

## Technical data sheet

### Stationary bar code reader

Part no.: 50143209

BCL 208i SM 110



Figure can vary

#### Contents

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



Ethernet



## Technical data

### Basic data

Series	BCL 200i
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### Functions

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

### Read data

Code types, readable	2/5 Interleaved
	Codabar
	Code 128
	Code 39
	Code 93
	EAN 8/13
	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	40 ... 255 mm
Light source	Laser, Red
Laser light wavelength	655 nm
Laser class	1, IEC / EN 60825-1:2014
Transmitted-signal shape	Continuous
Usable opening angle (reading field opening)	60 °
Modulus size	0.2 ... 0.5 mm
Reading method	Line scanner with deflecting mirror
Beam deflection	By means of rotating polygon mirror wheel + deflecting mirror
Light beam exit	Lateral with deflecting mirror

### Electrical data

Protective circuit	Polarity reversal protection
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#### Performance data

Supply voltage $U_B$	18 ... 30 V, DC
Power consumption, max.	4 W

#### Inputs

Number of digital switching inputs	1 Piece(s)
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#### Switching inputs

Voltage type	DC
Input current, max.	8 mA

#### Outputs

Number of digital switching outputs	1 Piece(s)
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#### Switching outputs

Voltage type	DC
Switching current, max.	60 mA

### Interface

Type	Ethernet
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#### Ethernet

Architecture	Client
	Server
Address assignment	DHCP
	Manual address assignment
Transmission speed	10 Mbit/s
	100 Mbit/s
Function	Process
Switch functionality	None
Transmission protocol	TCP/IP, UDP

### Connection

Number of connections	2 Piece(s)
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#### Connection 1

Function	Signal IN
	Signal OUT
	Voltage supply
Type of connection	Cable with connector
Cable length	900 mm
Sheathing material	PVC
Cable color	Black
Number of conductors	5 -wire
Thread size	M12
Type	Male
Material	Plastic
No. of pins	5 -pin
Encoding	A-coded

#### Connection 2

Function	Configuration interface
	Data interface
Type of connection	Cable with connector
Cable length	700 mm
Sheathing material	PVC
Cable color	Green
Number of conductors	4 -wire
Thread size	M12
Type	Female
Material	Plastic
No. of pins	4 -pin
Encoding	D-coded

### Mechanical data

Design	Cubic
Dimension (W x H x L)	93 mm x 38 mm x 83 mm
Housing material	Metal
Metal housing	Diecast aluminum
Lens cover material	Glass
Net weight	400 g
Housing color	Silver
Type of fastening	Dovetail grooves
	Fastening on back
	Via optional mounting device

## Technical data

### Operation and display

Type of display	LED
Number of LEDs	3 Piece(s)
Type of configuration	Via web browser

### Environmental data

Ambient temperature, operation	0 ... 40 °C
Ambient temperature, storage	-20 ... 70 °C
Relative humidity (non-condensing)	0 ... 90 %

### Certifications

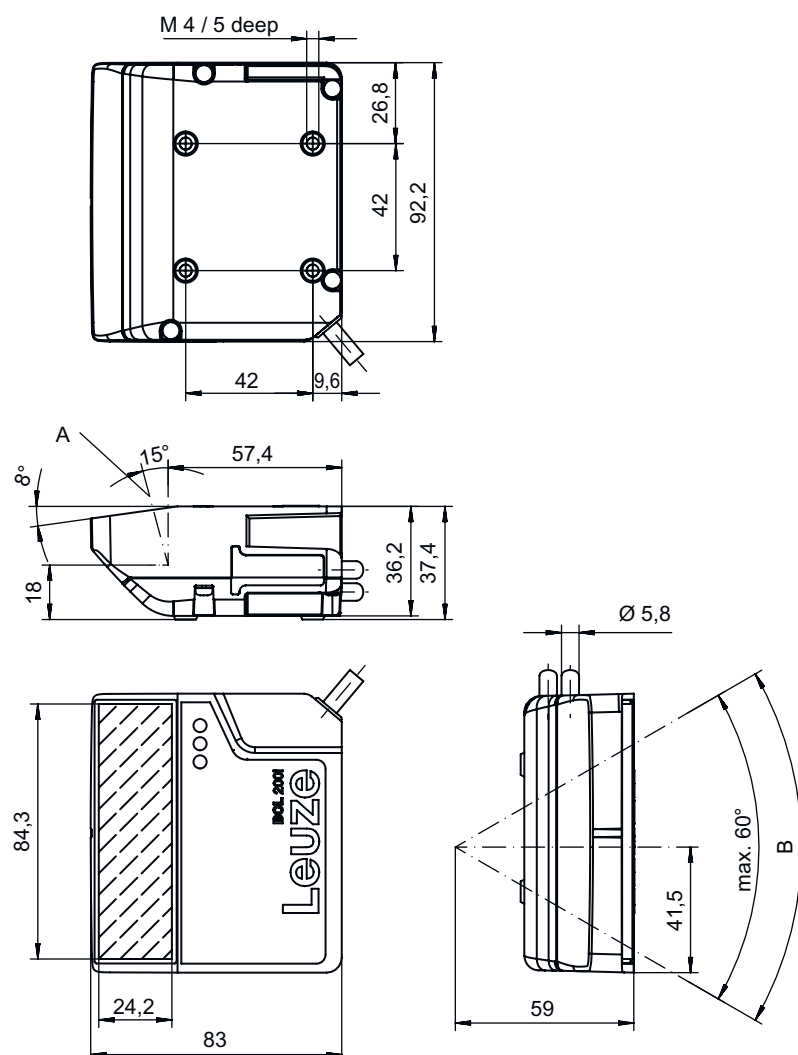
Degree of protection	IP 65
Protection class	III
Test procedure for EMC in accordance with standard	EN 61000-6-2 EN 61000-6-3
Test procedure for shock in accordance with standard	IEC 60068-2-27, test Ea
Test procedure for continuous shock in accordance with standard	IEC 60068-2-29, test Eb
Test procedure 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
eCl@ss 10.0	27280102
eCl@ss 11.0	27280102
ETIM 5.0	EC002550
ETIM 6.0	EC002550

