

## Technical data sheet

### Safety sensor set

Part no.: 68052109

MLC100-14-900

#### Contents

- Technical data
- Electrical connection
- Accessories



For illustration purposes only



Technical data

Basic data

|             |                                |
|-------------|--------------------------------|
| Series      | MLC 100                        |
| Device type | Set (transmitter and receiver) |
| Contains    | 4x BT-NC sliding block         |
| Application | Finger protection              |

Functions

|           |                                 |
|-----------|---------------------------------|
| Functions | Automatic start/restart         |
|           | Range reduction                 |
|           | Transmission channel changeover |

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 <sub>D</sub>            | 7.73E-09 per hour        |
| Mission time T <sub>M</sub> | 20 years, EN ISO 13849-1 |
| Category                    | 4, EN ISO 13849          |

Protective field data

|                         |           |
|-------------------------|-----------|
| Resolution              | 14 mm     |
| Protective field height | 900 mm    |
| Operating range         | 0 ... 4 m |

Optical data

|                          |                                          |
|--------------------------|------------------------------------------|
| Synchronization          | Optical between transmitter and receiver |
| Light source             | LED, Infrared                            |
| Wavelength               | 940 nm                                   |
| Transmitted-signal shape | Pulsed                                   |
| LED group                | 1                                        |

Electrical data

|                    |                         |
|--------------------|-------------------------|
| Protective circuit | Overvoltage protection  |
|                    | Short circuit protected |

Performance data

|                               |                        |
|-------------------------------|------------------------|
| Supply voltage U <sub>B</sub> | 24 V, DC, -20 ... 20 % |
| Fuse                          | 2 A semi time-lag      |

Inputs

|                                    |            |
|------------------------------------|------------|
| Number of digital switching inputs | 1 Piece(s) |
|------------------------------------|------------|

Switching inputs

|                              |                         |
|------------------------------|-------------------------|
| Type                         | Digital switching input |
| Switching voltage high, min. | 18 V                    |
| Switching voltage low, max.  | 2.5 V                   |
| Switching voltage, typ.      | 22.5 V                  |
| Voltage type                 | DC                      |

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                                   |
| Current load, max.           | 380 mA                               |
| Load inductivity             | 2,000 µH                             |
| Load capacity                | 0.3 µF                               |
| Residual current, max.       | 0.2 mA                               |
| Residual current, typ.       | 0.002 mA                             |
| Voltage drop                 | 1.5 V                                |

Safety-related switching output 1

|                   |                 |
|-------------------|-----------------|
| Switching element | Transistor, PNP |
|-------------------|-----------------|

Safety-related switching output 2

|                   |                 |
|-------------------|-----------------|
| Switching element | Transistor, PNP |
|-------------------|-----------------|

Time behavior

|                    |        |
|--------------------|--------|
| Response time      | 20 ms  |
| Restart delay time | 100 ms |

Connection

|                       |            |
|-----------------------|------------|
| Number of connections | 1 Piece(s) |
|-----------------------|------------|

Connection 1

|                    |                 |
|--------------------|-----------------|
| Function           | Local interface |
| Type of connection | Connector       |
| Thread size        | M12             |
| Material           | Metal           |
| No. of pins        | 5 -pin          |

Cable properties

|                                            |                      |
|--------------------------------------------|----------------------|
| Permissible conductor cross section, typ.  | 0.25 mm <sup>2</sup> |
| 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                     |
| Metal housing         | 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     | Groove mounting           |
|                       | Mounting brackets         |
|                       | Mounting on Device Column |
|                       | Swivel mount              |

Environmental data

|                                    |               |
|------------------------------------|---------------|
| Ambient temperature, operation     | 0 ... 55 °C   |
| Ambient temperature, storage       | -25 ... 70 °C |
| Relative humidity (non-condensing) | 0 ... 95 %    |

## Technical data

### Certifications

|                      |                      |
|----------------------|----------------------|
| Degree of protection | IP 65                |
| Protection class     | III                  |
| Certifications       | c CSA US             |
|                      | c TÜV NRTL US        |
|                      | TÜV Süd              |
| Vibration resistance | 50 m/s <sup>2</sup>  |
| Shock resistance     | 100 m/s <sup>2</sup> |
| US patents           | US 6,418,546 B       |

### Classification

|                       |          |
|-----------------------|----------|
| 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 |
| ETIM 5.0              | EC002549 |
| ETIM 6.0              | EC002549 |
| ETIM 7.0              | EC002549 |
| ETIM 8.0              | EC002549 |
| ETIM 9.0              | EC002549 |

## Electrical connection

### Connection 1

|                    |                 |
|--------------------|-----------------|
| Function           | Local interface |
| Type of connection | Connector       |
| Thread size        | M12             |
| Type               | Male            |
| Material           | Metal           |
| No. of pins        | 5 -pin          |
| Encoding           | A-coded         |

## Accessories

### Connection technology - Connection cables

|                                                                                     | Part no. | Designation        | Article          | Description                                                                                                                                                                        |
|-------------------------------------------------------------------------------------|----------|--------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50133860 | KD S-M12-5A-P1-050 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: Yes<br>Cable length: 5.000 mm<br>Sheathing material: PUR |

Accessories

Mounting technology - Swivel mounts

|                                                                                  | Part no. | Designation | Article              | Description                                                                                                                                                 |
|----------------------------------------------------------------------------------|----------|-------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 429393   | BT-2HF      | Mounting bracket set | Fastening, at system: Through-hole mounting<br>Mounting bracket, at device: Clampable<br>Type of mounting device: Turning, 360°<br>Material: Metal, Plastic |

Alignment aids

|                                                                                  | Part no. | Designation | Article       | Description               |
|----------------------------------------------------------------------------------|----------|-------------|---------------|---------------------------|
|  | 520101   | AC-ALM-M    | Alignment aid | Housing material: Plastic |

Note



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