

# Technical data sheet Stationary bar code reader

Part no.: 50135033

BCL 338i SL 102 D H



### Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Diagrams
- Operation and display
- Part number code
- Notes
- Accessories













### **Technical data**



| Basic data  |   | Interface                          |  |
|---|---|------------------------------------|--|
| Series  | BCL 300i  | Туре                               | EtherCAT                                 |
| Special version   |   | EtherCAT                           |  |
| Special version   | Heating   | Function                           | Process                                  |
|   | · ·   | Transmission protocol              | EtherCAT, CoE and EoE                    |
| Functions   |   | Service interface                  |  |
| Functions   | Alignment mode                                    | Туре                               | USB 2.0                                  |
|   | AutoConfig  |                                    |  |
|   | AutoControl                                       | USB                                |  |
|   | AutoReflAct                                       | Function                           | Configuration via software               |
|   | Code fragment technology                          |                                    | Service                                  |
|   | Heating   |                                    |  |
|   | LED indicator                                     | Connection                         |  |
|   | Reference code comparison                         | Number of connections              | 1 Piece(s)                               |
| Characteristic parameters   |   | Connection 1                       |  |
| MTTF  | 110 years   | Function                           | BUS IN                                   |
|   | -   | -                                  | BUS OUT                                  |
| Read data   |   |                                    | Connection to device                     |
| Code types, readable  | 2/5 Interleaved                                   |                                    | Data interface                           |
| code types, readable  | Codabar   |                                    | PWR / SW IN / OUT                        |
|   | Code 128  |                                    | Service interface                        |
|   | Code 39   | Type of connection                 | Plug connector, It is essential to use a |
|   | Code 93   | Type of connection                 | connection unit when commissioning the   |
|   | EAN 8/13  |                                    | device.                                  |
|   |   | No. of pins                        | 32 -pin                                  |
|   | GS1 Databar Expanded GS1 Databar Limited          | Туре                               | Male                                     |
|   | GS1 Databar Cirrilled GS1 Databar Omnidirectional |                                    |  |
|   | UPC   | Mechanical data                    |  |
| Scanning rate, typical  | 1,000 scans/s                                     | Design                             | Cubic                                    |
| Bar codes per reading gate, max.  | 64 Piece(s)                                       | Dimension (W x H x L)              | 95 mm x 44 mm x 68 mm                    |
| number  | 04 Fiece(5)                                       | Housing material                   | Metal                                    |
|   |   | Metal housing                      | Diecast aluminum                         |
| Optical data  |   | Lens cover material                | Glass                                    |
| Reading distance  | 100 700 mm  | Net weight                         | 290 g                                    |
| Light source  | Laser, Red  | Housing color                      | Red                                      |
| Wavelength  | 655 nm  |                                    | Silver                                   |
| Laser class   | 1, IEC/EN 60825-1:2014                            | Type of fastening                  | Dovetail grooves                         |
| Transmitted-signal shape  | Continuous  |                                    | Fastening on back                        |
| Usable opening angle (reading field   | 60 °  |                                    | Via optional mounting device             |
| opening)  |   | On another and displace            |  |
| Modulus size  | 0.35 0.8 mm                                       | Operation and display              |  |
| Reading method  | Line scanner                                      | Type of display                    | LED                                      |
| Beam deflection   | Via rotating polygon wheel                        |                                    | Monochromatic graphic display, 128 x 32  |
| Light beam exit   | Front   |                                    | pixels                                   |
| Planting data   |   | Number of LEDs                     | 2 Piece(s)                               |
| Electrical data   |   | Type of configuration              | Via web browser                          |
| Protective circuit  | Polarity reversal protection                      | Operational controls               | Button(s)                                |
| Performance data  |   | Environmental data                 |  |
|   | 18 30 V, DC                                       | Ambient temperature, operation     | -35 40 °C                                |
|   |   | Ambient temperature, storage       | -20 70 °C                                |
| Supply voltage U <sub>B</sub>   | 27 W  |                                    | ,  |
|   | 27 W  | Relative humidity (non-condensing) | 0 90 %                                   |
| Supply voltage U <sub>B</sub>   | 27 W  |                                    | 0 90 %                                   |
| Supply voltage $\mathbf{U}_{\mathrm{B}}$<br>Power consumption, max.             | 27 W<br>60 mA                                     |                                    | 0 90 %                                   |
| Supply voltage U <sub>B</sub> Power consumption, max. Inputs/outputs selectable | 60 mA   |                                    | 0 90 %                                   |

