



Figure can vary

Part no.: 68007409
MLC510R40-900/A
Safety light curtain receiver



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Part no.: 68007409 – MLC510R40-900/A – Safety light curtain receiver

Technical data

| Basic data | |
|--|--|
| Series | MLC 500 |
| Device type | Receiver |
| Contains | 2x BT-NC sliding block |
| Application | Access guarding Hand protection Danger zone guarding |
| Characteristic parameters | |
| Type | 4, IEC/EN 61496 |
| SIL | 3, IEC 61508 |
| SILCL | 3, IEC/EN 62061 |
| Performance Level (PL) | e, EN ISO 13849-1 |
| PFHD | 7.73E-09 per hour |
| Mission time T_M | 20 years, EN ISO 13849-1 |
| Category | 4, EN ISO 13849 |
| Protective field data | |
| Resolution | 40 mm |
| Protective field height | 900 mm |
| Optical data | |
| Synchronization | Optical between transmitter and receiver |
| Electrical data | |
| Protective circuit | Short circuit protected Overvoltage protection |
| Performance data | |
| Supply voltage | 26.5 ... 31.6 V |
| Current consumption from AS-i circuit | 150 mA |
| Timing | |
| Response time | 9 ms |
| Restart delay time | 100 ms |
| Interface | |
| Type | AS-Interface Safety at Work |
| AS-i | |
| Function | Process |
| AS-i profile | S-0.B.F |
| Slave address | 1..31 programmable, default=0 |
| Cycle time acc. to AS-i specifications | Max. 5 ms |
| Connection | |
| Number of connections | 1 Piece(s) |

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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 mm ² |
| 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 966 mm x 35.4 mm |
| Housing material | Metal, Aluminum |
| Lens cover material | Plastic / PMMA |
| Material of end caps | Diecast zinc |
| Net weight | 1,050 g |
| Housing color | Yellow, RAL 1021 |
| Type of fastening | Mounting bracket Mounting on Device Column Swivel mount Groove mounting |

Operation and display

| | |
|-----------------|------------|
| Type of display | LED |
| 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 | TÜV Süd c CSA US c TÜV NRTL US |
| Vibration resistance | 50 m/s ² |
| Shock resistance | 100 m/s ² |
| US patents | US 6,418,546 B |

Classification

| | |
|------------|----------|
| eCl@ss 8.0 | 27272704 |
| eCl@ss 9.0 | 27272704 |
| ETIM 5.0 | EC002549 |

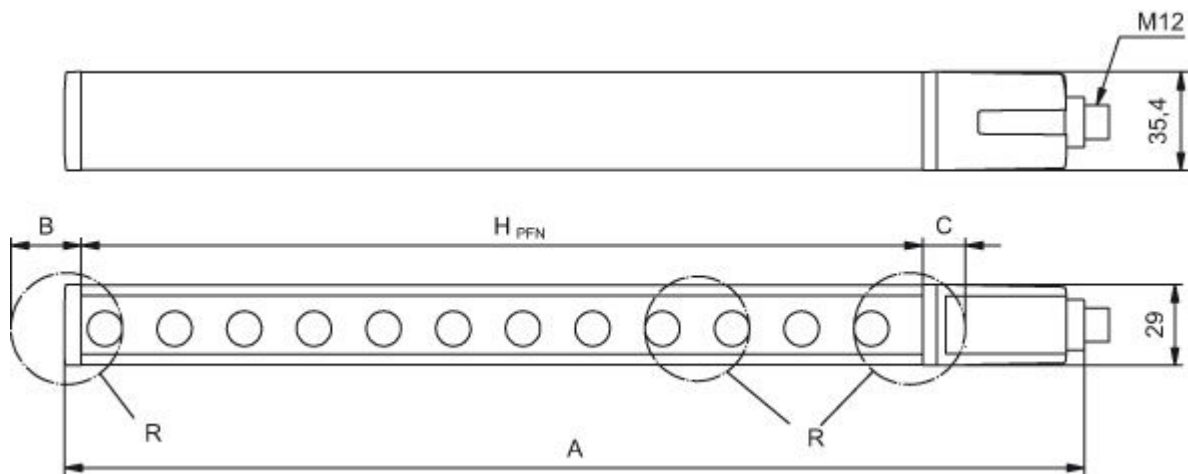
Suitable transmitters

| | Part no. | Designation | Article | Description |
|---|----------|-----------------|----------------------------------|--|
|  | 68006409 | MLC500T40-900/A | Safety light curtain transmitter | Resolution: 40 mm Protective field height: 900 mm Operating range: 0 ... 20 m Interface: AS-Interface Safety at Work Connection: Connector, M12, Metal, 5 -pin |