# Dimensioned drawings

All dimensions in millimeters



- A Optical axis
- B Deflection angle of the laser beam:  $\pm 30^\circ$

## Electrical connection

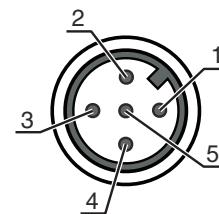
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Encoding	A-coded

## Electrical connection

### Pin Pin assignment

1	VIN
2	SWIN 1
3	GNDIN
4	SWO 1
5	FE

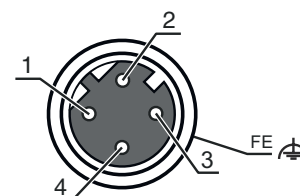


### Connection 2

<b>Function</b>	Configuration interface Data interface
<b>Type of connection</b>	Cable with connector
<b>Cable length</b>	700 mm
<b>Sheathing material</b>	PVC
<b>Cable color</b>	Green
<b>Number of conductors</b>	4 -wire
<b>Thread size</b>	M12
<b>Type</b>	Female
<b>Material</b>	Plastic
<b>No. of pins</b>	4 -pin
<b>Encoding</b>	D-coded

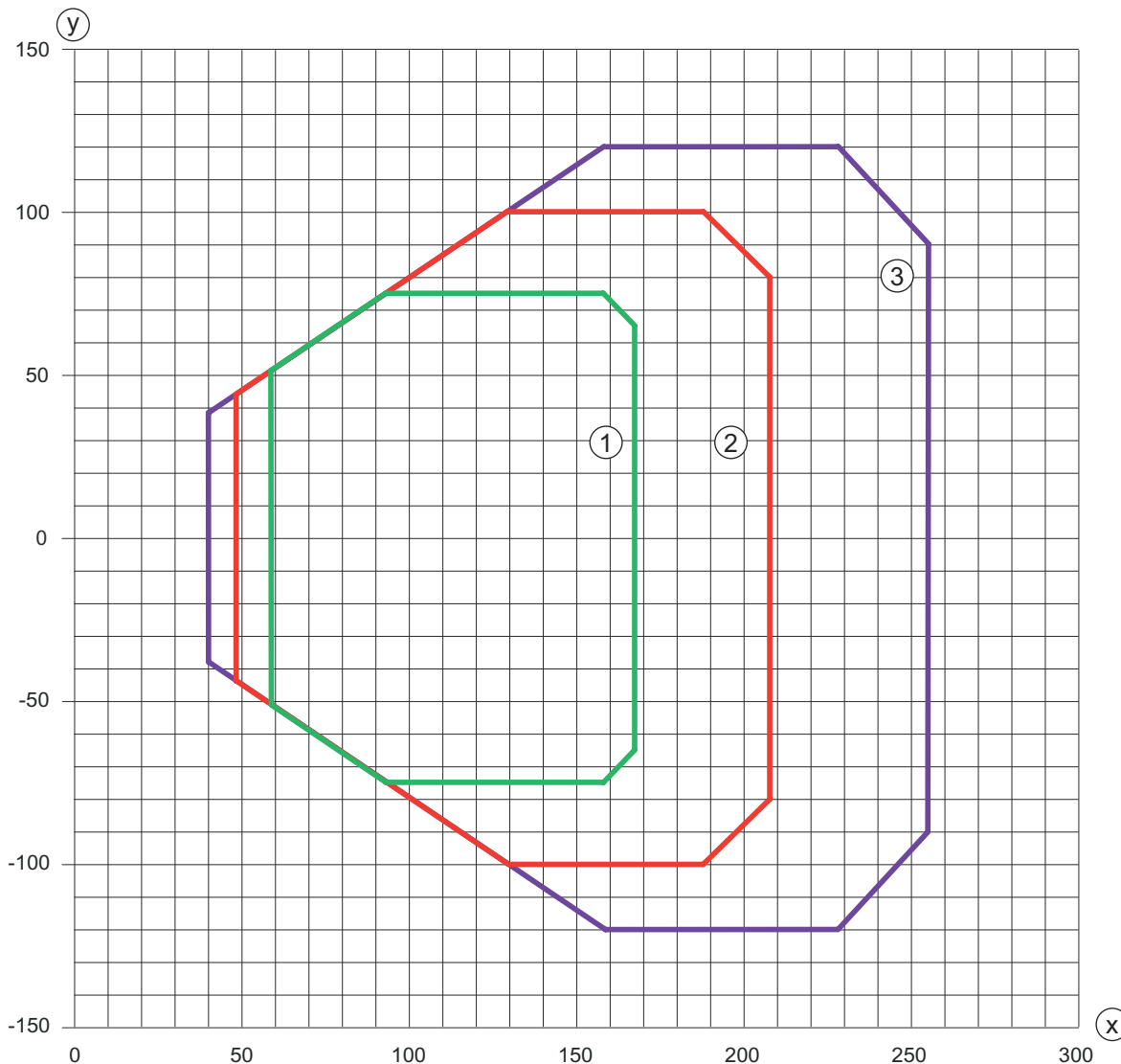
### Pin Pin assignment

1	TD0+
2	RD0+
3	TD0-
4	RD0-



# Diagrams

## Reading field curve



x Reading distance [mm]  
 y Reading field width [mm]

- 1 Module: 0.2 mm
- 2 Module: 0.3 mm
- 3 Module: 0.5 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 NET	Green, flashing	Initialization
	Green, continuous light	Bus operation ok

# Operation and display

LED	Display	Meaning
2 NET	Red, flashing	Communication error
	Red, continuous light	Bus error
3 LINK	Green, continuous light	Ethernet connection is established
	Yellow, continuous light	Data exchange active

## Part number code

Part designation: **BCL XXXX YYZ AAA**

<b>BCL</b>	<b>Operating principle</b> BCL: bar code reader
<b>XXXX</b>	<b>Series/interface (integrated fieldbus technology)</b> 208i: EtherNet TCP/IP, UDP 248i: PROFINET RT 258i: EtherNet/IP
<b>YY</b>	<b>Scanning principle</b> S: line scanner (single line) R1: line scanner (raster)
<b>Z</b>	<b>Optics</b> M: Medium Density (medium distance)
<b>AAA</b>	<b>Beam exit</b> 110: lateral

### Note

↪ A list with all available device types can be found on the Leuze website at

## Notes

### Observe intended use!

- ↪ This product is not a safety sensor and is not intended as personnel protection.
  - ↪ The product may only be put into operation by competent persons.
  - ↪ Only use the product in accordance with its intended use.

