



Figure can vary

**Part no.: 68022416**  
**MLC500T40-1650MG**  
**Safety light curtain transmitter**



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## Technical data

| <b>Basic data</b>                |  |
|----------------------------------|--|
| Series                           | MLC 500  |
| Device type                      | Transmitter  |
| Cascading                        | Middle Guest   |
| Contains                         | 2x BT-NC sliding block                                     |
| Application                      | Access guarding<br>Danger zone guarding<br>Hand protection |
| <b>Characteristic parameters</b> |  |
| Type                             | 4 , IEC/EN 61496   |
| SIL                              | 3 , IEC 61508  |
| SILCL                            | 3 , IEC/EN 62061   |
| Mission time $T_M$               | 20 years , EN ISO 13849-1                                  |
| <b>Protective field data</b>     |  |
| Resolution                       | 40 mm  |
| Protective field height          | 1,650 mm   |
| Operating range                  | 0 ... 20 m   |
| <b>Optical data</b>              |  |
| Number of beams                  | 66 Piece(s)  |
| Light source                     | LED , Infrared   |
| LED light wavelength             | 940 nm   |
| Transmitted-signal shape         | Pulsed   |
| LED group                        | Exempt group in acc. with EN 62471:2008                    |
| <b>Connection</b>                |  |
| Number of connections            | 2 Piece(s)   |
| <b>Connection 1</b>              |  |
| Type of connection               | Cable with connector                                       |
| Function                         | Cascade, Host In   |
| Cable length                     | 330 mm   |
| Sheathing material               | PUR  |
| Thread size                      | M12  |
| Material                         | Plastic  |
| No. of pins                      | 8 -pin   |
| <b>Connection 2</b>              |  |
| Type of connection               | Cable with connector                                       |
| Function                         | Cascade, Guest Out   |
| Cable length                     | 330 mm   |
| Sheathing material               | PUR  |
| Thread size                      | M12  |
| Material                         | Plastic  |
| No. of pins                      | 8 -pin   |
| <b>Mechanical data</b>           |  |
| Dimension (W x H x L)            | 29 mm x 1,664 mm x 53 mm                                   |

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|                      |   |
|----------------------|---|
| Housing material     | Metal , Aluminum                                    |
| Lens cover material  | Plastic / PMMA                                      |
| Material of end caps | Diecast zinc  |
| Net weight           | 1,848 g   |
| Housing color        | Yellow, RAL 1021                                    |
| Type of fastening    | Groove mounting<br>Mounting bracket<br>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<br>c TÜV NRTL US<br>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                       |

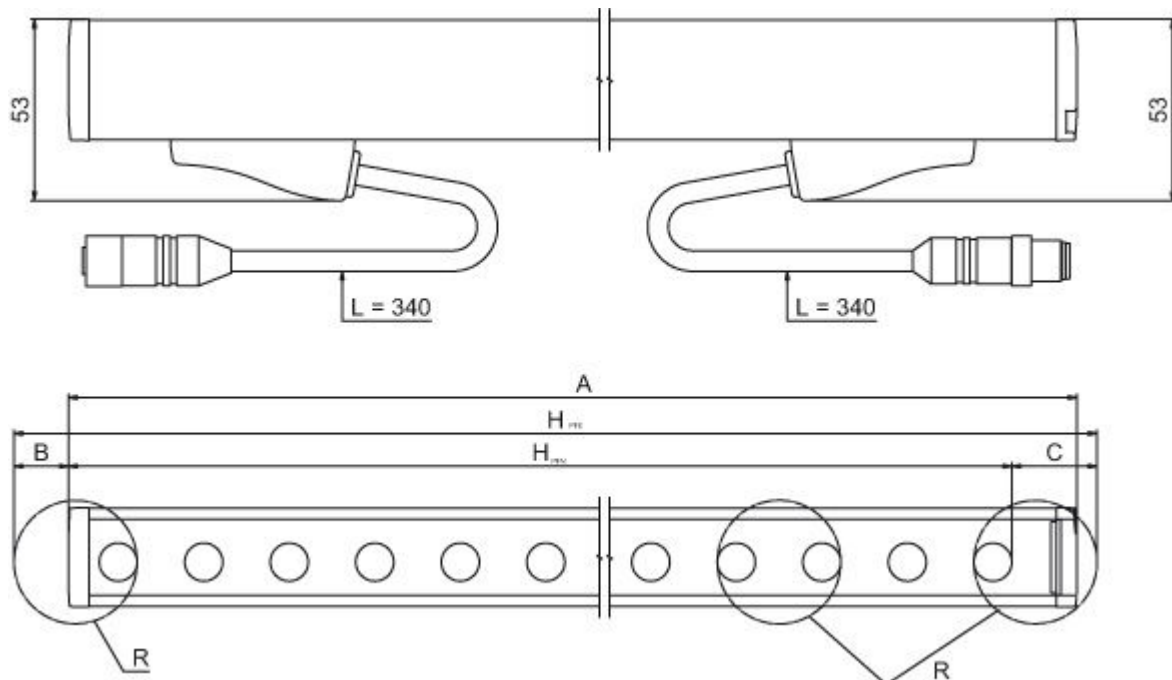
### Classification

|                       |          |
|-----------------------|----------|
| Customs tariff number | 85365019 |
| eCl@ss 8.0            | 27272704 |
| eCl@ss 9.0            | 27272704 |
| ETIM 5.0              | EC002549 |
| ETIM 6.0              | EC002549 |

