

Technical data sheet Safety sensor set

Part no.: 68601099 MLC520-S-14-990



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 changes

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US

Technical data

Basic data

| Series | MLC 520S |
|-------------|---------------------------------|
| Device type | Set (transmitter and receiver) |
| Contains | 4x BT-MLC-S-O mounting brackets |
| | 6x BT-MLC-S-C mounting brackets |
| Application | Finger protection |
| Functions | |

Functions

Automatic start/restart Contactor monitoring (EDM) Start/restart interlock (RES)

Characteristic parameters

| Туре | 4, IEC/EN 61496 |
|-----------------------------|--------------------------|
| SIL | 3, IEC 61508 |
| SILCL | 3, IEC/EN 62061 |
| Performance Level (PL) | e, EN ISO 13849-1 |
| PFH _D | 2,64E-09 per hour |
| Mission time T _M | 20 years, EN ISO 13849-1 |
| Category | 4, EN ISO 13849 |
| | |

Protective field data

| Resolution | 14 mm |
|-------------------------|---------|
| Protective field height | 990 mm |
| Operating range | 0.2 6 m |

Optical data

| Number of beams | 99 Piece(s) |
|--------------------------|---|
| Synchronization | Optical between transmitter and receiver |
| Light source | LED, Infrared |
| Wavelength | 850 nm |
| Transmitted-signal shape | Pulsed |
| LED risk group | Exempt group (in acc. with EN 62471:2008) |

Electrical data

Protective circuit Overvoltage protection
Short circuit protected

Performance data Supply voltage U_B

24 V, DC, -20 ... 20 %

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Outputs

Number of safety-related switching 2 Piece(s) outputs (OSSDs)

| Safety-related | switching | outputs |
|----------------|-----------|---------|
| - | - | |

| Туре | Safety-related switching output OSSD |
|------------------------------|--------------------------------------|
| Switching voltage high, min. | 18 V |
| Switching voltage low, max. | 2.5 V |
| Switching voltage, type. | 22.5 V |
| Voltage type | DC |
| Load inductivity | 2,000 µH |
| Load capacity | 1 µF |
| Residual current, max. | 200 mA |
| Residual current, type. | 2 mA |

Safety-related switching output 1 Assignment Receiver device of

Switching element

Receiver device connection, pin 2 Transistor, PNP

| Safety-related switching output 2 | | |
|------------------------------------|-----------------------------------|--|
| Assignment | Receiver device connection, pin 4 | |
| Switching element | Transistor, PNP | |
| Time behavior | | |
| Response time | 16 ms | |
| Connection | | |
| Number of connections | 2 Piece(s) | |
| Connection 1 | | |
| Function | Transmitter device connection | |
| Type of connection | Cable with connector | |
| Cable length | 160 mm | |
| Sheathing material | PUR | |
| Thread size | M12 | |
| Material | Plastic | |
| No. of pins | 5 -pin | |
| | | |
| Connection 2 | | |
| Function | Receiver device connection | |
| Type of connection | Cable with connector | |
| Cable length | 160 mm | |
| Sheathing material | PUR | |
| Thread size | M12 | |
| Material | Plastic | |
| No. of pins | 5 -pin | |
| Mechanical data | | |
| Dimension (W x H x L) | 15.4 mm x 990 mm x 32.6 mm | |
| Housing material | Metal | |
| Metal housing | Aluminum | |
| Lens cover material | Plastic / PMMA | |
| Material of end caps | Plastic | |
| Net weight | 5,000 g | |
| Housing color | Yellow, RAL 1021 | |
| Type of fastening | C-shaped mounting bracket | |
| | L-shaped mounting bracket | |
| | O-shaped mounting bracket | |
| Environmental data | | |
| Ambient temperature, operation | -10 55 °C | |
| Ambient temperature, storage | -30 70 °C | |
| Relative humidity (non-condensing) | 15 95 % | |
| Certifications | | |
| Degree of protection | IP 65 | |
| Protection class | | |
| Approvals | TÜV Süd | |
| Vibration resistance | 50 m/s ² | |
| Shock resistance | 98.1 m/s ² | |
| US patents | US 6,418,546 B | |
| | | |

