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Figure can vary

Part no.: 68023107 MLC520R14-750MG Safety light curtain receiver











# **Contents**

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### **Technical data**

| Basic data   | MI O 700   |
|--|--|
| Series   | MLC 500  |
| Device type  | Receiver   |
| Cascading  | Middle Guest   |
| Contains   | 2x BT-NC sliding block   |
| Application  | Finger protection  |
|  |  |
| Characteristic parameters  |  |
| Туре   | 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   | 14 mm  |
| Protective field height  | 750 mm   |
|  |  |
| Optical data   |  |
| Number of beams  | 75 Piece(s)  |
| Trainber of bearing  | 1011000(0)   |
| Timing   |  |
| Response time  | 16 ms  |
| response time  | 10 1113  |
|  |  |
| Connection   | 0.00   |
| Number of connections  |  |
|  | 2 Piece(s)   |
| Connection 1   |  |
| Type of connection   | Cable with connector   |
| Type of connection Function  | Cable with connector Cascade, Host In  |
| Type of connection Function Cable length   | Cable with connector Cascade, Host In 330 mm   |
| Type of connection Function Cable length Sheathing material  | Cable with connector Cascade, Host In 330 mm PUR   |
| Type of connection Function Cable length Sheathing material Thread size  | Cable with connector Cascade, Host In 330 mm PUR M12   |
| Type of connection Function Cable length Sheathing material Thread size Material   | Cable with connector Cascade, Host In 330 mm PUR M12 Plastic   |
| Type of connection  Function  Cable length  Sheathing material  Thread size  Material  No. of pins   | Cable with connector Cascade, Host In 330 mm PUR M12   |
| Type of connection Function Cable length Sheathing material Thread size Material No. of pins Connection 2  | Cable with connector Cascade, Host In 330 mm PUR M12 Plastic 8 -pin  |
| Type of connection  Function  Cable length  Sheathing material  Thread size  Material  No. of pins  Connection 2  Type of connection   | Cable with connector  Cascade, Host In  330 mm  PUR  M12  Plastic  8 -pin  Cable with connector  |
| Type of connection  Function  Cable length  Sheathing material  Thread size  Material  No. of pins  Connection 2  Type of connection  Function   | Cable with connector  Cascade, Host In  330 mm  PUR  M12  Plastic  8 -pin  Cable with connector  Cascade, Guest Out                                    |
| Type of connection  Function  Cable length  Sheathing material  Thread size  Material  No. of pins  Connection 2  Type of connection  Function  Cable length   | Cable with connector Cascade, Host In 330 mm PUR M12 Plastic 8 -pin  Cable with connector Cascade, Guest Out 330 mm                                    |
| Type of connection  Function  Cable length  Sheathing material  Thread size  Material  No. of pins  Connection 2  Type of connection  Function  Cable length  Sheathing material                                     | Cable with connector  Cascade, Host In  330 mm  PUR  M12  Plastic  8 -pin  Cable with connector  Cascade, Guest Out  330 mm  PUR                       |
| Type of connection  Function  Cable length  Sheathing material  Thread size  Material  No. of pins  Connection 2  Type of connection  Function  Cable length   | Cable with connector Cascade, Host In 330 mm PUR M12 Plastic 8 -pin  Cable with connector Cascade, Guest Out 330 mm                                    |
| Type of connection  Function  Cable length  Sheathing material  Thread size  Material  No. of pins  Connection 2  Type of connection  Function  Cable length  Sheathing material  Thread size  Material              | Cable with connector  Cascade, Host In  330 mm  PUR  M12  Plastic  8 -pin  Cable with connector  Cascade, Guest Out  330 mm  PUR                       |
| Type of connection  Function  Cable length  Sheathing material  Thread size  Material  No. of pins  Connection 2  Type of connection  Function  Cable length  Sheathing material  Thread size                        | Cable with connector Cascade, Host In 330 mm PUR M12 Plastic 8 -pin  Cable with connector Cascade, Guest Out 330 mm PUR M12                            |
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| Type of connection  Function  Cable length  Sheathing material  Thread size  Material  No. of pins  Connection 2  Type of connection  Function  Cable length  Sheathing material  Thread size  Material              | Cable with connector Cascade, Host In 330 mm PUR M12 Plastic 8 -pin  Cable with connector Cascade, Guest Out 330 mm PUR M12 Plastic                    |
| Type of connection  Function  Cable length  Sheathing material  Thread size  Material  No. of pins  Connection 2  Type of connection  Function  Cable length  Sheathing material  Thread size  Material  No. of pins | Cable with connector Cascade, Host In 330 mm PUR M12 Plastic 8 -pin  Cable with connector Cascade, Guest Out 330 mm PUR M12 Plastic                    |
| Type of connection Function Cable length Sheathing material Thread size Material No. of pins Connection 2 Type of connection Function Cable length Sheathing material Thread size Material No. of pins               | Cable with connector  Cascade, Host In  330 mm  PUR  M12  Plastic  8 -pin  Cable with connector  Cascade, Guest Out  330 mm  PUR  M12  Plastic  8 -pin |



