



**Part no.: 50129662**  
**BCL 900i SM 102**  
**Stationary bar code reader**



Ethernet



Figure can vary

## Contents

- Technical data
- Dimensioned drawings
- Electrical connection
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## Technical data

<b>Basic data</b>	
Series	BCL 900i
<b>Functions</b>	
Functions	Alignment mode AutoConfig Code fragment technology LED indicator
<b>Read data</b>	
Code types, readable	2/5 Interleaved Codabar Code 128 Code 39 Code 93 EAN 128 EAN 8/13 EAN Addendum UPC
Scanning rate, typical	1,000 scans/s
<b>Optical data</b>	
Reading distance	450 ... 1,700 mm
Light source	Laser , Red
Laser light wavelength	650 nm
Laser class	2 , IEC/EN 60825-1:2007
Transmitted-signal shape	Continuous
Usable opening angle (reading field opening)	60 °
Bar code contrast (PCS)	60 %
Modulus size	0.33 ... 0.5 mm
Reading method	Line scanner
Scanning rate	1,000 ... 1,000 scans/s
Beam deflection	Via rotating polygon wheel
Light beam exit	Front
<b>Electrical data</b>	
Protective circuit	Polarity reversal protection
<b>Performance data</b>	
Supply voltage $U_B$	10 ... 30 V , DC
Power consumption, max.	10 W
<b>Inputs</b>	
Number of digital switching inputs	3 Piece(s)
<b>Switching inputs</b>	
Voltage type	DC
Switching voltage	Typ. $U_B$ / 0 V
<b>Digital switching input 3</b>	
Function	Encoder input

**Outputs**

Number of digital switching outputs 2 Piece(s)

**Switching outputs**

Voltage type DC

 Switching voltage Typ.  $U_B / 0 V$ 
**Switching output 1**

Switching element Transistor , NPN

Switching principle Light/dark reversible

**Switching output 2**

Switching element Transistor , NPN

Switching principle Light/dark reversible

**Interface**

Type RS 232 , RS 422 , EtherNet IP , Ethernet

**RS 232**

Function Process

Transmission speed 1,200 ... 115,200 Bd

Data format Adjustable

Start bit 1

Data bit 7,8

Stop bit 1.2

Parity None

Transmission protocol Adjustable

Data encoding ASCII

**RS 422**

Function Process

Transmission speed 1,200 ... 115,200 Bd

Data format Adjustable

Start bit 1

Data bit 7, 8 data bits

Stop bit 1, 2 stop bits

Transmission protocol Adjustable

Data encoding ASCII

**EtherNet IP**

Address assignment DHCP

Function Process

Transmission speed 100 Mbit/s

**Ethernet**

 Architecture Client  
Server

Address assignment DHCP

 Transmission speed 10 Mbit/s  
100 Mbit/s

 Function Process  
Service

Switch functionality Integrated

Transmission protocol TCP/IP , UDP

**Connection**

Number of connections 4 Piece(s)

**Connection 1**

Type of connection	Connector
Designation on device	POWER
Function	Voltage supply
Thread size	M12
Type	Male
Material	Metal
No. of pins	4 -pin
Encoding	A-coded

**Connection 2**

Type of connection	Connector
Designation on device	I/O
Function	Internal communication interface
Thread size	M12
Type	Male
Material	Metal
No. of pins	17 -pin
Encoding	A-coded

**Connection 3**

Type of connection	Connector
Designation on device	ETH1
Function	Data interface
Thread size	M12
Type	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded

**Connection 4**

Type of connection	Connector
Designation on device	ETH2
Function	Data interface
Thread size	M12
Type	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded

**Mechanical data**

Design	Cubic
Dimension (W x H x L)	216 mm x 96 mm x 127 mm
Housing material	Metal , Diecast aluminum
Lens cover material	Glass
Net weight	2,000 g
Housing color	Red Silver
Type of fastening	Via optional mounting device

**Operation and display**

Type of display	LED
Number of LEDs	5 Piece(s)

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Type of configuration	Via web browser
Operational controls	Button(s)

### Environmental data

Ambient temperature, operation	0 ... 50 °C
Ambient temperature, storage	-20 ... +70 °C
Relative humidity (non-condensing)	0 ... 90 %
Extraneous light tolerance on the bar code, max.	30,000 lx

