



**Part no.: 50123508**  
**BCL 300i R1 J 100**  
**Stationary bar code reader**



**RS232** **RS422**



Figure can vary

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## Technical data

<b>Basic data</b>	
Series	BCL 300i
<b>Functions</b>	
Functions	AutoControl Reference code comparison AutoReflAct LED indicator AutoConfig Alignment mode Code fragment technology
<b>Characteristic parameters</b>	
MTTF	110 years
<b>Read data</b>	
Code types, readable	Code 39 2/5 Interleaved GS1 Databar Expanded GS1 Databar Omnidirectional UPC Code 93 EAN 8/13 GS1 Databar Limited Code 128 Codabar
Scanning rate, typical	1,000 scans/s
Bar codes per reading gate, max. number	64 Piece(s)
<b>Optical data</b>	
Reading distance	100 ... 600 mm
Light source	Laser, Red
Laser light wavelength	655 nm
Laser class	2, IEC/EN 60825-1:2007
Transmitted-signal shape	Continuous
Usable opening angle (reading field opening)	60 °
Module size	0.5 ... 0.8 mm
Reading method	Raster scanner with deflecting mirror
Beam deflection	By means of rotating polygon mirror wheel + deflecting mirror
Light beam exit	Lateral with deflecting mirror
Raster (number of lines)	8 Piece(s)
Scanning field at scanner distance of 100 mm	17 mm
Scanning field at scanner distance of 200 mm	27 mm
Scanning field at scanner distance of 300 mm	38 mm
Scanning field at scanner distance of 400 mm	48 mm
<b>Electrical data</b>	
Protective circuit	Polarity reversal protection
<b>Performance data</b>	
Supply voltage	18 ... 30 V, DC
Power consumption, max.	3.7 W

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**Inputs/outputs selectable**

Output current, max.	60 mA
Number of inputs/outputs selectable	2 Piece(s)
Input current, max.	8 mA

**Interface**

Type	RS 232, RS 422
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**RS 232**

Function	Process
Transmission speed	4,800 ... 115,200 Bd
Data format	Adjustable
Start bit	1
Data bit	7,8
Stop bit	1, 2 stop bits
Parity	Adjustable
Transmission protocol	<STX><data><CR><LF>
Data encoding	ASCII

**RS 422**

Function	Process
Transmission speed	4,800 ... 115,200 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

**Service interface**

Type	USB
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**USB**

Function	Configuration via software
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**Connection**

Number of connections	1 Piece(s)
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**Connection 1**

Type of connection	Plug connector
Function	Connection to device PWR / SW IN/OUT BUS OUT Service interface Data interface
No. of pins	32 -pin
Type	Male

**Mechanical data**

Design	Cubic
Dimension (W x H x L)	103 mm x 44 mm x 96 mm
Housing material	Metal, Diecast aluminum
Lens cover material	Glass
Net weight	350 g

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Housing color	Black Red
Type of fastening	Fastening on back Via optional mounting device Dovetail grooves

### Operation and display

Type of display	LED
Number of LEDs	2 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