## Dimensioned drawings

All dimensions in millimeters

Calculation of the effective protective field height  $HP_{FE} = HP_{FN} + B + C$



$HP_{FE}$  Effective protective field height = 1690 mm

$HP_{FN}$  Nominal protective field height = 1650 mm

A Total height = 1664 mm

B 25 mm

C 15 mm

R Effective protective field height  $HP_{FE}$  goes beyond the dimensions of the optics area to the outer borders of the circles labeled with R.

## Electrical connection


| Connection 1       |                               |
|--------------------|-------------------------------|
| Type of connection | Cable with connector          |
| Function           | Cascade, Host In              |
| Cable length       | 330 mm                        |
| Sheathing material | PUR                           |
| Cable color        | Black                         |
| Type of stranding  | Pair stranding (twisted pair) |
| Wire cross section | 0.14 mm <sup>2</sup>          |
| Thread size        | M12                           |
| Type               | Male                          |
| Material           | Plastic                       |
| No. of pins        | 8 -pin                        |
| Encoding           | A-coded                       |

| Connection 2       |                      |
|--------------------|----------------------|
| Type of connection | Cable with connector |
| Function           | Cascade, Guest Out   |
| Cable length       | 330 mm               |
| Sheathing material | PUR                  |
| Cable color        | Black                |

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|                     |                               |
|---------------------|-------------------------------|
| <b>Connection 2</b> |                               |
| Wire cross section  | 0.14 mm <sup>2</sup>          |
| Type of stranding   | Pair stranding (twisted pair) |
| Thread size         | M12                           |
| Type                | Female                        |
| Material            | Plastic                       |
| No. of pins         | 8 -pin                        |
| Encoding            | A-coded                       |

### Suitable receivers

|   | Part no. | Designation      | Article                       | Description   |
|---|----------|------------------|-------------------------------|---|
|  | 68023416 | MLC520R40-1650MG | Safety light curtain receiver | Resolution: 40 mm<br>Protective field height: 1,650 mm<br>Response time: 14 ms<br>Connection: Cable with connector, M12, Plastic, 8 -pin, 330 mm, PUR |

### Part number code

Part designation: **MLC**xyy-za-hhhhei-ooo

| MLC  | Safety light curtain   |
|------|--|
| x    | <b>Series:</b><br>3: MLC 300<br>5: MLC 500   |
| yy   | <b>Function classes:</b><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    | <b>Device type:</b><br>T: transmitter<br>R: receiver   |
| a    | <b>Resolution:</b><br>14: 14 mm<br>20: 20 mm<br>30: 30 mm<br>40: 40 mm<br>90: 90 mm  |
| hhhh | <b>Protective field height:</b><br>150 ... 3000: from 150 mm to 3000 mm  |
| e    | <b>Host/Guest (optional):</b><br>H: Host<br>MG: Middle Guest<br>G: Guest   |
| i    | <b>Interface (optional):</b><br>/A: AS-i   |
| ooo  | <b>Option:</b><br>/V: high Vibration-proof<br>EX2: explosion protection (zones 2 + 22)<br>SPG: Smart Process Gating  |

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

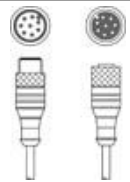
## Notes

### Observe intended use!


- The product may only be put into operation by competent persons.
- Only use the product in accordance with its intended use.

## 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 |



### Mounting technology - Swivel mounts

|   | Part no. | Designation | Article              | Description   |
|---|----------|-------------|----------------------|---|
|  | 429395   | BT-2HF-G    | Mounting bracket set | Contains: 2x BT-HF swivel mount, 2 cylinders for mounting on the light curtain<br>Fastening, at system: Through-hole mounting<br>Mounting bracket, at device: Clampable<br>Type of mounting device: Turning, 360°<br>Material: Metal, Plastic |

### Alignment aids

|   | Part no. | Designation | Article       | Description               |
|---|----------|-------------|---------------|---------------------------|
|  | 520101   | AC-ALM-M    | Alignment aid | Housing material: Plastic |

## Services

|   | Part no. | Designation | Article                                   | Description   |
|---|----------|-------------|---|---|
|  | S981050  | CS40-I-140  | Safety inspection "Safety light barriers" | <p>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.</p> <p>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.</p> <p>Restrictions: Travel costs and accommodation expenses charged separately and according to expenditure.</p> |
|  | S981046  | CS40-S-140  | Start-up support                          | <p>Details: For safety devices including stopping time measurement and initial inspection.</p> <p>Conditions: Devices and connection cables are already mounted, price not including travel costs and, if applicable, accommodation expenses.</p> <p>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.</p>   |