



Figure can vary

**Part no.: 50138198**  
**BCL 95 M2/R2-150-M12.8**  
**Stationary bar code reader**



**RS232**



## Contents

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## Technical data

<b>Basic data</b>	
Series	BCL 95
<b>Functions</b>	
Functions	Alignment mode AutoConfig I/O LED indicator Multiple read / MultiScan Output format selectable Reading gate control Reference code comparison
<b>Read data</b>	
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
<b>Optical data</b>	
Reading distance	41 ... 186 mm
Light source	Laser , Red
Laser light 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
<b>Electrical data</b>	
Protective circuit	Short circuit protected
<b>Performance data</b>	
Supply voltage $U_B$	4.75 ... 5.5 V , DC
Current consumption, max.	450 mA
<b>Inputs</b>	
Number of digital switching inputs	1 Piece(s)
<b>Switching inputs</b>	
Voltage type	DC
Switching voltage	5V DC

### Outputs

Number of digital switching outputs 1 Piece(s)

#### 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

#### 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

#### RS 232

Function Service

### Connection

Number of connections 1 Piece(s)

#### 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 , Diecast zinc

Lens cover material Glass

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Net weight	210 g
Housing color	Red Silver
Type of fastening	Fastening thread

### 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

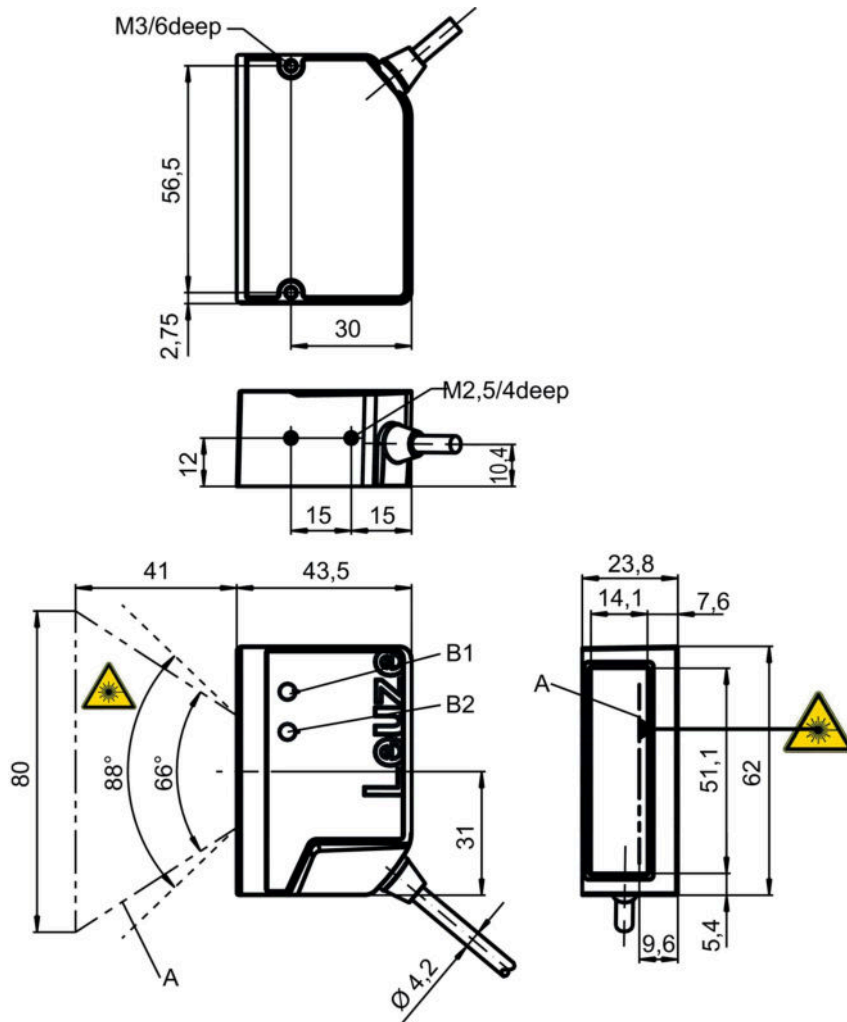
Degree of protection	IP 54
Protection class	III
Certifications	c UL US
Test procedure for EMC in accordance with standard	EN 61326-1:2013-01 FCC 15-CFR 47 Part 15 (09-07-2015) Limits Class B
Test procedure for shock in accordance with standard	IEC 60068-2-27, test Ea
Test procedure for vibration in accordance with standard	IEC 60068-2-6, test Fc