### **Technical data**



### Certifications

| Degree of protection  | IP 65                    |
|---|--------------------------|
| Protection class  | III                      |
| Approvals   | c UL US                  |
| Test procedure for EMC in accordance                            | EN 55022                 |
| with standard   | EN 61000-4-2, -3, -4, -6 |
| Test procedure for shock in accordance with standard            | IEC 60068-2-27, test Ea  |
| Test procedure for continuous shock in accordance with standard | IEC 60068-2-29, test Eb  |
| Test procedure for vibration in accordance with standard        | IEC 60068-2-6, test Fc   |

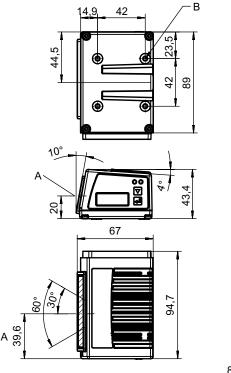
### Classification

| Customs tariff number | 84719000 |
|-----------------------|----------|
| ECLASS 5.1.4          | 27280102 |
| ECLASS 8.0            | 27280102 |
| ECLASS 9.0            | 27280102 |
| ECLASS 10.0           | 27280102 |
| ECLASS 11.0           | 27280102 |
| ECLASS 12.0           | 27280102 |
| ECLASS 13.0           | 27280102 |
| ECLASS 14.0           | 27280102 |
| ECLASS 15.0           | 27280102 |
| ETIM 5.0              | EC002550 |
| ETIM 6.0              | EC002550 |
| ETIM 7.0              | EC002550 |
| ETIM 8.0              | EC002550 |
| ETIM 9.0              | EC002550 |
| ETIM 10.0             | EC002550 |

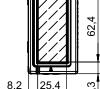
## **Dimensioned drawings**

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All dimensions in millimeters



- A Optical axis
- M4 thread (5 mm deep)



### **Electrical connection**

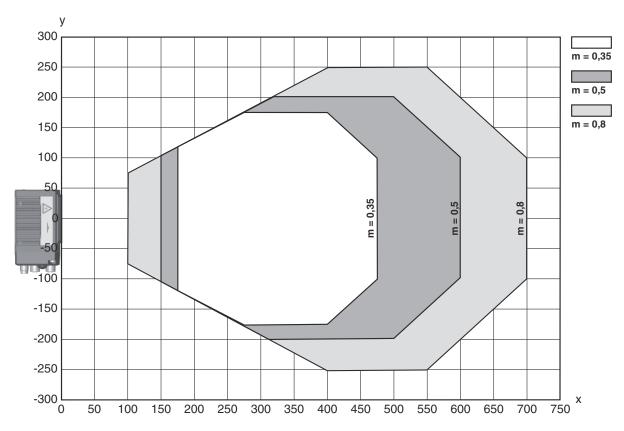
### **Connection 1**

| Function           | BUS IN  |
|--------------------|---|
|                    | BUS OUT   |
|                    | Connection to device  |
|                    | Data interface  |
|                    | PWR / SW IN / OUT   |
|                    | Service interface   |
| Type of connection | Plug connector  |
| Type of connection | It is essential to use a connection unit when commissioning the device. |
| No. of pins        | 32 -pin   |
| Туре               | Male  |

### **Diagrams**



### Reading field curve



- Reading field distance [mm]
- Reading field width [mm]