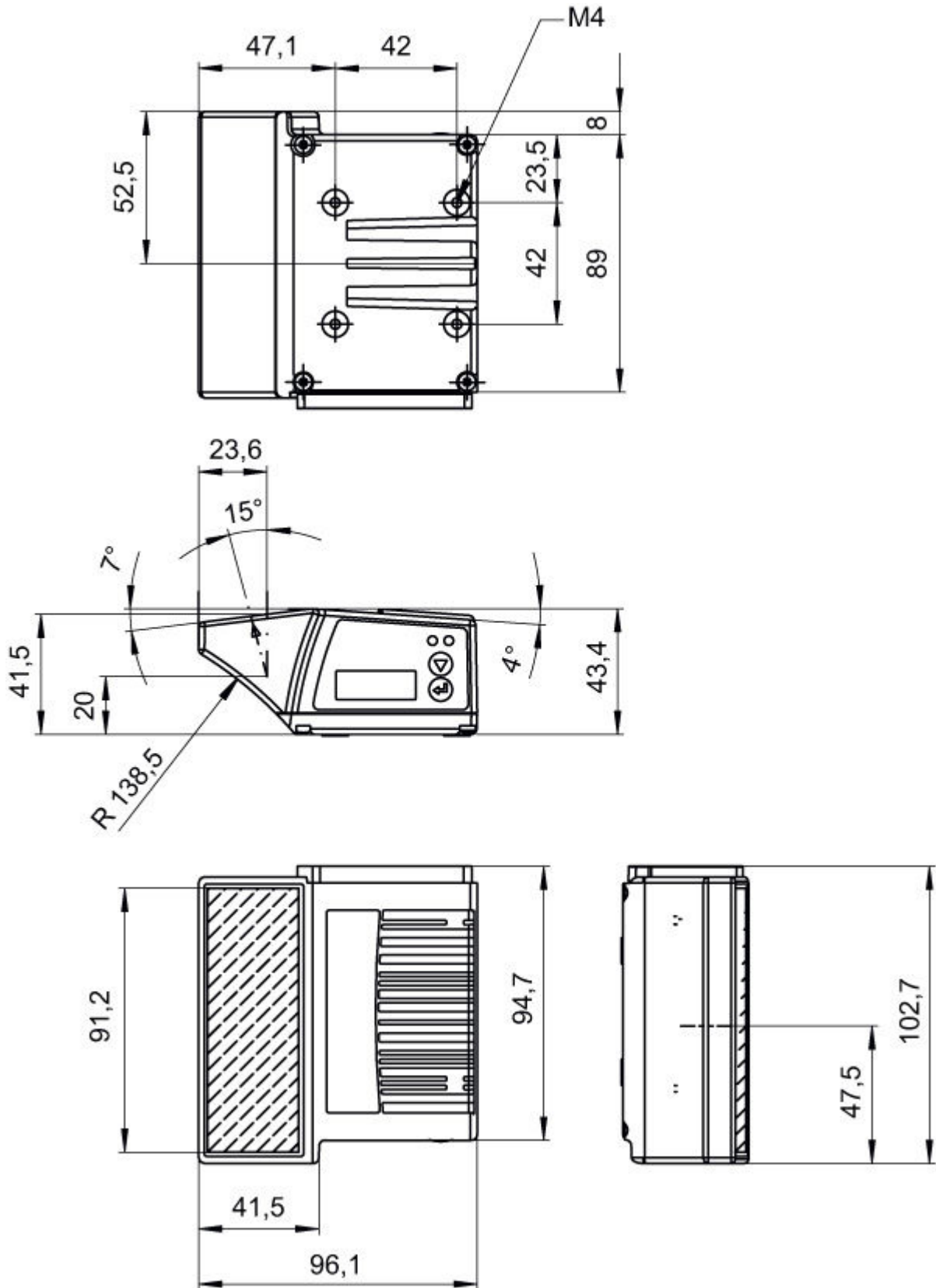
Degree of protection	IP 65
Protection class	III
Certifications	c UL US
Test procedure for EMC in accordance with standard	EN 55022 EN 61000-4-2, 3, -4, -6
Test procedure for shock in accordance with standard	IEC 60068-2-27, test Ea
Test procedure for continuous shock in accordance with standard	IEC 60068-2-29,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

