

## Technical data sheet

### Stationary bar code reader

Part no.: 50105465

BCL 500i SF 100



Figure can vary

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- Technical data
- Dimensioned drawings
- Electrical connection



## Technical data

### Basic data

|        |          |
|--------|----------|
| Series | BCL 500i |
|--------|----------|

### Functions

|           |                           |
|-----------|---------------------------|
| Functions | Alignment mode            |
|           | AutoConfig                |
|           | AutoControl               |
|           | AutoReflAct               |
|           | Code fragment technology  |
|           | LED indicator             |
|           | Reference code comparison |

### Characteristic parameters

|      |            |
|------|------------|
| MTTF | 42.4 years |
|------|------------|

### Read data

|                                         |                             |
|-----------------------------------------|-----------------------------|
| Code types, readable                    | 2/5 Interleaved             |
|                                         | Codabar                     |
|                                         | Code 128                    |
|                                         | Code 39                     |
|                                         | Code 93                     |
|                                         | EAN 128                     |
|                                         | EAN 8/13                    |
|                                         | EAN Addendum                |
|                                         | GS1 Databar Expanded        |
|                                         | GS1 Databar Limited         |
|                                         | GS1 Databar Omnidirectional |
|                                         | UPC                         |
| Scanning rate, typical                  | 1,000 scans/s               |
| Bar codes per reading gate, max. number | 64 Piece(s)                 |

### Optical data

|                          |                                                               |
|--------------------------|---------------------------------------------------------------|
| Reading distance         | 500 ... 1,600 mm                                              |
| Light source             | Laser, Red                                                    |
| Laser light wavelength   | 650 nm                                                        |
| Laser class              | 2, IEC/EN 60825-1:2007                                        |
| Transmitted-signal shape | Continuous                                                    |
| Bar code contrast (PCS)  | 60 %                                                          |
| Modulus size             | 0.5 ... 1 mm                                                  |
| Reading method           | Line scanner with deflecting mirror                           |
| Scanning rate            | 800 ... 1,200 scans/s                                         |
| Beam deflection          | By means of rotating polygon mirror wheel + deflecting mirror |
| Light beam exit          | Zero position at side at angle less than 90°                  |

### Electrical data

|                    |                              |
|--------------------|------------------------------|
| Protective circuit | Polarity reversal protection |
|--------------------|------------------------------|

#### Performance data

|                         |                 |
|-------------------------|-----------------|
| Supply voltage $U_B$    | 10 ... 30 V, DC |
| Power consumption, max. | 11 W            |

### Inputs/outputs selectable

|                                     |                  |
|-------------------------------------|------------------|
| Output current, max.                | 100 mA           |
| Number of inputs/outputs selectable | 4 Piece(s)       |
| Voltage type, outputs               | DC               |
| Switching voltage, outputs          | Typ. $U_B / 0$ V |
| Voltage type, inputs                | DC               |
| Switching voltage, inputs           | Typ. $U_B / 0$ V |
| Input current, max.                 | 8 mA             |

### Interface

|      |                                       |
|------|---------------------------------------|
| Type | MultiNet Plus, RS 232, RS 422, RS 485 |
|------|---------------------------------------|

#### RS 232

|                       |                      |
|-----------------------|----------------------|
| Function              | Process              |
| Transmission speed    | 4,800 ... 115,400 Bd |
| Data format           | Adjustable           |
| Start bit             | 1                    |
| Data bit              | 7, 8                 |
| Stop bit              | 1.2                  |
| Parity                | None                 |
| Transmission protocol | Adjustable           |
| Data encoding         | ASCII                |

#### RS 422

|                       |                      |
|-----------------------|----------------------|
| Function              | Process              |
| Transmission speed    | 4,800 ... 115,400 Bd |
| Data format           | Adjustable           |
| Start bit             | 1                    |
| Data bit              | 7, 8 data bits       |
| Stop bit              | 1, 2 stop bits       |
| Transmission protocol | Adjustable           |
| Data encoding         | ASCII                |

#### RS 485

|                       |             |
|-----------------------|-------------|
| Function              | Process     |
| Transmission speed    | 57,600 Bd   |
| Data format           | Fixed       |
| Start bit             | 1           |
| Data bit              | 9 data bits |
| Stop bit              | 1 stop bit  |
| Parity                | None        |
| Transmission protocol | Fixed       |
| Data encoding         | ASCII       |

### Service interface

|      |     |
|------|-----|
| Type | USB |
|------|-----|

#### USB

|          |                            |
|----------|----------------------------|
| Function | Configuration via software |
|          | Service                    |

### Connection

|                       |            |
|-----------------------|------------|
| Number of connections | 5 Piece(s) |
|-----------------------|------------|

