



the sensor people





Part no.: 68006116 MLC500T14-1650/A Safety light curtain transmitter















Figure can vary

# **Contents**

- Technical data
- Dimensioned drawings
- Electrical connection
- · Operation and display
- Suitable receivers
- · Part number code
- Notes
- Accessories



### **Technical data**

| Basic data                             |  |  |  |
|--|--|--|--|
| Series Series                          | MLC 500  |  |  |
| Device type                            | Transmitter                                    |  |  |
| Contains                               | 2x BT-NC sliding block                         |  |  |
| Application                            | Finger protection                              |  |  |
| Аррисаноп                              | i inger protection                             |  |  |
| Characteristic parameters              |  |  |  |
| Туре                                   | 4 , IEC/EN 61496                               |  |  |
| SIL                                    | 3 , IEC 61508                                  |  |  |
| SILCL                                  | 3 , IEC/EN 62061                               |  |  |
| Mission time T <sub>M</sub>            | 20 years , EN ISO 13849-1                      |  |  |
| Protective field data                  |  |  |  |
| Resolution                             | 14 mm  |  |  |
| Protective field height                | 1,650 mm                                       |  |  |
| Operating range                        | 0 6 m  |  |  |
|  |  |  |  |
| Optical data                           |  |  |  |
| Synchronization                        | Optical between transmitter and receiver       |  |  |
| Light source                           | LED , Infrared                                 |  |  |
| LED light wavelength                   | 940 nm   |  |  |
| Transmitted-signal shape               | Pulsed   |  |  |
| LED group                              | Exempt group in acc. with EN 62471:2008        |  |  |
|  |  |  |  |
| Electrical data                        |  |  |  |
| Protective circuit                     | Overvoltage protection Short circuit protected |  |  |
| Performance data                       |  |  |  |
| Supply voltage U <sub>B</sub>          | 26.5 31.6 V                                    |  |  |
| Current consumption from AS-i circuit  | 50 mA  |  |  |
| Inputs                                 |  |  |  |
| Number of digital switching inputs     | 1 Piece(s)                                     |  |  |
| Switching inputs                       |  |  |  |
| Туре                                   | Digital switching input                        |  |  |
| Switching voltage high, min.           | 18 V   |  |  |
| Switching voltage low, max.            | 2.5 V  |  |  |
| Switching voltage, typ.                | 22.5 V   |  |  |
| Voltage type                           | DC   |  |  |
| Interface                              |  |  |  |
| Туре                                   | AS-Interface Safety at Work                    |  |  |
| AS-i                                   |  |  |  |
| Function                               | Process  |  |  |
| AS-i profile                           | S-0.B.F  |  |  |
| Slave address                          | 131 programmable, default=0                    |  |  |
| Cycle time acc. to AS-i specifications | Max. 5 ms                                      |  |  |



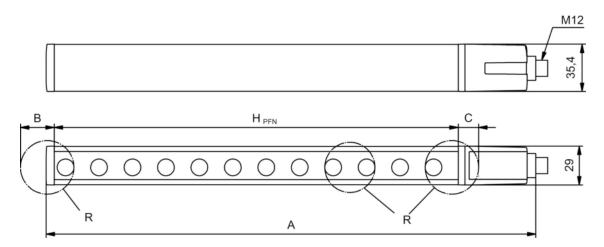
| Number of connections  | 1 Piece(s)   |
|--|--|
| Connection 1   |  |
| Type of connection   | Connector  |
| Function   | Machine interface  |
| Thread size  | M12  |
| Material   | Metal  |
| No. of pins  | 5 -pin   |
| Cable properties   |  |
| Permissible conductor cross section, typ.                    | 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 1,716 mm x 35.4 mm   |
| Housing material   | Metal , Aluminum   |
| Lens cover material  | Plastic / PMMA   |
| Material of end caps   | Diecast zinc   |
| Net weight   | 1,800 g  |
| Housing color  | Yellow, RAL 1021   |
| Type of fastening  | Groove mounting<br>Mounting bracket<br>Mounting on Device Column<br>Swivel mount |
| Operation and display  |  |
| Type of display  | LED  |
| Number of LEDs   | 2 Piece(s)   |
| Environmental data   |  |
| Ambient temperature, operation                               | 0 55 °C  |
| Ambient temperature, operation  Ambient temperature, storage | -30 70 °C  |
| Relative humidity (non-condensing)                           | 0 95 %   |
| Troution namely (non-condensing)                             | 2 33 //  |
| 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 HPFE = HPFN + B + C



HPFE Effective protective field height = 1662 mm

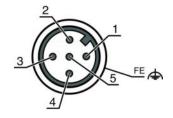
H<sub>PFN</sub> Nominal protective field height = 1650 mm

- A Total height = 1716 mm
- B 6 mm
- C 6 mm
- R Effective protective field height HPFE 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 | Connector         |  |
| Function           | Machine interface |  |
| Thread size        | M12               |  |
| Туре               | Male              |  |
| Material           | Metal             |  |
| No. of pins        | 5 -pin            |  |
| Encoding           | A-coded           |  |

| Pin | Pin assignment |
|-----|----------------|
| 1   | AS-i+          |
| 2   | n.c.           |
| 3   | AS-i-          |
| 4   | n.c.           |
| 5   | n.c.           |



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### **Operation and display**

#### **LEDs**

| LED | Display                 | Meaning             |
|-----|-------------------------|---------------------|
| 1   | Off                     | Device switched off |
|     | Red, continuous light   | Device error        |
|     | Green, continuous light | Normal operation    |

#### Suitable receivers

|  | Part no. | Designation          | Article                          | Description   |
|--|----------|----------------------|----------------------------------|---|
|  | 68007116 | MLC510R14-1650/<br>A | Safety light<br>curtain receiver | Resolution: 14 mm Protective field height: 1,650 mm Response time: 36 ms Interface: AS-Interface Safety at Work Connection: Connector, M12, Metal, 5 -pin |

#### Part number code

Part designation: MLCxyy-za-hhhhei-ooo

| MLC  | Safety light curtain   |
|------|--|
| х    | 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:<br>150 3000: from 150 mm to 3000 mm   |
| е    | Host/Guest (optional): H: Host MG: Middle Guest G: Guest   |
| i    | Interface (optional):<br>/A: AS-i  |
| 000  | Option: /V: high Vibration-proof EX2: explosion protection (zones 2 + 22) SPG: Smart Process Gating  |

| N | 0 | t | E |
|---|---|---|---|
|   |   |   |   |

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**

## Mounting technology - Swivel mounts

|      | Part no. | Designation | Article              | Description   |
|------|----------|-------------|----------------------|---|
| P.C. | 429393   | BT-2HF      | Mounting bracket set | Contains: 2x BT-HF swivel mount, 1 cylinder 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 |

## Alignment aids

|   | Part no. | Designation | Article       | Description               |
|---|----------|-------------|---------------|---------------------------|
| 1 | 520101   | AC-ALM-M    | Alignment aid | Housing material: Plastic |

#### Services

| Part no. | Designation | Article   | Description  |
|----------|-------------|---|--|
| 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. |
| 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

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