## Leuze

## **Technical data sheet** Stationary bar code reader Part no.: 50116380 BCL 308i R1 F 100 D



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### **Technical data**

#### Basic data

Series	BCL 300i	
Functions		
Functions	Alignment mode	
	AutoConfig	
	AutoControl	
	AutoReflAct	
	Code fragment technology	
	LED indicator	
	Reference code comparison	
Characteristic parameters		
MTTF	110 years	
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	70 440 mm	

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Reading distance	70 440 mm
Light source	Laser, Red
Wavelength	655 nm
Laser class	1, IEC/EN 60825-1:2014
Transmitted-signal shape	Continuous
Usable opening angle (reading field opening)	60 °
Modulus size	0.3 0.5 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

#### **Electrical data**

Protective circuit

Performance data Supply voltage U<sub>B</sub> Power consumption, max.

18 ... 30 V, DC 4.5 W

Polarity reversal protection

60 mA 2 Piece(s) 8 mA
8 mA
Ethernet
Client
Server
DHCP
Manual address assignment
10 Mbit/s
100 Mbit/s
Process
Integrated
TCP/IP , UDP
USB 2.0
Configuration via software
Service
1 Piece(s)
BUS IN
BUS OUT
Connection to device
Data interface
PWR / SW IN / OUT
Service interface
Plug connector, It is essential to use a connection unit when commissioning the
device.
32 -pin Male
Male
Cubic
103 mm x 44 mm x 96 mm
Metal
Diecast aluminum Glass
350 g
Red
Silver
Dovetail grooves
Fastening on back
Via optional mounting device
LED
Monochromatic graphic display, 128 x 3
pixels

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### **Technical data**

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#### **Environmental data**

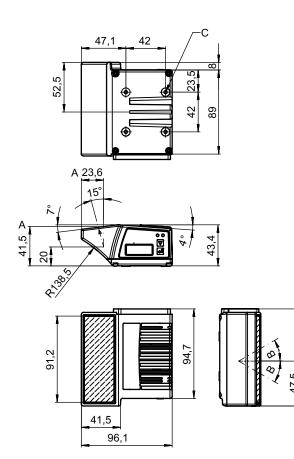
Ambient temperature, operation	0 40 °C
Ambient temperature, storage	-20 70 °C
Relative humidity (non-condensing)	0 90 %

#### 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

### **Dimensioned drawings**

All dimensions in millimeters



#### 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
ETIM 5.0	EC002550
ETIM 6.0	EC002550
ETIM 7.0	EC002550
ETIM 8.0	EC002550

Optical axis А

8

- Deflection angle of the laser beam: ± 30° В
- M4 thread (5 mm deep) С

### **Electrical connection**

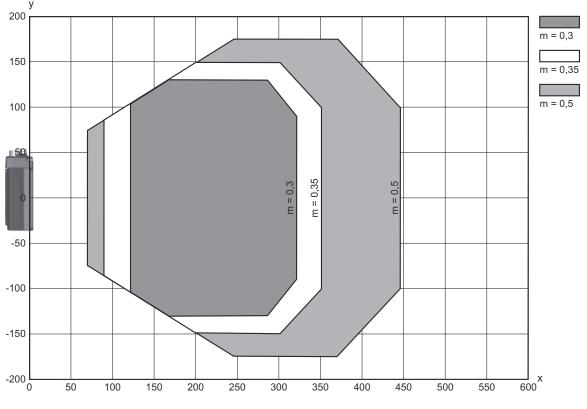
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#### **Connection 1**

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



x Reading field distance [mm]

y Reading field width [mm]

### **Operation and display**

LE	ED	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

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### **Operation and display**

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LE	D	Display	Meaning
1	PWR	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

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)
ΑΑΑ	Beam exit 100: lateral 102: front
BB	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
Noto	

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

### Notes

Observe intended use!
<ul> <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>

### Notes

	ATTENTION! LASER RADIATION - CLASS 1 LASER PRODUCT
	The device satisfies the requirements of IEC/EN 60825-1:2014 safety regulations for a product of <b>laser class 1</b> 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.
	b Observe the applicable statutory and local laser protection regulations.
	<ul> <li>The device must not be tampered with and must not be changed in any way.</li> <li>There are no user-serviceable parts inside the device.</li> <li>Repairs must only be performed by Leuze electronic GmbH + Co. KG.</li> </ul>

### Accessories

### Connection technology - Connection cables

	Part no.	Designation	Article	Description
W D	50132079	KD U-M12-5A-V1- 050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC
Ŵ	50135074	KS ET-M12-4A-P7- 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 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- 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: 5,000 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

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### Accessories

### Connection technology - Connection boxes

	Part no.	Designation	Article	Description
6	50131255 *	ME 308 103	Connection unit	Suitable for: BCL 308i Interface: Ethernet Number of connections: 4 Piece(s) Connection: Cable with connector, M12, 900 mm
6	50131254 *	ME 308 104	Connection unit	Suitable for: BCL 308i Interface: Ethernet Number of connections: 5 Piece(s) Connection: Cable with connector, M12, 900 mm
	50116466 *	MK 308	Connection unit	Suitable for: BCL 308i Interface: Ethernet Number of connections: 4 Piece(s) Connection: Terminal
	50114823 *	MS 308	Connection unit	Suitable for: BCL 308i Interface: Ethernet Number of connections: 4 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	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

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### 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	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.
у. С	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	Details: REA evaluation with creation of a test report, evaluation of the code quality. Conditions: Original bar codes to be provided by the client.

