SMART
**SENSOR**
BUSINESS

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the sensor people

Figure can vary

**Part no.: 68601099**
**MLC520-S-14-990**
**Safety sensor set**

# Contents




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# Part no.: 68601099 – MLC520-S-14-990 – Safety sensor set

## Technical data

| | |
|---|---|
| ***Basic data*** | |
| Series | MLC 520S |
| Device type | Set (transmitter and receiver) |
| Contains | 4x BT-MLC-S-O mounting brackets<br>6x BT-MLC-S-C mounting brackets |
| Application | Finger protection |

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|---|---|
| ***Functions*** | |
| Functions | Automatic start/restart<br>Contactor monitoring (EDM)<br>Start/restart interlock (RES) |

| | |
|---|---|
| ***Characteristic parameters*** | |
| Type | 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 |

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| ***Protective field data*** | |
| Resolution | 14 mm |
| Protective field height | 990 mm |
| Operating range | 0.2 ... 6 m |

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

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| ***Electrical data*** | |
| Protective circuit | Overvoltage protection<br>Short circuit protected |

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|---|---|
| ***Performance data*** | |
| Supply voltage $U_B$ | 24 V , DC , -20 ... 20 % |

# Part no.: 68601099 – MLC520-S-14-990 – Safety sensor set

| | |
|---|---|
| ***Outputs*** | |
| Number of safety-related switching outputs (OSSDs) | 2 Piece(s) |
| ***Safety-related switching outputs*** | |
| Type | Safety-related switching output OSSD |
| Switching voltage high, min. | 18 V |
| Switching voltage low, max. | 2.5 V |
| Switching voltage, typ. | 22.5 V |
| Voltage type | DC |
| Load inductivity | 2,000 µH |
| Load capacity | 1 µF |
| Residual current, max. | 200 mA |
| Residual current, typ. | 2 mA |
| ***Safety-related switching output 1*** | |
| Assignment | Receiver device connection, pin 2 |
| Switching element | Transistor , PNP |
| ***Safety-related switching output 2*** | |
| Assignment | Receiver device connection, pin 4 |
| Switching element | Transistor , PNP |

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|---|---|
| ***Timing*** | |
| Response time | 16 ms |

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|---|---|
| ***Connection*** | |
| Number of connections | 2 Piece(s) |
| ***Connection 1*** | |
| Type of connection | Cable with connector |
| Function | Transmitter device connection |
| Cable length | 160 mm |
| Sheathing material | PUR |
| Thread size | M12 |
| Material | Plastic |
| No. of pins | 5 -pin |
| ***Connection 2*** | |
| Type of connection | Cable with connector |
| Function | Receiver device connection |
| 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 , 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<br>L-shaped mounting bracket<br>O-shaped mounting bracket |

| ***Environmental data*** | |
|---|---|
| Ambient temperature, operation | -10 ... 55 °C |
| Ambient temperature, storage | -30 ... 70 °C |
| Relative humidity (non-condensing) | 15 ... 95 % |

