



Figure can vary

Part no.: 66533601
MLD510-XR3/A
Multiple light beam safety device receiver



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Part no.: 66533601 – MLD510-XR3/A – Multiple light beam safety device

Technical data

| Basic data | |
|-------------------|----------|
| Series | MLD 500 |
| Device type | Receiver |

| Functions | |
|--|-------------------|
| Functions | Automatic restart |
| Reflective element for laser alignment aid | No |
| Integrated muting indicator | No |

| Characteristic parameters | |
|----------------------------------|---------------------------|
| Type | 4, IEC/EN 61496 |
| SIL | 3, IEC 61508 |
| SILCL | 3, IEC/EN 62061 |
| Performance Level (PL) | e, EN ISO 13849-1 |
| MTTF _d | 204 years, EN ISO 13849-1 |
| PFH _D | 6.6E-09 per hour |
| Mission time T _M | 20 years, EN ISO 13849-1 |
| Category | 4, EN ISO 13849 |

| Optical data | |
|---------------------|------------|
| Number of beams | 3 Piece(s) |
| Beam spacing | 400 mm |

| Electrical data | |
|---------------------------------------|-----------------|
| Performance data | |
| Supply voltage | 26.5 ... 31.6 V |
| Current consumption from AS-i circuit | 140 mA |

| Timing | |
|--------------------|--------|
| Response time | 30 ms |
| Restart delay time | 100 ms |

| Interface | |
|--|-------------------------------|
| Type | AS-Interface Safety at Work |
| AS-i | |
| Function | Process |
| AS-i profile | S-7.B.1 |
| 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 |

Mechanical data

| | |
|-----------------------|---------------------------------|
| Dimension (W x H x L) | 52 mm x 900 mm x 64.7 mm |
| Housing material | Metal, Aluminum |
| Lens cover material | Plastic / PMMA |
| Material of end caps | Diecast zinc |
| Net weight | 2,000 g |
| Housing color | Yellow, RAL 1021 |
| Type of fastening | Swivel mount Groove mounting |

Operation and display

| | |
|-----------------|------------------------------------|
| Type of display | Integrated muting indicator LED |
| Number of LEDs | 2 Piece(s) |

Environmental data

| | |
|------------------------------------|---------------|
| Ambient temperature, operation | -30 ... 55 °C |
| Ambient temperature, storage | -40 ... 75 °C |
| Relative humidity (non-condensing) | 0 ... 95 % |


Certifications

| | |
|----------------------|--------------------------------------|
| Degree of protection | IP 67 |
| Protection class | III |
| Certifications | c TÜV NRTL US TÜV Süd c CSA US |
| US patents | US 7,741,595 B US 6,418,546 B |

Classification

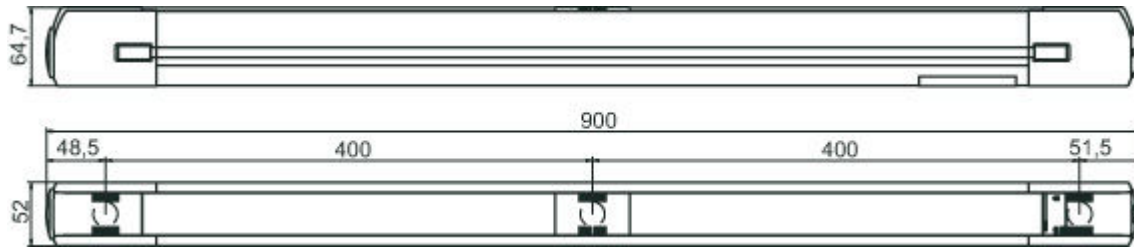
| | |
|------------|----------|
| eCl@ss 8.0 | 27272703 |
| eCl@ss 9.0 | 27272703 |
| ETIM 5.0 | EC001832 |

Suitable transmitters

| | Part no. | Designation | Article | Description |
|---|----------|--------------|---|--|
|  | 66501601 | MLD500-XT3/A | Multiple light beam safety device transmitter | Operating range: 20 ... 70 m Number of beams: 3 Piece(s) Beam spacing: 400 mm Type of interface: AS-Interface Safety at Work Connection: Connector, M12, Metal, 5 -pin |

Dimensioned drawings

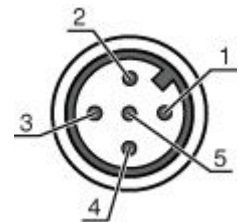
All dimensions in millimeters



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 | Conductor color |
|-----|----------------|-----------------|
| 1 | AS-i+ | Brown |
| 2 | n.c. | White |
| 3 | AS-i- | Blue |
| 4 | n.c. | Black |
| 5 | n.c. | Gray |



Operation and display

LEDs

| LED | Display | Meaning |
|-----|--|--|
| 1 | Red, continuous light | OSSD off. |
| | Green, continuous light | OSSD on |
| | Red, flashing, 1 Hz | External error |
| | Red, flashing, 10 Hz | Internal error |
| | Green, flashing, 1 Hz | Weak signal, device not optimally aligned or soiled. |
| 2 | Yellow, continuous light | Start/restart interlock locked. |
| | Off | No voltage on AS-i cable. |
| | Red, continuous light | AS-i slave not communicating with AS-i master |
| | Yellow, flashing | AS-i slave has invalid address 0 |
| | Red/green, flashing alternately | AS-i slave device error or AS-i connection defective |
| | Green, continuous light, flashing red at the same time | Periphery error |
| | Green, continuous light | AS-i slave communicating with AS-i master |

Part no.: 66533601 – MLD510-XR3/A – Multiple light beam safety device





Part number code

Part designation: MLDxyy-zab/t

| MLD | Multiple light beam safety device |
|-----|--|
| x | Series: 3: MLD 300 5: MLD 500 |
| yy | Function classes: 00: Transmitter 10: automatic restart 12: external testing 20: EDM/RES 30: muting 35: timing controlled 4-sensor muting |
| z | Device type: T: transmitter R: receiver RT: transceiver xT: transmitter with high range xR: receiver for high range |
| a | Number of beams |
| b | Option: L: integrated laser alignment aid (for transmitter/receiver) M: integrated status indicator (MLD 320, MLD 520) or integrated status and muting indicator (MLD 330, MLD 335, MLD 510/A, MLD 530, MLD 535) E: connection socket for external muting indicator (AS-i models only) |
| /t | Safety-related switching outputs (OSSDs), connection technology: -: transistor output, M12 plug A: integrated AS-i interface, M12 plug, (safety bus system) |


Accessories

Mounting technology - Swivel mounts








| | Part no. | Designation | Article | Description |
|---|----------|-----------------|----------------------|---|
|  | 560340 | BT-SET-240BC | Mounting bracket set | Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 240° Material: Metal |
|  | 540350 | BT-SET-240BC-E | Mounting bracket set | Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 240° Material: Metal, Plastic |
|  | 560342 | BT-SET-240BCS | Mounting bracket set | Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 240°, Shock absorber Material: Metal Shock absorber: Yes |
|  | 540352 | BT-SET-240BCS-E | Mounting bracket set | Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Shock absorber, Turning, 240° Material: Metal, Plastic Shock absorber: Yes |

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Mounting technology - Other

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

Device columns

| | Part no. | Designation | Article | Description |
|---|----------|-------------|---------------|--|
|  | 549879 | UDC-1140-S2 | Device column | Dimensions: 160 mm x 1,200 mm x 149 mm Column height without foot: 1,140 mm Functions: Adjustable, 3 directions, Mounting and protection of light curtains and multiple light beam devices |
|  | 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 |
|  | 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 |