### Classification

eCl@ss 8.0	27280102
eCl@ss 9.0	27280102
ETIM 5.0	EC002550

## Dimensioned drawings

All dimensions in millimeters

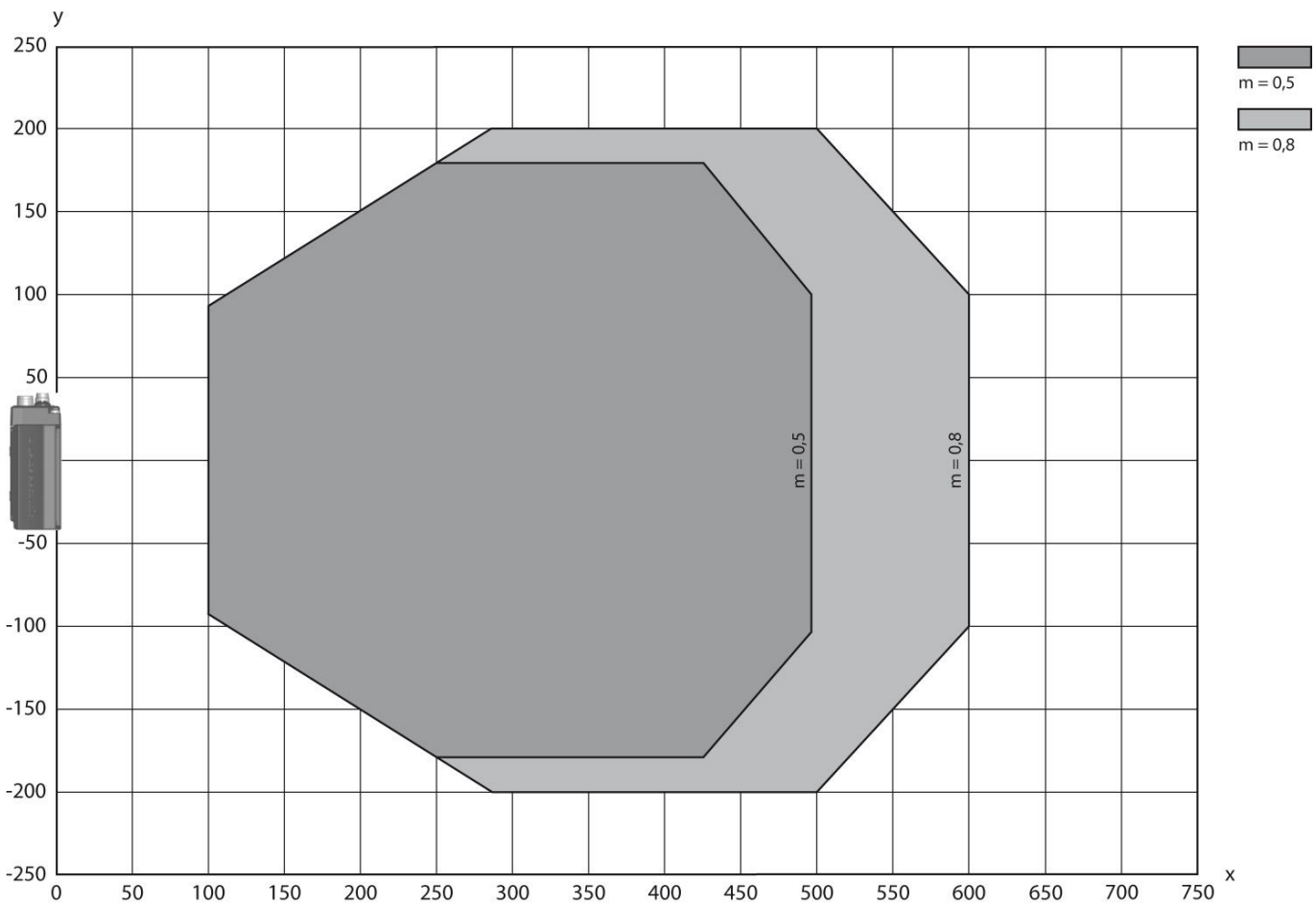


**Electrical connection**

Connection 1	
Type of connection	Plug connector
Function	Connection to device PWR / SW IN/OUT BUS OUT Service interface Data interface
No. of pins	32 -pin
Type	Male

**Diagrams**

Reading field curve



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

## Operation and display

### LEDs

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
		Red, flashing	Communication error
		Red, continuous light	Bus error


## Part number code

Part designation: BCL XXXX YYZ AAA BB

BCL	<b>Operating principle:</b> BCL: bar code reader
XXXX	<b>Series/interface (integrated fieldbus technology)::</b> 300i: RS 232 / RS 422 (stand-alone) 301i: RS 485 (multiNet slave) 304i: PROFIBUS DP 308i: EtherNet TCP/IP, UDP 348i: PROFINET RT 358i: EtherNet/IP
YY	<b>Scanning principle:</b> S: line scanner (single line) R1: line scanner (raster) O: oscillating-mirror scanner (oscillating mirror)
Z	<b>Optics:</b> 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	<b>Beam exit:</b> 100: lateral 102: front
BB	<b>Special equipment:</b> D: with display H: with heating DH: optionally with display and heating









## Accessories

### Connection technology - Connection unit




	Part no.	Designation	Article	Description
	50114369	MA 100	Modular connection unit	Interface: RS 232, RS 485 Connections: 1 Piece(s) Degree of protection: IP 54

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## Connection technology - Connection cables



	Part no.	Designation	Article	Description
 	50132077	KD U-M12-5A-V1-020	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Open end Shielded: No Cable length: 2,000 mm Sheathing material: PVC
 	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
 	50132080	KD U-M12-5A-V1-100	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Open end Shielded: No Cable length: 10,000 mm Sheathing material: PVC
 	50132432	KD U-M12-5A-V1-300	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Open end Shielded: No Cable length: 30,000 mm Sheathing material: PVC

## Connection technology - Interconnection cables


	Part no.	Designation	Article	Description
	50114571 *	KB 301-3000	Interconnection cable	Suitable for interface: RS 232 Connection 1: Socket connector Connection 2: JST ZHR, 10 -pin, 6 -pin Shielded: Yes Cable length: 3,000 mm Sheathing material: PVC
 	50117011	KB USB A - USB miniB	Service line	Suitable for interface: USB Connection 1: USB Connection 2: USB Shielded: Yes Cable length: 1,500 mm Sheathing material: PVC

