

Technical data sheet

Safety sensor set

Part no.: 68602045

MLC520-S-24-450



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Technical data

Basic data

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

Functions

| | |
|-----------|--|
| Functions | Automatic start/restart Contactor monitoring (EDM) 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 |

Protective field data

| | |
|-------------------------|-------------|
| Resolution | 24 mm |
| Protective field height | 450 mm |
| Operating range | 0.2 ... 6 m |

Optical data

| | |
|--------------------------|---|
| Number of beams | 24 Piece(s) |
| Synchronization | Optical between transmitter and receiver |
| Light source | LED, Infrared |
| LED light 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 % |
|-------------------------------|------------------------|

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 |

Timing

| | |
|---------------|------|
| Response time | 9 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 450 mm x 32.6 mm |
| Housing material | Metal |
| Metal housing | Aluminum |
| Lens cover material | Plastic / PMMA |
| Material of end caps | Plastic |
| Net weight | 2,300 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 | III |
| Certifications | TÜV Süd |
| Vibration resistance | 50 m/s ² |
| Shock resistance | 98.1 m/s ² |
| US patents | US 6,418,546 B |

Technical data

| | |
|-----------------------|----------|
| Customs tariff number | 85365019 |
| eCl@ss 5.1.4 | 27272704 |
| eCl@ss 8.0 | 27272704 |
| eCl@ss 9.0 | 27272704 |
| eCl@ss 10.0 | 27272704 |
| eCl@ss 11.0 | 27272704 |
| ETIM 5.0 | EC002549 |
| ETIM 6.0 | EC002549 |
| ETIM 7.0 | 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 |
| Thread size | M12 |
| Type | Male |
| Material | Plastic |
| No. of pins | 5 -pin |
| Encoding | A-coded |
| Connector housing | FE/SHIELD |

Electrical connection

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

| 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 |
| ooo | Option S: Slimline version |

Note

| | |
|--|--|
| | A list with all available device types can be found on the Leuze 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 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 "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. 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

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|--|--|
|  | <p>A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.</p> |
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