#### Connection 1

|                       |                    |
|-----------------------|--------------------|
| Function              | Service interface  |
| Type of connection    | USB                |
| Designation on device | SERVICE            |
| Connector type        | USB 2.0 Standard-A |

## Technical data

### Connection 2

|                       |            |
|-----------------------|------------|
| Function              | Signal IN  |
|                       | Signal OUT |
| Type of connection    | Connector  |
| Designation on device | SW IN/OUT  |
| Thread size           | M12        |
| Type                  | Female     |
| Material              | Metal      |
| No. of pins           | 5 -pin     |
| Encoding              | A-coded    |

### Connection 3

|                       |                |
|-----------------------|----------------|
| Function              | Signal IN      |
|                       | Signal OUT     |
|                       | Voltage supply |
| Type of connection    | Connector      |
| Designation on device | PWR            |
| Thread size           | M12            |
| Type                  | Male           |
| Material              | Metal          |
| No. of pins           | 5 -pin         |
| Encoding              | A-coded        |

### Connection 4

|                       |               |
|-----------------------|---------------|
| Function              | BUS IN        |
| Type of connection    | Connector     |
| Designation on device | HOST / BUS IN |
| Thread size           | M12           |
| Type                  | Male          |
| Material              | Metal         |
| No. of pins           | 5 -pin        |
| Encoding              | B-coded       |

### Connection 5

|                       |           |
|-----------------------|-----------|
| Function              | BUS OUT   |
| Type of connection    | Connector |
| Designation on device | BUS OUT   |
| Thread size           | M12       |
| Type                  | Female    |
| No. of pins           | 5 -pin    |

### Mechanical data

|                       |                              |
|-----------------------|------------------------------|
| Design                | Cubic                        |
| Dimension (W x H x L) | 173 mm x 84 mm x 147 mm      |
| Housing material      | Metal, Aluminum              |
| Lens cover material   | Glass                        |
| Net weight            | 1,400 g                      |
| Housing color         | Black, RAL 9005              |
|                       | Red, RAL 3000                |
| Type of fastening     | Dovetail grooves             |
|                       | Mounting thread              |
|                       | Via optional mounting device |

### Operation and display

|                       |                                                                         |
|-----------------------|-------------------------------------------------------------------------|
| Type of display       | LED                                                                     |
|                       | Monochromatic graphical display, 128x64 pixel, with background lighting |
| Number of LEDs        | 2 Piece(s)                                                              |
| Type of configuration | Via web browser                                                         |
| Operational controls  | Button(s)                                                               |

### Environmental data

|                                                  |                |
|--------------------------------------------------|----------------|
| Ambient temperature, operation                   | 0 ... 40 °C    |
| Ambient temperature, storage                     | -20 ... +70 °C |
| Relative humidity (non-condensing)               | 90 %           |
| Extraneous light tolerance on the bar code, max. | 2,000 lx       |