### WARNING! LASER RADIATION – CLASS 1 LASER PRODUCT

- The device satisfies the requirements of IEC 60825-1:2014 (EN 60825-1:2014) safety regulations for a product of **laser class 1 as well as the U.S. 21 CFR 1040.10 regulations with deviations corresponding to "Laser Notice No. 56" from 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

### Laser radiation

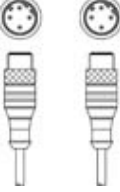
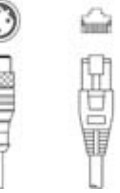
- ↪ Opening the device can lead to dangerous exposure to radiation.

## Accessories


### Connection technology - Connection cables

	Part no.	Designation	Article	Description
	50132079	KD U-M12-5A-V1-050	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: PVC
	50135074	KS ET-M12-4A-P7-050	Connection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: Open end Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR


### Connection technology - Interconnection cables

	Part no.	Designation	Article	Description
	50137078	KSS ET-M12-4A-M12-4A-P7-050	Interconnection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: Connector, M12, Axial, Male, D-coded, 4 -pin Shielded: Yes Cable length: 1,000 mm Sheathing material: PUR
	50135081	KSS ET-M12-4A-RJ45-A-P7-050	Interconnection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: RJ45 Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR


### 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
	50121434	BT 300 - 1	Mounting device	Design of mounting device: Mounting system Fastening, at system: For 10-16 mm rods Mounting bracket, at device: Screw type Type of mounting device: Turning, 360°, Adjustable Material: Metal





## Accessories

	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

## 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
	S981020	CS30-E-212	Hourly rate for "Configuration"	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. Restrictions: Travel and accommodation charged separately and according to expenditure.
	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. Restrictions: No mechanical (mounting) and electrical (wiring) work performed, no changes (attachments, wiring, programming) to third-party components in the nearby environment.
	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. Restrictions: Travel costs and accommodation expenses charged separately and according to expenditure.
	S981021	CS30-V-212	Hourly rate for "Bar code qualification"	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.