### Classification

Customs tariff number	84719000
eCl@ss 8.0	27280102
eCl@ss 9.0	27280102
ETIM 5.0	EC002550
ETIM 6.0	EC002550

## Dimensioned drawings

All dimensions in millimeters



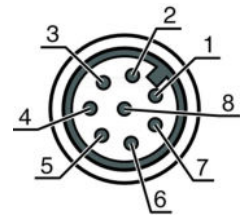
- A Laser beam
- B1 Decode LED
- B2 Status LED

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

## Electrical connection

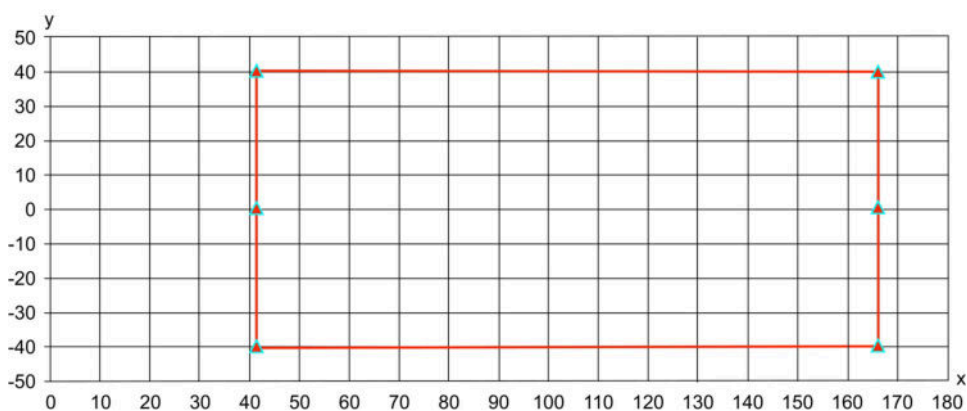
Connection 1	
Function	Data interface Signal IN Signal OUT Voltage supply
Type of connection	Cable with connector
Cable length	150 mm
Sheathing material	PVC
Cable color	Black
Wire cross section	0.081 mm <sup>2</sup>
Thread size	M12
Type	Male
Material	Plastic
No. of pins	8 -pin
Encoding	A-coded

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



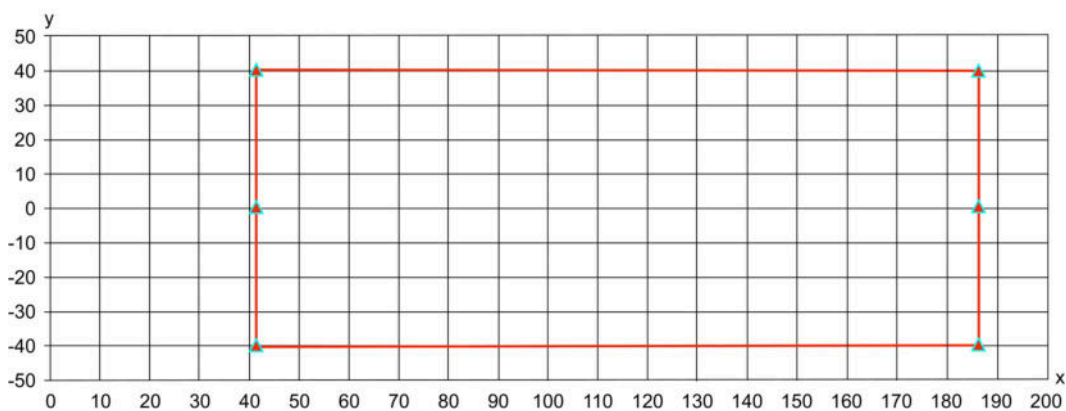
## Diagrams

Reading field curve for module  $m = 0.165 \dots 0.2 \text{ mm}$  (6.5 ... 8 mil)



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

Reading field curve for module  $m = 0.2 \dots 0.5 \text{ mm}$  (8 ... 20 mil)



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

## Operation and display

### LEDs

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 60825-1:2014 (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.

**WARNING! 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.

**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.

**WARNING!**

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.

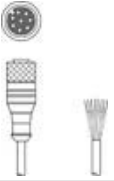
- If the emitted laser beam is at a standstill, immediately disconnect the faulty bar code reader from the voltage supply.
- The BCL 95 emits scanned optical radiation at a wavelength of 655 nm (red). Looking at the device's mirror and operating at the lowest scanning rate (400 scans/s) at a viewing 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).



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## 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 Connection 2: Open end Shielded: No Cable length: 2,000 mm Sheathing material: PUR

#### Note

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