Dimensioned drawings

All dimensions in millimeters

Calculation of the effective protective field height $HPFE = HPFN + B + C$



| | |
|------|--|
| HPFE | Effective protective field height = 940 mm |
| HPFN | Nominal protective field height = 900 mm |
| A | Total height = 966 mm |
| B | 25 mm |
| C | 15 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 |
| Type | 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. |



Operation and display

LEDs

| LED | Display | Meaning |
|-----|---------------------------------|--|
| 1 | Off | Device switched off |
| | Red, continuous light | Protective field interrupted |
| | Red, flashing, 1 Hz | External error |
| | Red, flashing, 10 Hz | Internal error |
| | Green, flashing, 1 Hz | Protective field free, weak signal |
| | Green, continuous light | Protective field free |
| 2 | Off | No voltage |
| | On | OSSD off, transmission channel C2 |
| | Green, continuous light | AS-i slave communicating with AS-i master |
| | Red, continuous light | AS-i slave not communicating with AS-i master |
| | Yellow, flashing | AS-i slave has invalid address 0 |
| | Red, flashing | AS-i slave device error or AS-i connection defective |
| | Red/green, flashing alternately | Periphery error |

Part number code

Part designation: **MLCxyy-za-hhhhei-ooo**

| MLC | Safety light curtain |
|------|--|
| x | Series: 3: MLC 300 5: MLC 500 |
| yy | 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 |
| a | 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 |



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| | |
|-----|---|
| MLC | Safety light curtain |
| i | Interface (optional): /A: AS-i |
| 000 | Option: /V: 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 electronic website at www.leuze.com . |

Accessories


Mounting technology - Mounting brackets

| | Part no. | Designation | Article | Description |
|---|----------|-------------|----------------------|---|
|  | 429056 | BT-2L | Mounting bracket set | Design of mounting device: Angle, L-shape Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Screw type Material: Metal |
|  | 429057 | BT-2Z | Mounting bracket set | Design of mounting device: Angle, Z-shape Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Screw type Material: Metal |






Mounting technology - Swivel mounts

| | Part no. | Designation | Article | Description |
|---|----------|-------------|----------------------|--|
|  | 429393 | BT-2HF | Mounting bracket set | Contains: 2x BT-HF swivel mount, 1 cylinder for mounting on the light curtain Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 360° Material: Metal, Plastic |
|  | 429394 | BT-2HF-S | Mounting bracket set | Contains: 2x BT-HF swivel mount, 1 cylinder for mounting on the light curtain Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 360° Material: Metal, Plastic Shock absorber: Yes |


Mounting technology - Other

| | Part no. | Designation | Article | Description |
|---|----------|-------------|-------------------|--|
|  | 425740 | BT-10NC60 | Sliding block set | Contains: 10x BT-NC sliding block Bore hole 1: Ø 4.7 mm Bore hole 2: M6 Design of mounting device: Sliding block Mounting bracket, at system: Mounting thread Mounting bracket, at device: Groove mounting Material: Metal |