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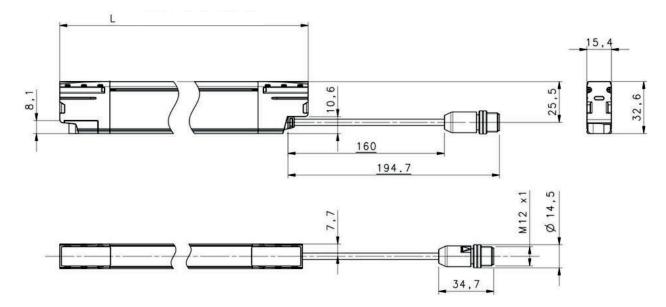
Technical data

| Customs tariff number | 85365019 |
|-----------------------|----------|
| ECLASS 5.1.4 | 27272704 |
| ECLASS 8.0 | 27272704 |
| ECLASS 9.0 | 27272704 |
| ECLASS 10.0 | 27272704 |
| ECLASS 11.0 | 27272704 |
| ECLASS 12.0 | 27272704 |
| ECLASS 13.0 | 27272704 |
| ECLASS 14.0 | 27272704 |
| ECLASS 15.0 | 27272704 |
| ETIM 5.0 | EC002549 |
| ETIM 6.0 | EC002549 |
| ETIM 7.0 | EC002549 |
| ETIM 8.0 | EC002549 |
| ETIM 9.0 | EC002549 |
| ETIM 10.0 | EC002549 |

Dimensioned drawings

All dimensions in millimeters

Dimensions of transmitter and receiver



L Length/protective field height

Electrical connection

| Connection 1 | Transmitter |
|--------------------|-------------------------------|
| Function | Transmitter device connection |
| Type of connection | Cable with connector |
| Cable length | 160 mm |
| Sheathing material | PUR |
| Cable color | Black |

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Electrical connection

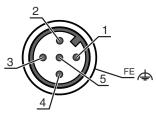
| Connection 1 | Transmitter |
|-------------------|-------------|
| Thread size | M12 |
| Туре | Male |
| Material | Plastic |
| No. of pins | 5 -pin |
| Encoding | A-coded |
| Connector housing | FE/SHIELD |

Pin Pin assignment 1 2 3

Conductor color

| +24 V DC | Brown |
|-------------------|-------|
| RESTART SELECTION | White |
| 0 V | Blue |
| n.c. | Black |
| RESTART SELECTION | Gray |
| | |

Receiver



Connection 2

4 5

| Function | Receiver device connection |
|--------------------|----------------------------|
| Type of connection | Cable with connector |
| Cable length | 160 mm |
| Sheathing material | PUR |
| Cable color | Black |
| Thread size | M12 |
| Туре | Male |
| Material | Plastic |
| No. of pins | 5 -pin |
| Encoding | A-coded |
| Connector housing | FE/SHIELD |

| Pin | Pin assignment | Conductor color | 2 |
|-----|-------------------|-----------------|--------|
| 1 | EDM | Brown | |
| 2 | OSSD1 | White | |
| 3 | 0 V | Blue | 3 FF 1 |
| 4 | OSSD2 | Black | |
| 5 | EDM FBK/SELECTION | Gray | 4 |

Part number code

Part designation: MLCxxx-ooo-aa-hhhh

| MLC | Safety light curtain |
|------|---|
| xxx | Series 520: MLC 520S |
| aa | Resolution 14: 14 mm 24: 24 mm |
| hhhh | Protective field height 150 1200: from 150 mm to 1200 mm |
| 000 | Option S: Slimline version |
| Ν | Note |



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Accessories



Connection technology - Connection cables

| Part no. | Designation | Article | Description |
|--------------|------------------------|------------------|---|
| 50133841 | KD U-M12-5A-P1- 050 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PUR |

Services

| | Part no. | Designation | Article | Description |
|---------|----------|-------------|-------------------|--|
| () | S981050 | CS40-I-140 | Safety inspection | 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. |
| с. С | 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. |

| | Note |
|---|---|
| 0 | A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page. |