

Technical data sheet Stationary bar code reader

Part no.: 50116444

BCL 348i SF 102



Contents

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













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	100 475 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	Line scanner
Beam deflection	Via rotating polygon wheel
Light beam exit	Front
Electrical data	
Protective circuit	Polarity reversal protection
Performance data	
Supply voltage U _B	18 30 V, DC
Power consumption, max.	4.5 W
Inputs/outputs selectable	
Output current, max.	60 mA
Number of inputs/outputs selectable	
Input current, max.	8 mA

PROFINET	
Function	Process
Conformance class	В
Protocol	PROFINET RT
Switch functionality	Integrated
Transmission speed	10 Mbit/s
	100 Mbit/s
Service interface	
Туре	USB 2.0
USB Function	Configuration is software
Function	Configuration via software Service
	Corvido
Connection	
Number of connections	1 Piece(s)
Connection 1 Function	DUCIN
Function	BUS IN BUS OUT
	Connection to device
	Data interface
	PWR / SW IN / OUT Service interface
Time of connection	
Type of connection	Plug connector, It is essential to use a connection unit when commissioning the device.
No. of pins	32 -pin
Туре	Male
	Male
Mechanical data	Male
Mechanical data Design	
Mechanical data Design Dimension (W x H x L)	Cubic
Mechanical data Design Dimension (W x H x L)	Cubic 95 mm x 44 mm x 68 mm
Mechanical data Design Dimension (W x H x L) Housing material	Cubic 95 mm x 44 mm x 68 mm Metal
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material	Cubic 95 mm x 44 mm x 68 mm Metal Diecast aluminum
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material	Cubic 95 mm x 44 mm x 68 mm Metal Diecast aluminum Glass
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color	Cubic 95 mm x 44 mm x 68 mm Metal Diecast aluminum Glass 270 g Red Silver
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color	Cubic 95 mm x 44 mm x 68 mm Metal Diecast aluminum Glass 270 g Red Silver Dovetail grooves
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color	Cubic 95 mm x 44 mm x 68 mm Metal Diecast aluminum Glass 270 g Red Silver Dovetail grooves Fastening on back
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color	Cubic 95 mm x 44 mm x 68 mm Metal Diecast aluminum Glass 270 g Red Silver Dovetail grooves
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color Type of fastening	Cubic 95 mm x 44 mm x 68 mm Metal Diecast aluminum Glass 270 g Red Silver Dovetail grooves Fastening on back
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight	Cubic 95 mm x 44 mm x 68 mm Metal Diecast aluminum Glass 270 g Red Silver Dovetail grooves Fastening on back
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color Type of fastening Operation and display	Cubic 95 mm x 44 mm x 68 mm Metal Diecast aluminum Glass 270 g Red Silver Dovetail grooves Fastening on back Via optional mounting device
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color Type of fastening Operation and display Type of display	Cubic 95 mm x 44 mm x 68 mm Metal Diecast aluminum Glass 270 g Red Silver Dovetail grooves Fastening on back Via optional mounting device
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color Type of fastening Operation and display Type of display Number of LEDs	Cubic 95 mm x 44 mm x 68 mm Metal Diecast aluminum Glass 270 g Red Silver Dovetail grooves Fastening on back Via optional mounting device LED 2 Piece(s)
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color Type of fastening Operation and display Type of display Number of LEDs Type of configuration Environmental data	Cubic 95 mm x 44 mm x 68 mm Metal Diecast aluminum Glass 270 g Red Silver Dovetail grooves Fastening on back Via optional mounting device LED 2 Piece(s)
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color Type of fastening Operation and display Type of display Number of LEDs Type of configuration Environmental data Ambient temperature, operation	Cubic 95 mm x 44 mm x 68 mm Metal Diecast aluminum Glass 270 g Red Silver Dovetail grooves Fastening on back Via optional mounting device LED 2 Piece(s) Via web browser
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color Type of fastening Operation and display Type of display Number of LEDs Type of configuration	Cubic 95 mm x 44 mm x 68 mm Metal Diecast aluminum Glass 270 g Red Silver Dovetail grooves Fastening on back Via optional mounting device LED 2 Piece(s) Via web browser
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color Type of fastening Operation and display Type of display Number of LEDs Type of configuration Environmental data Ambient temperature, operation Ambient temperature, storage	Cubic 95 mm x 44 mm x 68 mm Metal Diecast aluminum Glass 270 g Red Silver Dovetail grooves Fastening on back Via optional mounting device LED 2 Piece(s) Via web browser 0 40 °C -20 70 °C
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color Type of fastening Operation and display Type of display Number of LEDs Type of configuration Environmental data Ambient temperature, operation Ambient temperature, storage	Cubic 95 mm x 44 mm x 68 mm Metal Diecast aluminum Glass 270 g Red Silver Dovetail grooves Fastening on back Via optional mounting device LED 2 Piece(s) Via web browser 0 40 °C -20 70 °C
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color Type of fastening Operation and display Type of display Number of LEDs Type of configuration Environmental data Ambient temperature, operation Ambient temperature, storage	Cubic 95 mm x 44 mm x 68 mm Metal Diecast aluminum Glass 270 g Red Silver Dovetail grooves Fastening on back Via optional mounting device LED 2 Piece(s) Via web browser 0 40 °C -20 70 °C

