2: explosion protection (zones 2 + 22)<br>SPG: Smart Process Gating                                                                                                                                                                          |

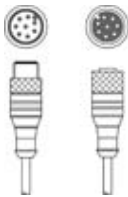
| Note                                                                               |                                                                                                                                      |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>A list with all available device types can be found on the Leuze website at <a href="http://www.leuze.com">www.leuze.com</a>.</p> |

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<br>Connection 2: Connector, M12, Axial, Male, A-coded, 8 -pin<br>Shielded: Yes<br>Cable length: 2,000 mm<br>Sheathing material: PUR |

### Mounting technology - Mounting brackets

|                                                                                  | Part no. | Designation | Article             | Description                                                |
|----------------------------------------------------------------------------------|----------|-------------|---------------------|------------------------------------------------------------|
|  | 429006   | BT-2L-HG    | Mounting device set | Mounting bracket, at device: Screw type<br>Material: Metal |

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### Mounting technology - Swivel mounts

|                                                                                    | Part no. | Designation | Article              | Description                                                                                                                                                 |
|------------------------------------------------------------------------------------|----------|-------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 429395   | BT-2HF-G    | Mounting bracket set | Fastening, at system: Through-hole mounting<br>Mounting bracket, at device: Clampable<br>Type of mounting device: Turning, 360°<br>Material: Metal, Plastic |

## Services

|                                                                                    | Part no. | Designation | Article                                      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------|----------|-------------|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | S981050  | CS40-I-140  | Safety inspection<br>"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.<br>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.<br>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.<br>Conditions: Devices and connection cables are already mounted, price not including travel costs and, if applicable, accommodation expenses.<br>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.