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| | Part no. | Designation | Article | Description |
|--|----------|-------------|----------------------|---|
|  | 425741 | BT-10NC64 | Sliding block set | Contains: 10x BT-NC-M4-M6 sliding block Bore hole 1: M4 Bore hole 2: M6 Design of mounting device: Sliding block Mounting bracket, at system: Mounting thread Mounting bracket, at device: Groove mounting Material: Metal |
|  | 425742 | BT-10NC65 | Sliding block set | Contains: 10x BT-NC-M5-M6 sliding block Bore hole 1: M5 Bore hole 2: M6 Design of mounting device: Sliding block Mounting bracket, at system: Mounting thread Mounting bracket, at device: Groove mounting Material: Metal |
|  | 424417 | BT-2P40 | Mounting bracket set | Contains: 2x BT-P40 clamp bracket Design of mounting device: Mounting clamp Mounting bracket, at system: Groove mounting Mounting bracket, at device: Groove mounting Type of mounting device: Clampable Material: Metal |
|  | 424422 | BT-2SB10 | Mounting bracket set | Contains: 2x BT-SB10 Design of mounting device: Mounting clamp Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Clampable, an der seitlichen C-Nut Type of mounting device: Swiveling Swivel range: -8 ... 8 ° Material: Metal |
|  | 424423 | BT-2SB10-S | Mounting bracket set | Contains: 2x BT-SB10-S Design of mounting device: Mounting clamp Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Clampable, an der seitlichen C-Nut Swivel range: -8 ... 8 ° Material: Metal Shock absorber: Yes |


Test rods

| | Part no. | Designation | Article | Description |
|---|----------|-------------|------------|---|
|  | 349939 | AC-TR20/40 | Test piece | Diameter 1: 20 mm Diameter 2: 40 mm Housing material: Plastic, Terluran HH106 black |



Alignment aids

| | Part no. | Designation | Article | Description |
|---|----------|-------------|---------------|---|
|  | 427300 | AC-ALM | Alignment aid | Housing material: Plastic |
|  | 520101 | AC-ALM-M | Alignment aid | Housing material: Plastic |
|  | 560020 | LA-78U | Alignment aid | Light source: laser, Red Housing material: Metal |


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| | Part no. | Designation | Article | Description |
|---|----------|-------------|---------------|---|
|  | 520004 | LA-78UDC | Alignment aid | Light source: laser, Red Housing material: Metal |




Protective screens

| | Part no. | Designation | Article | Description |
|---|----------|-------------|----------------------|---|
|  | 429038 | MLC-2PSF | Mounting bracket set | Type of fastening: Clampable Mounting device material: Metal |
|  | 347076 | MLC-PS900 | Protective screen | Protective field height: 900 mm Material: PMMA, clear |




Deflecting mirror

| | Part no. | Designation | Article | Description |
|---|----------|-------------|-------------------|---|
|  | 529609 | UM60-900 | Deflecting mirror | Dimensions: 25 mm x 970 mm x 68 mm Protected field height up to: 900 mm Mirror length: 960 mm |

Device columns

| | Part no. | Designation | Article | Description |
|---|----------|-------------|---------------|--|
|  | 549852 | UDC-1300-S2 | Device column | Dimensions: 160 mm x 1,360 mm x 149 mm Column height without foot: 1,300 mm Functions: Mounting and protection of light curtains and multiple light beam devices, Adjustable, 3 directions |
|  | 549853 | UDC-1600-S2 | Device column | Dimensions: 160 mm x 1,660 mm x 149 mm Column height without foot: 1,600 mm Functions: Mounting and protection of light curtains and multiple light beam devices, Adjustable, 3 directions |
|  | 549854 | UDC-1900-S2 | Device column | Dimensions: 160 mm x 1,960 mm x 149 mm Column height without foot: 1,900 mm Functions: Mounting and protection of light curtains and multiple light beam devices, Adjustable, 3 directions |

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| | Part no. | Designation | Article | Description |
|---|----------|-------------|---------------|--|
|  | 549867 | UDC-2100-S2 | Device column | Dimensions: 160 mm x 2,160 mm x 149 mm Column height without foot: 2,100 mm Functions: Adjustable, 3 directions, Mounting and protection of light curtains and multiple light beam devices |
|  | 549857 | UDC-2500-S2 | Device column | Dimensions: 160 mm x 2,560 mm x 149 mm Column height without foot: 2,500 mm Functions: Adjustable, 3 directions, Mounting and protection of light curtains and multiple light beam devices |
|  | 549865 | UDC-3100-S2 | Device column | Dimensions: 160 mm x 3,160 mm x 149 mm Column height without foot: 3,100 mm Functions: Mounting and protection of light curtains and multiple light beam devices, Adjustable, 3 directions |

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.