PROFINET

Interface

Туре

Technical data



Certifications

Degree of protection	IP 65
Protection class	III
Approvals	c UL US
Test procedure for EMC in accordance	EN 55022
with standard	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

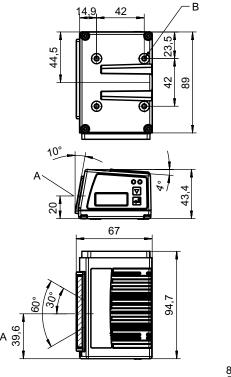
Classification

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

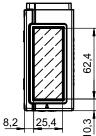
Dimensioned drawings

Leuze

All dimensions in millimeters



- Optical axis
- M4 thread (5 mm deep)



Electrical connection

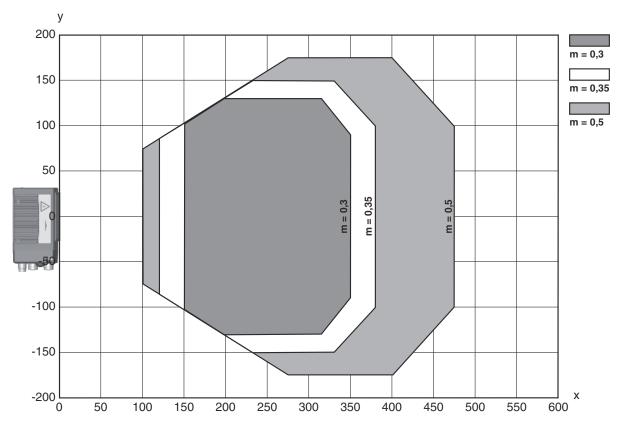
Connection 1

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



- Reading field distance [mm]
- 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	

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
ВВ	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

Note



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

Notes



Observe intended use!



- This product is not a safety sensor and is not intended as personnel protection.
- 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.

We reserve the right to make technical info@leuze.com • www.leuze.com changes

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

Connection technology - Connection boxes

	Part no.	Designation	Article	Description
6	50131256 *	ME 348 103	Connection unit	Suitable for: BCL 348i Interface: PROFINET Number of connections: 4 Piece(s) Connection: Cable with connector, M12, 900 mm
6	50131259 *	ME 348 104	Connection unit	Suitable for: BCL 348i Interface: PROFINET Number of connections: 5 Piece(s) Connection: Cable with connector, M12, 900 mm
60	50131258 *	ME 348 214	Connection unit	Suitable for: BCL 348i Interface: PROFINET Number of connections: 5 Piece(s) Connection: Cable with connector, M12, 600 mm

Accessories



	Part no.	Designation	Article	Description
	50116467 *	MK 348	Connection unit	Suitable for: BCL 348i, BPS 348i Interface: PROFINET Number of connections: 4 Piece(s) Connection: Terminal
000	50116471 *	MS 348	Connection unit	Suitable for: BCL 348i, BPS 348i Supply voltage: DC Interface: PROFINET 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



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
<u>В</u>	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



🖔 A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.