

Technical data sheet Stationary bar code reader Part no.: 50116217 BCL 300i SM 100



The Sensor People In der Braike 1, D-73277 Owen/Germany

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Technical data

Basic data

Туре

Dasic 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	30 290 mm	
Light source	Laser, Red	

Reading distance	30 290 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	0.2 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
	Polarity reversal protection
Protective circuit	Polarity reversal protection 18 30 V, DC
Protective circuit Performance data	
Protective circuit Performance data Supply voltage U _B	18 30 V, DC
Protective circuit Performance data Supply voltage U _B Power consumption, max.	18 30 V, DC
Protective circuit Performance data Supply voltage U _B Power consumption, max. Inputs/outputs selectable	18 30 V, DC 4.5 W 60 mA
Protective circuit Performance data Supply voltage U _B Power consumption, max. Inputs/outputs selectable Output current, max.	18 30 V, DC 4.5 W 60 mA
Protective circuit Performance data Supply voltage U _B Power consumption, max. Inputs/outputs selectable Output current, max. Number of inputs/outputs selectable Input current, max.	18 30 V, DC 4.5 W 60 mA 2 Piece(s)
Protective circuit Performance data Supply voltage U _B Power consumption, max. Inputs/outputs selectable Output current, max. Number of inputs/outputs selectable	18 30 V, DC 4.5 W 60 mA 2 Piece(s)

RS 232, RS 422

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 Parity Adjustable <STX><data><CR><LF> Transmission protocol Data encoding ASCII RS 422 Process Function Transmission speed 4,800 ... 115,200 Bd Data format Adjustable Start bit 1 Data bit 7, 8 data bits 1, 2 stop bits Stop bit Transmission protocol Adjustable Data encoding ASCII Service interface **USB 2.0** Configuration via software Function Connection Number of connections 1 Piece(s) **Connection 1** Function BUS OUT Connection to device Data interface PWR / SW IN / OUT Service interface Type of connection Plug connector, It is essential to use a connection unit when commissioning the device. No. of pins 32 -pin Male **Mechanical data** Cubic Dimension (W x H x L) 103 mm x 44 mm x 96 mm Housing material Metal Metal housing Diecast aluminum Lens cover material Glass 350 g Net weight Housing color Red Silver Type of fastening Dovetail grooves

Operation and display

Туре

USB

Туре

Design

Type of display	LED
Number of LEDs	2 Piece(s)
Type of configuration	Via web browser

Fastening on back Via optional mounting device

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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
Approvals	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

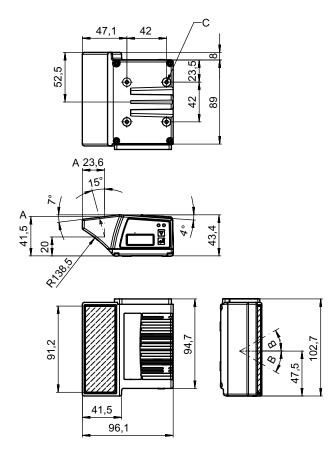
Classification

Customs tariff number	84719000
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

All dimensions in millimeters





- A Optical axis
- B Deflection angle of the laser beam: \pm 30 $^{\circ}$
- C M4 thread (5 mm deep)

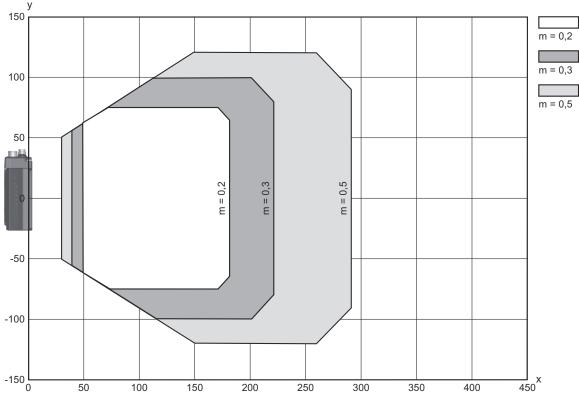
Electrical connection

Со	nn	ect	tio	n 1

Function	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



Х Reading field distance [mm]

y 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

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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)
AAA	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

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Note

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

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Observe intended use!

- $\ensuremath{\diamondsuit}$ This product is not a safety sensor and is not intended as personnel protection.
- $\ensuremath{\overset{\scriptstyle \ensuremath{\scriptstyle \bigtriangledown}}{\mapsto}}$ The product may only be put into operation by competent persons.
- Only 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.

Accessories

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Connection technology - Connection unit

 Part no.	Designation	Article	Description
50114369	MA 100	Modular connection unit	Supply voltage: 18 30 V Interface: RS 232, RS 485 Connections: 1 Piece(s) Degree of protection: IP 54

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 Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC

Connection technology - Interconnection cables

	Par	rt no.	Designation	Article	Description
J.	501	14571 *	KB 301-3000	Interconnection cable	Suitable for interface: RS 232, RS 422, RS 485 Connection 1: Socket connector Connection 2: JST ZHR connector, 10 -pin, 6 -pin Shielded: Yes Cable length: 3,000 mm Sheathing material: PVC
	501	17011	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 - Connection boxes

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

Accessories

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	Part no.	Designation	Article	Description
200	50150597 *	MS 342	Connector hood	Suitable for: BCL 348i Supply voltage: DC Interface: IO-Link Number of connections: 1 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
S	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

Reflective tapes for standard applications

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

Accessories

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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.
	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.
	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
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