

## Technical data sheet

### Stationary bar code reader

Part no.: 50138198

BCL 95 M2/R2-150-M12.8



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- Technical data
- Dimensioned drawings
- Electrical connection
- Diagrams
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**RS232**



## Technical data

### Basic data

Series	BCL 95
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### Functions

Functions	Alignment mode
	AutoConfig
	I/O
	LED indicator
	Multiple read / MultiScan
	Output format selectable
	Reading gate control
	Reference code comparison

### Read data

Code types, readable	2/5 Interleaved
	Codabar
	Code 128
	Code 32
	Code 39
	Code 93
	EAN 128
	EAN 8/13
	EAN Addendum
	EAN/UPC
	Pharmacode (available upon consultation)
	UPC-A
	UPC-E
Scanning rate, typical	600 scans/s

### Optical data

Reading distance	41 ... 186 mm
Light source	Laser, Red
Wavelength	655 nm
Laser class	1 acc. to IEC 60825-1:2014 (EN 60825-1:2014) 2 acc. to IEC 60825-1:2007 (EN 60825-1:2007)
Transmitted-signal shape	Continuous
Usable opening angle (reading field opening)	66 °
Modulus size	0.15 ... 0.5 mm
Reading method	Line scanner
Scanning rate	600 scans/s
Beam deflection	Via rotating polygon wheel
Light beam exit	Front

### Electrical data

Protective circuit	Short circuit protected
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#### Performance data

Supply voltage $U_B$	4.75 ... 5.5 V, DC
Current consumption, max.	450 mA

#### Inputs

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

Voltage type	DC
Switching voltage	5V DC

#### Outputs

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

Voltage type	DC
Switching voltage	5 ... 30 V DC, 20 mA

#### Switching output 1

Switching element	Transistor, NPN
Function	configurable

### Interface

Type	RS 232
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#### RS 232

Function	Process
Transmission speed	4,800 ... 57,600 Bd
Data format	Adjustable
Start bit	1
Data bit	7,8
Stop bit	1.2
Parity	Adjustable
Transmission protocol	Adjustable
Data encoding	ASCII HEX

### Service interface

Type	RS 232
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#### RS 232

Function	Service
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### Connection

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

Function	Data interface
	Signal IN
	Signal OUT
	Voltage supply
Type of connection	Cable with connector
Cable length	150 mm
Sheathing material	PVC
Cable color	Black
Wire cross section	0.081 mm <sup>2</sup>
Thread size	M12
Type	Male
Material	Plastic
No. of pins	8 -pin
Encoding	A-coded

### Mechanical data

Design	Cubic
Dimension (W x H x L)	62 mm x 23.8 mm x 43.5 mm
Housing material	Metal
Metal housing	Diecast zinc
Lens cover material	Glass
Net weight	210 g
Housing color	Red Silver
Type of fastening	Fastening thread

## Technical data

### Operation and display

Type of display	LED
Number of LEDs	2 Piece(s)

### Environmental data

Ambient temperature, operation	5 ... 40 °C
Ambient temperature, storage	-20 ... 60 °C
Relative humidity (non-condensing)	0 ... 90 %
Extraneous light protection, max.	2,000 lx

