

# Technical data sheet

## Light curtain receiver

Part no.: 50131318  
CSL505-R12.5-88-M8

### Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Operation and display
- Suitable transmitters
- Part number code
- Accessories



For illustration purposes only



## Technical data

### Basic data

|                     |                          |
|---------------------|--------------------------|
| Series              | 505                      |
| Operating principle | Throughbeam principle    |
| Device type         | Receiver                 |
| Application         | Precise object detection |

### Special version

|                 |                        |
|-----------------|------------------------|
| Special version | Crossed-beam scanning  |
|                 | Diagonal-beam scanning |
|                 | Parallel-beam scanning |
|                 | Teach input            |
|                 | Warning output         |

### Optical data

|                          |                            |
|--------------------------|----------------------------|
| Operating range          | 0.3 ... 5 m                |
| Operating range          | Guaranteed operating range |
| Measurement field length | 88 mm                      |
| Number of beams          | 8 Piece(s)                 |
| Beam spacing             | 12.5 mm                    |

### Measurement data

|                         |       |
|-------------------------|-------|
| Minimum object diameter | 15 mm |
|-------------------------|-------|

### Electrical data

|                    |                              |
|--------------------|------------------------------|
| Protective circuit | Inductive protection         |
|                    | Polarity reversal protection |
|                    | Short circuit protected      |

### Performance data

|                      |                 |
|----------------------|-----------------|
| Supply voltage $U_B$ | 18 ... 30 V, DC |
|----------------------|-----------------|

### Outputs

|                                     |            |
|-------------------------------------|------------|
| Number of digital switching outputs | 2 Piece(s) |
|-------------------------------------|------------|

### Switching outputs

|                         |                          |
|-------------------------|--------------------------|
| Type                    | Digital switching output |
| Voltage type            | DC                       |
| Switching current, max. | 150 mA                   |

### Switching output 1

|                     |                       |
|---------------------|-----------------------|
| Switching element   | Transistor, Push-pull |
| Switching principle | Light/dark switchable |

### Switching output 2

|                     |                       |
|---------------------|-----------------------|
| Switching element   | Transistor, Push-pull |
| Switching principle | Light/dark switchable |

### Time behavior

|                        |          |
|------------------------|----------|
| Cycle time             | 12 ms    |
| Response time per beam | 1,000 µs |

### Connection

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

### Connection 1

|                    |                |
|--------------------|----------------|
| Function           | Signal OUT     |
|                    | Teach input    |
|                    | Voltage supply |
| Type of connection | Connector      |
| Thread size        | M8             |
| Type               | Male           |
| Material           | Metal          |
| No. of pins        | 4 -pin         |
| Encoding           | A-coded        |

### Mechanical data

|                       |                        |
|-----------------------|------------------------|
| Design                | Cubic                  |
| Dimension (W x H x L) | 10 mm x 27 mm x 150 mm |
| Housing material      | Metal                  |
| Metal housing         | Aluminum               |
| Lens cover material   | Plastic                |
| Housing color         | Silver                 |
| Type of fastening     | Through-hole mounting  |

### Operation and display

|                       |                    |
|-----------------------|--------------------|
| Type of display       | LED                |
| Number of LEDs        | 2 Piece(s)         |
| Type of configuration | Software           |
|                       | Via pin assignment |

### Environmental data

|                                |               |
|--------------------------------|---------------|
| Ambient temperature, operation | -30 ... 50 °C |
| Ambient temperature, storage   | -40 ... 65 °C |

### Certifications

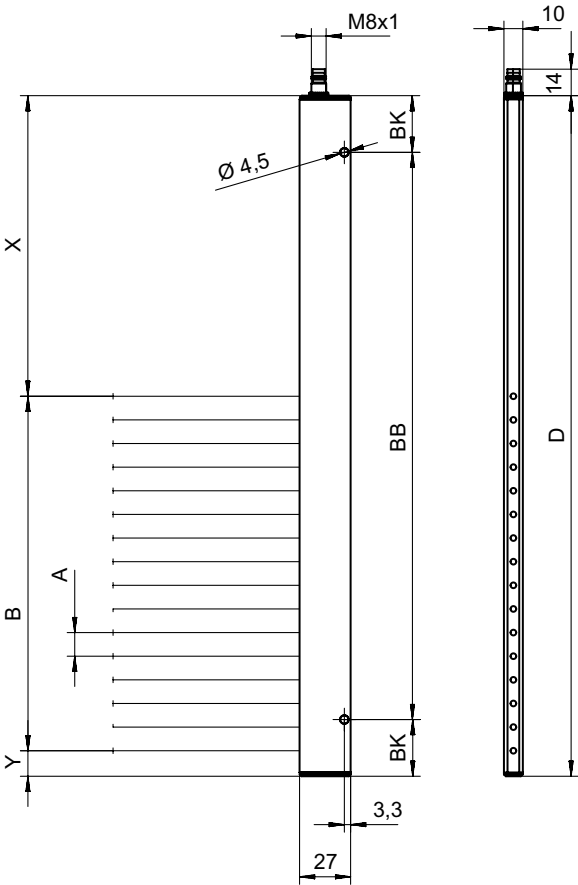
|                      |                               |
|----------------------|-------------------------------|
| Degree of protection | IP 65                         |
| Protection class     | III                           |
| Standards applied    | EN 60947-5-2 (German version) |