## **Operation and display**

| LED   | Display                               | Meaning                         |
|-------|---------------------------------------|---------------------------------|
| 1 PWR | Green, flashing                       | Device ok, initialization phase |
|       | Green, continuous light               | Device OK                       |
|       | Green, briefly off - on               | Reading successful              |
|       | Green, briefly off - briefly red - on | Reading not successful          |
|       | Orange, continuous light              | Service mode                    |
|       | Red, flashing                         | Device OK, warning set          |
|       | Red, continuous light                 | Error, device error             |
| 2 BUS | Green, flashing                       | Initialization                  |
|       | Green, continuous light               | Bus operation ok                |
|       | Red, flashing                         | Communication error             |
|       | Red, continuous light                 | Bus error                       |

### Part number code



6/9

Part designation: BCL XXXX YYZ AAA BB CCCC

| BCL  | Operating principle BCL: bar code reader  |
|------|---|
| xxxx | Series/interface (integrated fieldbus technology) 300i: RS 232 / RS 422 (stand-alone) 301i: RS 485 (multiNet slave) 304i: PROFIBUS DP 308i: EtherNet TCP/IP, UDP 338i: EtherCAT 348i: PROFINET RT 358i: EtherNet/IP |
| YY   | Scanning principle S: line scanner (single line) R1: line scanner (raster) O: oscillating-mirror scanner (oscillating mirror)   |
| z    | Optics N: High Density (close) M: Medium Density (medium distance) F: Low Density (remote) L: Long Range (very large distances) J: ink-jet (depending on the application)   |
| AAA  | Beam exit 100: lateral 102: front   |
| ВВ   | Special equipment D: With display H: with heating DH: optionally with display and heating P: plastic exit window  |
| cccc | Functions F007: optimized process data structure F099: OPC-UA function  |

### Note



⋄ A list with all available device types can be found on the Leuze website at www.leuze.com.

### **Notes**



### Observe intended use!



- This product is not a safety sensor and is not intended as personnel protection.
- Nonly use the product in accordance with its intended use.

### ATTENTION! LASER RADIATION - CLASS 1 LASER PRODUCT



The device satisfies the requirements of IEC/EN 60825-1:2014 safety regulations for a product of **laser class 1** and complies with 21 CFR 1040.10 except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019.

- Observe the applicable statutory and local laser protection regulations.
- The device must not be tampered with and must not be changed in any way. There are no user-serviceable parts inside the device.

Repairs must only be performed by Leuze electronic GmbH + Co. KG.

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### **Accessories**



## Connection technology - Connection cables

|  | Part no. | Designation             | Article          | Description  |
|--|----------|-------------------------|------------------|--|
| \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | 50132079 | KD U-M12-5A-V1-<br>050  | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 5.000 mm<br>Sheathing material: PVC                  |
| ¥                                      | 50135074 | KS ET-M12-4A-P7-<br>050 | Connection cable | Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connector, LED: No Connection 2: Open end Shielded: Yes Cable length: 5.000 mm Sheathing material: PUR |

## Connection technology - Interconnection cables

|  | Part no. | Designation                     | Article               | Description  |
|--|----------|---------------------------------|-----------------------|--|
|  | 50117011 | KB USB A - USB<br>miniB         | Service line          | Suitable for interface: USB Connection 1: USB Connection 2: USB Shielded: Yes Cable length: 1,500 mm Sheathing material: PVC   |
|  | 50137078 | KSS ET-M12-4A-<br>M12-4A-P7-050 | Interconnection cable | Suitable for interface: Ethernet<br>Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin<br>Connection 2: Connector, M12, Axial, Male, D-coded, 4 -pin<br>Shielded: Yes<br>Cable length: 5,000 mm<br>Sheathing material: PUR |
|  | 50135081 | KSS ET-M12-4A-<br>RJ45-A-P7-050 | Interconnection cable | Suitable for interface: Ethernet<br>Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin<br>Connection 2: RJ45<br>Shielded: Yes<br>Cable length: 5,000 mm<br>Sheathing material: PUR   |