### Certifications

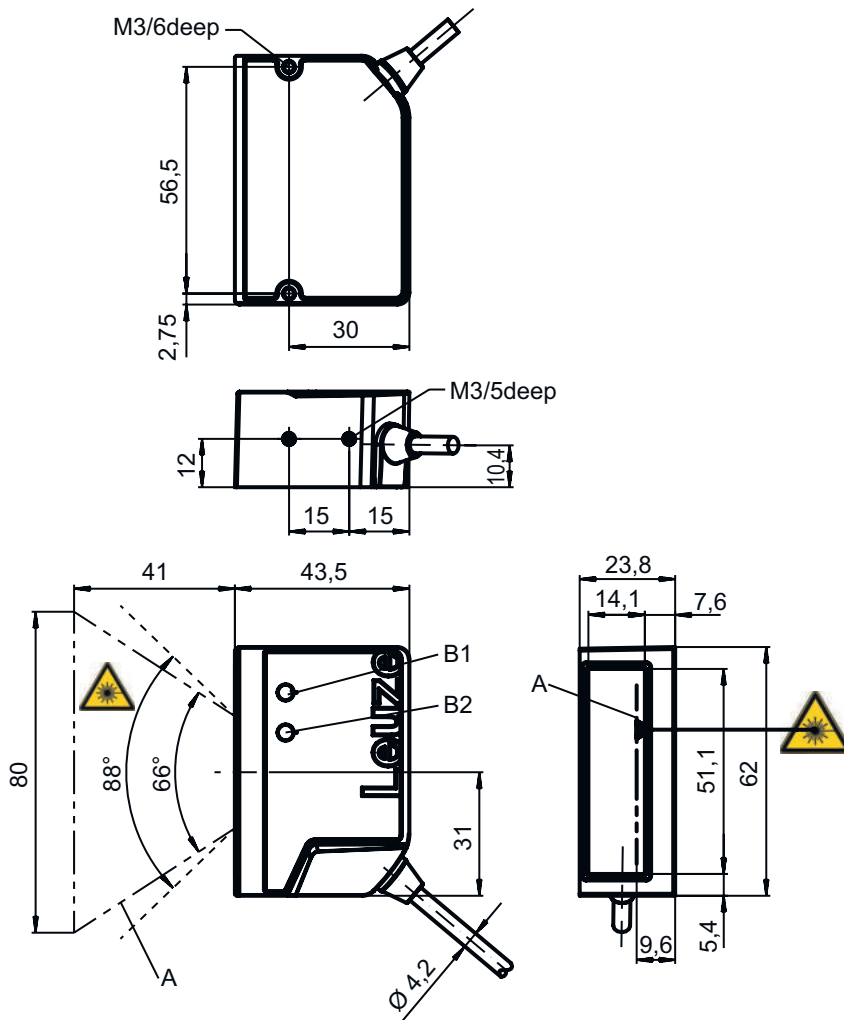
Degree of protection	IP 54
Protection class	III
Certifications	c UL US
Test procedure for EMC in accordance with standard	EN 61326-1:2013-01 FCC 15-CFR 47 Part 15 (09-07-2015) Limits Class B
Test procedure for shock in accordance with standard	IEC 60068-2-27, test Ea
Test procedure for vibration in accordance 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
ETIM 5.0	EC002550
ETIM 6.0	EC002550
ETIM 7.0	EC002550
ETIM 8.0	EC002550

# Dimensioned drawings

All dimensions in millimeters



- A Laser beam
- B1 Decode LED
- B2 Status LED

NOTE For exact positioning of the laser beam in the application, the scanner must be aligned.

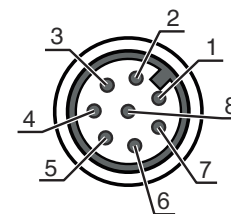
## Electrical connection

### Connection 1

<b>Function</b>	Data interface
	Signal IN
	Signal OUT
	Voltage supply
<b>Type of connection</b>	Cable with connector
<b>Cable length</b>	150 mm
<b>Sheathing material</b>	PVC
<b>Cable color</b>	Black
<b>Wire cross section</b>	0.081 mm <sup>2</sup>
<b>Thread size</b>	M12
<b>Type</b>	Male
<b>Material</b>	Plastic
<b>No. of pins</b>	8 -pin
<b>Encoding</b>	A-coded

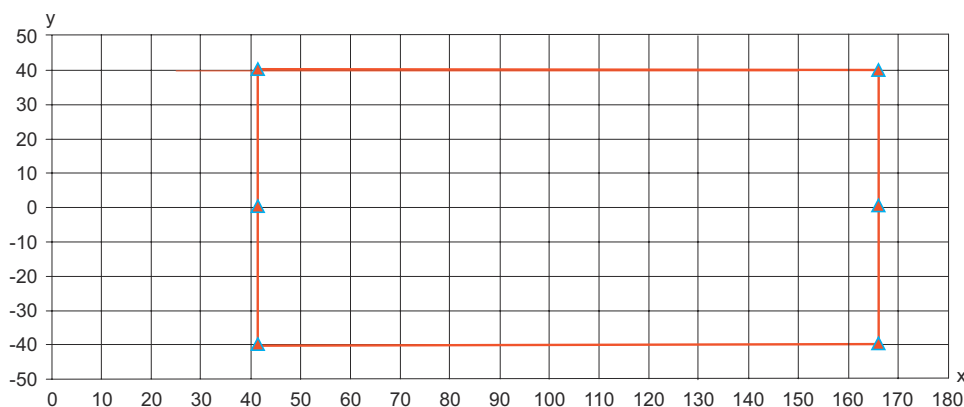
# Electrical connection

Pin	Pin assignment
1	V+
2	IN 1
3	GND
4	OUT 1
5	n.c.
6	RS 232 Rx/D
7	RS 232 Tx/D
8	FE/SHIELD