\* Necessary accessories, please order separately



## Connection technology - Connectors

	Part no.	Designation	Article	Description
	50038538	KD 02-5-BA	Connector	Suitable for interface: PROFIBUS DP, MultiNet Plus Connection: Connector, M12, Axial, Female, B-coded, 5 -pin
	50038537	KD 02-5-SA	Connector	Suitable for interface: PROFIBUS DP, MultiNet Plus Connection: Connector, M12, Axial, Male, B-coded, 5 -pin

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	Part no.	Designation	Article	Description
	50020501	KD 095-5A	Connector	Connection: Connector, M12, Axial, Female, A-coded, 5 -pin

**Connection technology - Terminal boxes**




	Part no.	Designation	Article	Description
	50116463 *	MK 300	Connection unit	Suitable for: BCL 300i, BPS 300i Suitable for interface: RS 232 Number of connections: 3 Piece(s) Connection: Terminal
	50116468 *	MS 300	Connection unit	Suitable for: BCL 300i, BPS 300i Suitable for interface: RS 232 Number of connections: 3 Piece(s) Connection: Connector, M12

\* Necessary accessories, please order separately

**Mounting technology - Mounting brackets**



	Part no.	Designation	Article	Description
	50121433	BT 300 W	Mounting device	Contains: 4x M4 x 10 screw, 4x position washers, 4x lock washers Design of mounting device: Angle, L-shape Mounting bracket, 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	Contains: 4x M4 x 10 screw, 4x position washers, 4x lock washers Design of mounting device: Mounting system Mounting bracket, at system: For 12 mm rod, For 14 mm rod, For 16 mm rod Mounting bracket, at device: Screw type Type of mounting device: Turning, 360°, Adjustable Material: Metal
	50027375	BT 56	Mounting device	Design of mounting device: Mounting system Mounting bracket, at system: For 16 mm rod, For 18 mm rod, For 20 mm rod Mounting bracket, at device: Clampable Material: Metal Tightening torque of the clamping jaws: 8 N·m Functions: Static applications
	50121435	BT 56 - 1	Mounting device	Design of mounting device: Mounting system Mounting bracket, 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 Functions: Static applications

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## Mounting technology - Other

	Part no.	Designation	Article	Description
	50111224	BT 59	Mounting bracket	Mounting bracket, at system: Groove mounting Mounting bracket, at device: Clampable Material: Metal
	50124941	BTU 0300M-W	Mounting device	Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Clampable, Groove mounting Material: Metal

## 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

## General

	Part no.	Designation	Article	Description
	50120731	Housing BCL 300i V2A	Protective housing	Suitable for: BCL 3xxi series bar code reader, deflecting mirror Length: 63 mm Housing material: Stainless steel Standard designation, housing: V2A Lens cover material: Glass Degree of protection: IP 67, IP 69K

## Notes

Observe intended use!
<ul style="list-style-type: none"> <li>• This product is not a safety sensor and is not intended as personnel protection.</li> <li>• The product may only be put into operation by competent persons.</li> <li>• Only use the product in accordance with its intended use.</li> </ul>

**WARNING! LASER RADIATION – LASER CLASS 2****Never look directly into the beam!**

The device satisfies the requirements of IEC 60825-1:2007 (EN 60825-1:2007) safety regulations for a product of **laser class 2** as well as the U.S. 21 CFR 1040.10 regulations with deviations corresponding to "Laser Notice No. 50" from June 24, 2007.

- Never look directly into the laser beam or in the direction of reflected laser beams! If you look into the beam path over a longer time period, there is a risk of injury to the retina.
- Do not point the laser beam of the device at persons!
- Interrupt the laser beam using a non-transparent, non-reflective object if the laser beam is accidentally directed towards a person.
- When mounting and aligning the device, avoid reflections of the laser beam off reflective surfaces!
- CAUTION! Use of controls or adjustments or performance of procedures other than specified herein may result in hazardous light exposure.
- 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.

**NOTE****Affix laser information and warning signs!**

Laser information and warning signs are affixed to the device. In addition, self-adhesive laser information and warning signs (stick-on labels) are supplied in several languages.

- Affix the laser information sheet to the device in the language appropriate for the place of use. When using the device in the US, use the stick-on label with the "Complies with 21 CFR 1040.10" note.
- Affix the laser information and warning signs near the device if no signs are attached to the device (e.g. because the device is too small) or if the attached laser information and warning signs are concealed due to the installation position.
- Affix the laser information and warning signs so that they are legible without exposing the reader to the laser radiation of the device or other optical radiation.