| Lens cover material  | Plastic / PMMA                                      |  |
|----------------------|---|--|
| Material of end caps | Diecast zinc  |  |
| Net weight           | 948 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/s²                             |  |
| US patents           | US 6,418,546 B                       |  |

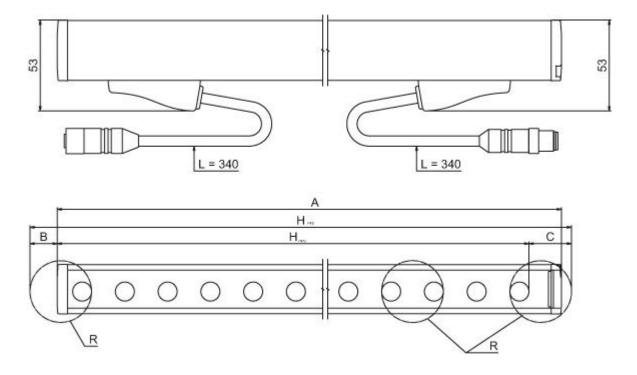
| Classification        |          |
|-----------------------|----------|
| Customs tariff number | 85365019 |
| eCl@ss 8.0            | 27272704 |
| eCl@ss 9.0            | 27272704 |
| ETIM 5.0              | EC002549 |
| ETIM 6.0              | EC002549 |

### **Dimensioned drawings**

All dimensions in millimeters



### Calculation of the effective protective field height Hpfe = Hpfn + B + C



HPFE Effective protective field height = 762 mm

HPFN Nominal protective field height = 750 mm

- A Total height = 764 mm
- B 6 mm
- C 6 mm
- R Effective protective field height H<sub>PFE</sub> 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 mm²                      |  |
| Thread size        | M12                           |  |
| Туре               | 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                |



| Connection 2       |                               |  |
|--------------------|-------------------------------|--|
| Wire cross section | 0.14 mm²                      |  |
| Type of stranding  | Pair stranding (twisted pair) |  |
| Thread size        | M12                           |  |
| Туре               | Female                        |  |
| Material           | Plastic                       |  |
| No. of pins        | 8 -pin                        |  |
| Encoding           | A-coded                       |  |

#### **Suitable transmitters**

|    | Part no. | Designation     | Article | Description  |
|----|----------|-----------------|---------|--|
| ), | 68022107 | MLC500T14-750MG |         | Resolution: 14 mm Protective field height: 750 mm Operating range: 0 6 m Connection: Cable with connector, M12, Plastic, 8 -pin, 330 mm, PUR |

#### Part number code

Part designation: MLCxyy-za-hhhhei-ooo

| MLC  | Safety light curtain  |
|------|---|
| х    | Series:<br>3: MLC 300<br>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:<br>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  |

|     | O | т |   |
|-----|---|---|---|
| -14 | v | ш | c |

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



#### **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-<br>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   |
|------|----------|-------------|---------------------|---|
| 1111 | 429006   | BT-2L-HG    | Mounting device set | Mounting bracket, at device: Screw type 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<br>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 |

### Services

|                                       | Part no. | Designation | Article   | Description  |
|---------------------------------------|----------|-------------|---|--|
| 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | S981050  | CS40-I-140  | Safety inspection<br>"Safety light<br>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. |



| Pa  | Part no. | Designation | Article | Description  |
|-----|----------|-------------|---------|--|
| 598 | 981046   | CS40-S-140  |         | 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. |