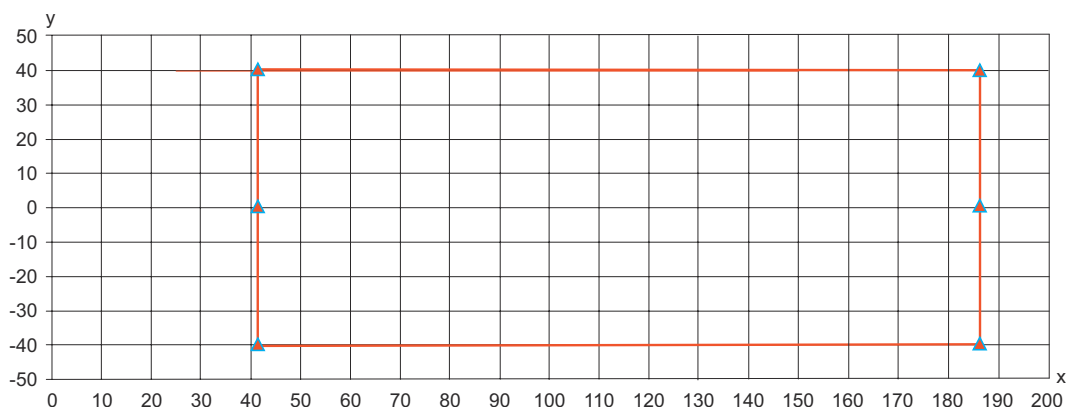
## Diagrams

Reading field curve for module m = 0.165 ... 0.2 mm (6.5 ... 8 mil)



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

Reading field curve for module m = 0.2 ... 0.5 mm (8 ... 20 mil)



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

# Operation and display

LED	Display	Meaning
1 PWR	Green, flashing	Initialization
	Green, continuous light	Operational readiness
	Red, flashing	Warnings
	Red, continuous light	Error
	Orange, flashing	Service operation active
2 GOOD READ	Green, 200 ms on	Reading successful
	Red, 200 ms off	No reading result
	Orange, continuous light	Reading gate active

## 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.

**For UL applications:**

For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).

**WARNING! 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**

- 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.

**ATTENTION! LASER RADIATION – CLASS 2 LASER PRODUCT**

**Do not stare into 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. The glass optics cover is the only aperture through which laser radiation may be observed on this product.
- 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.

## Notes

NOTE	
	<p><b>Affix laser information and warning signs!</b> 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.</p> <ul style="list-style-type: none"> <li>☞ 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.</li> <li>☞ 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.</li> <li>☞ 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.</li> </ul>

WARNING!	
	<p>If the scanner motor fails during the emission of laser radiation, the limit value of laser class 2 in accordance with IEC 60825-1 Edition 2.0 (2007) and Edition 3.0 (2014) could be exceeded. The device has safeguards to prevent this occurrence.</p> <ul style="list-style-type: none"> <li>☞ If the emitted laser beam is at a standstill, immediately disconnect the faulty bar code reader from the voltage supply.</li> <li>☞ The BCL 95 emits scanned optical radiation at a wavelength of 655 nm (red). Looking at the device's mirror and operating at the lowest scanning rate (400 scans/s) at a viewing distance of 65 mm results in pulses with a pulse duration of 120 µs on the retina of the eye. The total pulse peak power at the exit window is less than 2.1 mW. The average laser power is, thus, less than 1 mW, corresponding to laser class 2 in accordance with EN 60825-1, Edition 2.0 (2007) and IEC 60825-1, Edition 2.0 (2007) and less than the limit value of 0.39 mW for laser class 1 in accordance with EN 60825-1, Edition 3.0 (2014) and IEC 60825-1, Edition 3.0 (2014).</li> </ul>

## Accessories

### Connection technology - Connection cables


	Part no.	Designation	Article	Description
	50135121	KD U-M12-8A-P1-020	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 2.000 mm Sheathing material: PUR

### Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
	50118542	BT 200M.5	Mounting bracket	Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type, Suited for M3 screws Type of mounting device: Adjustable Material: Stainless steel

## Accessories

### Mounting technology - Rod mounts

	Part no.	Designation	Article	Description
	50119331	BTU 900M-D12	Mounting system	Design of mounting device: Mounting system Fastening, at system: For 12 mm rod, Sheet-metal mounting Mounting bracket, at device: Screw type Type of mounting device: Clampable, Swiveling, Turning, 360° Material: Metal

#### Note



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