## Connection technology - Connection boxes

|   | Part no.   | Designation | Article         | Description   |
|---|------------|-------------|-----------------|---|
| 6 | 50134929 * | ME 338 103  | Connection unit | Suitable for: BCL 338i, BPS 338i<br>Interface: EtherCAT<br>Number of connections: 4 Piece(s)<br>Connection: Cable with connector, M12, 900 mm |
| 6 | 50134927 * | ME 338 104  | Connection unit | Suitable for: BCL 338i<br>Interface: EtherCAT<br>Number of connections: 5 Piece(s)<br>Connection: Cable with connector, M12, 900 mm           |
| 6 | 50134928 * | ME 338 214  | Connection unit | Suitable for: BCL 338i<br>Interface: EtherCAT<br>Number of connections: 5 Piece(s)<br>Connection: Cable with connector, M12, 600 mm           |

### **Accessories**



|     | Part no.   | Designation | Article         | Description  |
|-----|------------|-------------|-----------------|--|
|     | 50134931 * | MK 338      | Connection unit | Suitable for: BCL 338i, BPS 338i<br>Interface: EtherCAT<br>Number of connections: 4 Piece(s)<br>Connection: Terminal       |
| 000 | 50134930 * | MS 338      | Connection unit | Suitable for: BCL 338i, BPS 338i<br>Interface: EtherCAT<br>Number of connections: 4 Piece(s)<br>Connection: Connector, M12 |

<sup>\*</sup> Necessary accessories, please order separately

## Mounting technology - Mounting brackets

| Part no. | Designation | Article         | Description   |
|----------|-------------|-----------------|---|
| 50121433 | BT 300 W    | Mounting device | Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Adjustable Material: Metal |

## Mounting technology - Rod mounts

| Part no. | Designation | Article         | Description  |
|----------|-------------|-----------------|--|
| 50121435 | BT 56 - 1   | Mounting device | Functions: Static applications Design of mounting device: Mounting system Fastening, at system: For 12 mm rod, For 14 mm rod, For 16 mm rod Mounting bracket, at device: Clampable Material: Metal Tightening torque of the clamping jaws: 8 N·m |

## Mounting technology - Other

| Part no. | Designation | Article         | Description  |
|----------|-------------|-----------------|--|
| 50124941 | BTU 0300M-W | Mounting device | Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable, Groove mounting, Suited for M4 screws Material: Metal Shock absorber: No |

### **Accessories**



## Reflective tapes for standard applications

| Part no. | Designation     | Article         | Description   |
|----------|-----------------|-----------------|---|
| 50106119 | REF 4-A-100x100 | Reflective tape | Design: Rectangular Reflective surface: 100 mm x 100 mm Material: Plastic Chemical designation of the material: PMMA Fastening: Self-adhesive |

## Services

|                   | Part no. | Designation | Article          | Description   |
|-------------------|----------|-------------|------------------|---|
| <u>В</u>          | S981020  | CS30-E-212  | Hourly rate      | Details: Compilation of the application data, selection and suggestion of suitable sensor system, drawing prepared as assembly sketch.  Conditions: Completed questionnaire or project specifications with a description of the application have been provided. |
|                   | S981014  | CS30-S-110  | Start-up support | Details: Performed at location of customer's choosing, duration: max. 10 hours.  Conditions: Devices and connection cables are already mounted, price not including travel costs and, if applicable, accommodation expenses.                                    |
|                   | S981019  | CS30-T-110  | Product training | Details: Location and content to be agreed upon, duration: max. 10 hours. Conditions: Price not including travel costs and, if applicable, accommodation expenses.  |
| <del>      </del> | S981021  | CS30-V-212  | Hourly rate      | Details: REA evaluation with creation of a test report, evaluation of the code quality.  Conditions: Original bar codes to be provided by the client.   |

### Note



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