### Certifications

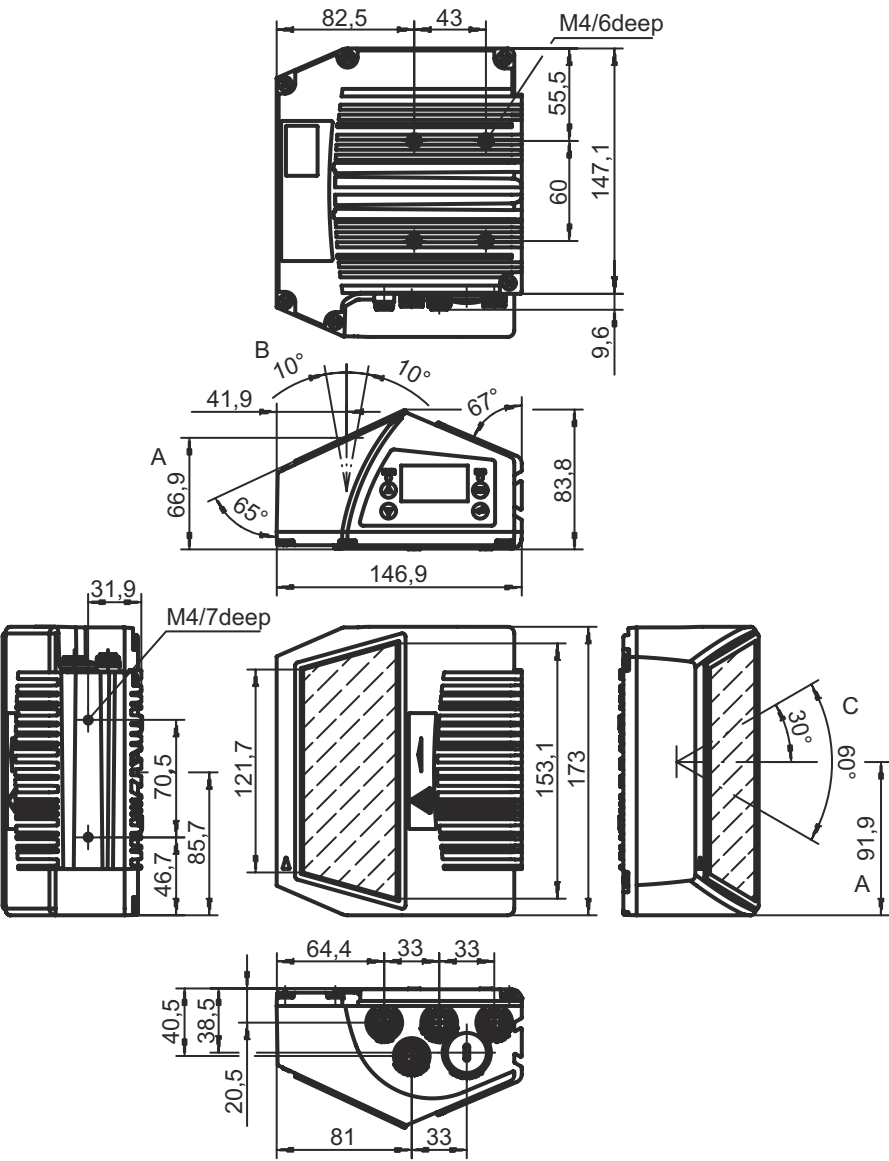
|                                                                 |                          |
|-----------------------------------------------------------------|--------------------------|
| Degree of protection                                            | IP 65                    |
| Protection class                                                | III                      |
| Certifications                                                  | c UL US                  |
| Test procedure for EMC in accordance with standard              | EN 55022                 |
|                                                                 | 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 |
| eCl@ss 8.0            | 27280102 |
| eCl@ss 9.0            | 27280102 |
| ETIM 5.0              | EC002550 |
| ETIM 6.0              | EC002550 |

Dimensioned drawings

All dimensions in millimeters



Electrical connection

Connection 1

|                    |                    |
|--------------------|--------------------|
| Function           | Service interface  |
| Type of connection | USB                |
| Connector type     | USB 2.0 Standard-A |

SERVICE

## Electrical connection

### Connection 2

### SW IN/OUT

|                    |            |
|--------------------|------------|
| Function           | Signal IN  |
|                    | Signal OUT |
| Type of connection | Connector  |
| Thread size        | M12        |
| Type               | Female     |
| Material           | Metal      |
| No. of pins        | 5 -pin     |
| Encoding           | A-coded    |

#### Pin Pin assignment

|   |        |
|---|--------|
| 1 | VOUT   |
| 2 | SWIO 1 |
| 3 | GND    |
| 4 | SWIO 2 |
| 5 | FE     |

### Connection 3

### PWR

|                    |                |
|--------------------|----------------|
| Function           | Signal IN      |
|                    | Signal OUT     |
|                    | Voltage supply |
| Type of connection | Connector      |
| Thread size        | M12            |
| Type               | Male           |
| Material           | Metal          |
| No. of pins        | 5 -pin         |
| Encoding           | A-coded        |

#### Pin Pin assignment

|   |        |
|---|--------|
| 1 | VIN    |
| 2 | SWIO 3 |
| 3 | GND    |
| 4 | SWIO 4 |
| 5 | FE     |

### Connection 4

### HOST / BUS IN

|                    |           |
|--------------------|-----------|
| Function           | BUS IN    |
| Type of connection | Connector |
| Thread size        | M12       |
| Type               | Male      |
| Material           | Metal     |
| No. of pins        | 5 -pin    |
| Encoding           | B-coded   |

#### Pin Pin assignment

|   |           |
|---|-----------|
| 1 | CTS / RX+ |
| 2 | TxD/Tx-   |
| 3 | GND_H     |
| 4 | RTS/TX+   |
| 5 | RxD/RX-   |

Electrical connection

| Connection 5       | BUS OUT   |
|--------------------|-----------|
| Function           | BUS OUT   |
| Type of connection | Connector |
| Thread size        | M12       |
| Type               | Female    |
| Material           | Metal     |
| No. of pins        | 5 -pin    |
| Encoding           | B-coded   |

| Pin | Pin assignment |
|-----|----------------|
| 1   | V CC485        |
| 2   | RS 485 B       |
| 3   | GND 485        |
| 4   | RS 485 A       |
| 5   | FE             |