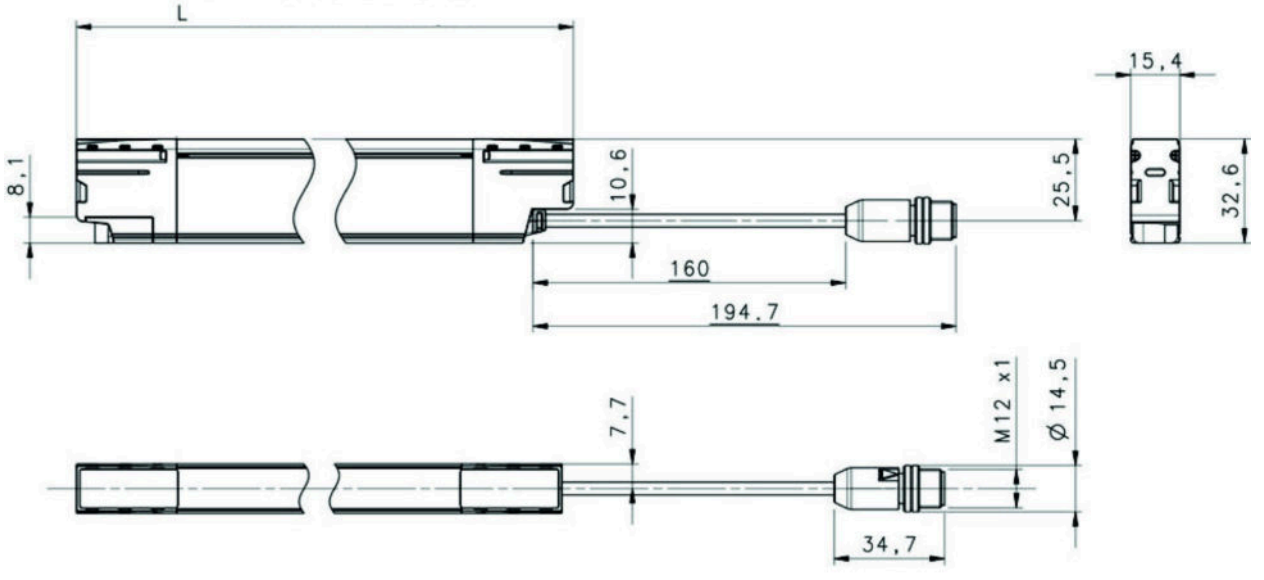
| ***Certifications*** | |
|---|---|
| Degree of protection | IP 65 |
| Protection class | III |
| Certifications | TÜV Süd |
| Vibration resistance | 50 m/s² |
| Shock resistance | 98.1 m/s² |
| US patents | US 6,418,546 B |

| ***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

### Dimensions of transmitter and receiver

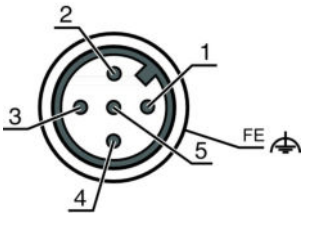



L Length/protective field height

## Electrical connection

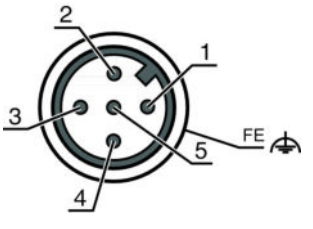
| Connection 1 | Transmitter |
|---|---|
| Type of connection | Cable with connector |
| Function | Transmitter device connection |
| Cable length | 160 mm |
| Sheathing material | PUR |
| Cable color | Black |
| Wire cross section | |
| Thread size | M12 |
| Type | Male |
| Material | Plastic |
| No. of pins | 5 -pin |
| Encoding | A-coded |
| Connector housing | FE/SHIELD |

| Pin | Pin assignment | Conductor color |
|---|---|---|
| 1 | +24 V DC | Brown |
| 2 | RESTART SELECTION | White |
| 3 | 0 V | Blue |
| 4 | n.c. | Black |
| 5 | RESTART SELECTION | Gray |




| Connection 2 | Receiver |
|---|---|
| Type of connection | Cable with connector |
| Function | Receiver device connection |
| Cable length | 160 mm |
| Sheathing material | PUR |
| Cable color | Black |
| Wire cross section | |
| Thread size | M12 |
| Type | Male |
| Material | Plastic |
| No. of pins | 5 -pin |
| Encoding | A-coded |
| Connector housing | FE/SHIELD |

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




## Part number code

Part designation: **MLCxxx-ooo-aa-hhhh**

# Part no.: 68601099 – MLC520-S-14-990 – Safety sensor set

| MLC | Safety light curtain |
|---|---|
| xxx | **Series:**<br>520: MLC 520S |
| aa | **Resolution:**<br>14: 14 mm<br>24: 24 mm |
| hhhh | **Protective field height:**<br>150 … 1200: from 150 mm to 1200 mm |
| ooo | **Option:**<br>S: Slimline version |

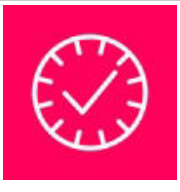
| Note |
|---|
| A list with all available device types can be found on the Leuze electronic website at www.leuze.com. |

## 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<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 5,000 mm<br>Sheathing material: PUR |

### Services

| | Part no. | Designation | Article | Description |
|---|---|---|---|---|
|  | S981050 | CS40-I-140 | Safety inspection "Safety light 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.<br>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.<br>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.<br>Conditions: Devices and connection cables are already mounted, price not including travel costs and, if applicable, accommodation expenses.<br>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. |