### Classification

|                       |          |
|-----------------------|----------|
| Customs tariff number | 90314990 |
| ECLASS 5.1.4          | 27270910 |
| ECLASS 8.0            | 27270910 |
| ECLASS 9.0            | 27270910 |
| ECLASS 10.0           | 27270910 |
| ECLASS 11.0           | 27270910 |
| ECLASS 12.0           | 27270910 |
| ECLASS 13.0           | 27270910 |
| ECLASS 14.0           | 27270910 |
| ECLASS 15.0           | 27270910 |
| 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



"Observe the exact dimensions in the chapter  
"Technical data, dimensioned drawings" in the  
operating instructions.

Electrical connection

Connection 1

|                    |                |
|--------------------|----------------|
| Function           | Signal OUT     |
|                    | Teach input    |
|                    | Voltage supply |
| Type of connection | Connector      |
| Thread size        | M8             |
| Type               | Male           |
| Material           | Metal          |
| No. of pins        | 4 -pin         |
| Encoding           | A-coded        |

| Pin | Pin assignment                    |
|-----|-----------------------------------|
| 1   | V+                                |
| 2   | OUT 1 / Teach-in / Warning output |
| 3   | GND                               |
| 4   | OUT 2                             |



## Operation and display

| Display LED 1              | Display LED 2              | Meaning                          |
|----------------------------|----------------------------|----------------------------------|
| Off                        | Off                        | Off                              |
| Red, continuous light      | Red, continuous light      | Operational readiness            |
| Red, continuous light      | Off                        | Object detected                  |
| Red, flashing              | Red, continuous light      | Ready with minor error           |
| Red, flashing              | Off                        | Object detected with minor error |
| Red, double flash          | Off                        | Configuration error              |
| Red, flashing in phase     | Red, flashing in phase     | Serious error A                  |
| Red, flashing out of phase | Red, flashing out of phase | Serious error B                  |
| Red, continuous light      | Red, double flash          | Teach event successful           |

## Suitable transmitters

|                                                                                   | Part no. | Designation        | Article                   | Description                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------|----------|--------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50131375 | CSL505-T12.5-88-M8 | Light curtain transmitter | Application: Precise object detection<br>Special version: Diagonal-beam scanning, Crossed-beam scanning, Parallel-beam scanning<br>Operating range: 0.3 ... 5 m<br>Connection: Connector, M8, 4 -pin |

## Part number code

Part designation: **CSL505-XXXX-ZZZZ-AA-BBB**

|             |                                                                                             |
|-------------|---------------------------------------------------------------------------------------------|
| <b>X</b>    | <b>Operating principle</b><br>T: transmitter<br>R: receiver                                 |
| <b>YYY</b>  | <b>Beam spacing</b><br>05: 5 mm<br>12.5: 12.5 mm<br>25: 25 mm<br>50: 50 mm<br>100: 100 mm   |
| <b>ZZZZ</b> | <b>Measurement field length</b><br>Measurement field length [mm], dependent on beam spacing |
| <b>AA</b>   | <b>Electrical connection</b><br>M8: M8 connector, 4-pin (plug)                              |

### Note



A list with all available device types can be found on the Leuze website at [www.leuze.com](http://www.leuze.com).

## Accessories

### Connection technology - Connection cables

|                                                                                     | Part no. | Designation       | Article          | Description                                                                                                                                                             |
|-------------------------------------------------------------------------------------|----------|-------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50130850 | KD U-M8-4A-V1-050 | Connection cable | Connection 1: Connector, M8, Axial, Female, 4 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 5.000 mm<br>Sheathing material: PVC |

Accessories

|                                                                                  | Part no. | Designation       | Article          | Description                                                                                                                                                              |
|----------------------------------------------------------------------------------|----------|-------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50130871 | KD U-M8-4W-V1-050 | Connection cable | Connection 1: Connector, M8, Angled, Female, 4 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 5.000 mm<br>Sheathing material: PVC |

Configuration devices

|                                                                                  | Part no. | Designation      | Article | Description                                                   |
|----------------------------------------------------------------------------------|----------|------------------|---------|---------------------------------------------------------------|
|  | 50132069 | CSL505-Interface | Module  | Functions: Configuration and test device<br>Connection: Sub-D |

Note



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