### Certifications

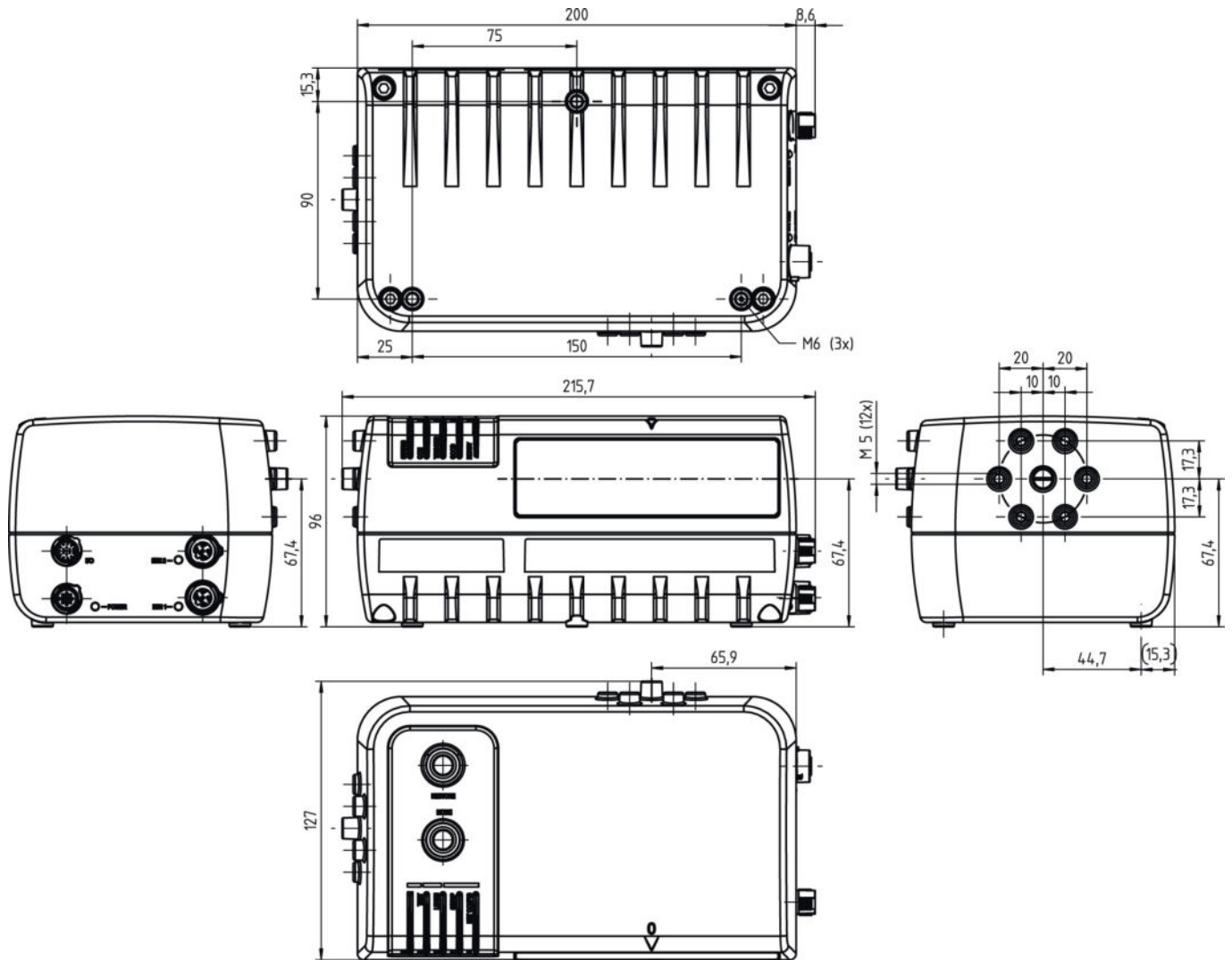
Degree of protection	IP 65
Protection class	
Certifications	c CSA US
Test procedure for EMC in accordance with standard	EN 55022 EN 61000-4-2, -3, -4, -6
Test procedure for shock in accordance with standard	IEC 60068-2-27, test Ea
Test procedure for continuous shock in accordance with standard	IEC 60068-2-29, test Eb
Test procedure for vibration in accordance with standard	IEC 60068-2-6, test Fc

### Classification

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

## Dimensioned drawings

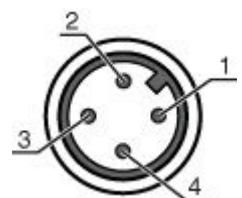
All dimensions in millimeters



## Electrical connection

Connection 1	POWER
Type of connection	Connector
Function	Voltage supply
Thread size	M12
Type	Male
Material	Metal
No. of pins	4 -pin
Encoding	A-coded

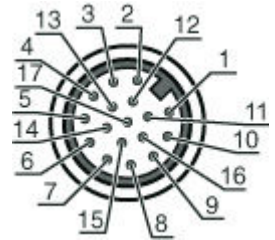
Pin	Pin assignment
1	VIN
2	n.c.
3	GND
4	n.c.
5	FE



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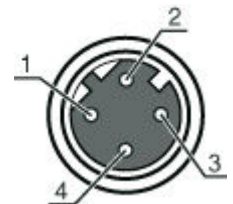
Connection 2	I/O
Type of connection	Connector
Function	Internal communication interface
Thread size	M12
Type	Male
Material	Metal
No. of pins	17 -pin
Encoding	A-coded

Pin	Pin assignment
1	V+
2	GND
3	ENB
4	Tx
5	IN 1
6	IN 1
7	RES
8	OUT 2
9	OUT 1
10	CTS/RX-
11	RX / RX+
12	RTS/TX-
13	ENA
14	RX
15	IN 2
16	IN 2
17	TX / TX+



Connection 3	ETH1
Type of connection	Connector
Function	Data interface
Thread size	M12
Type	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded

Pin	Pin assignment
1	Tx+
2	Rx+
3	Tx-
4	Rx-

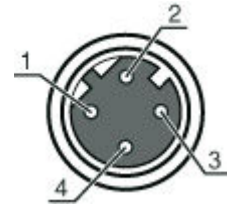


Connection 4	ETH2
Type of connection	Connector
Function	Data interface
Thread size	M12
Type	Female
Material	Metal

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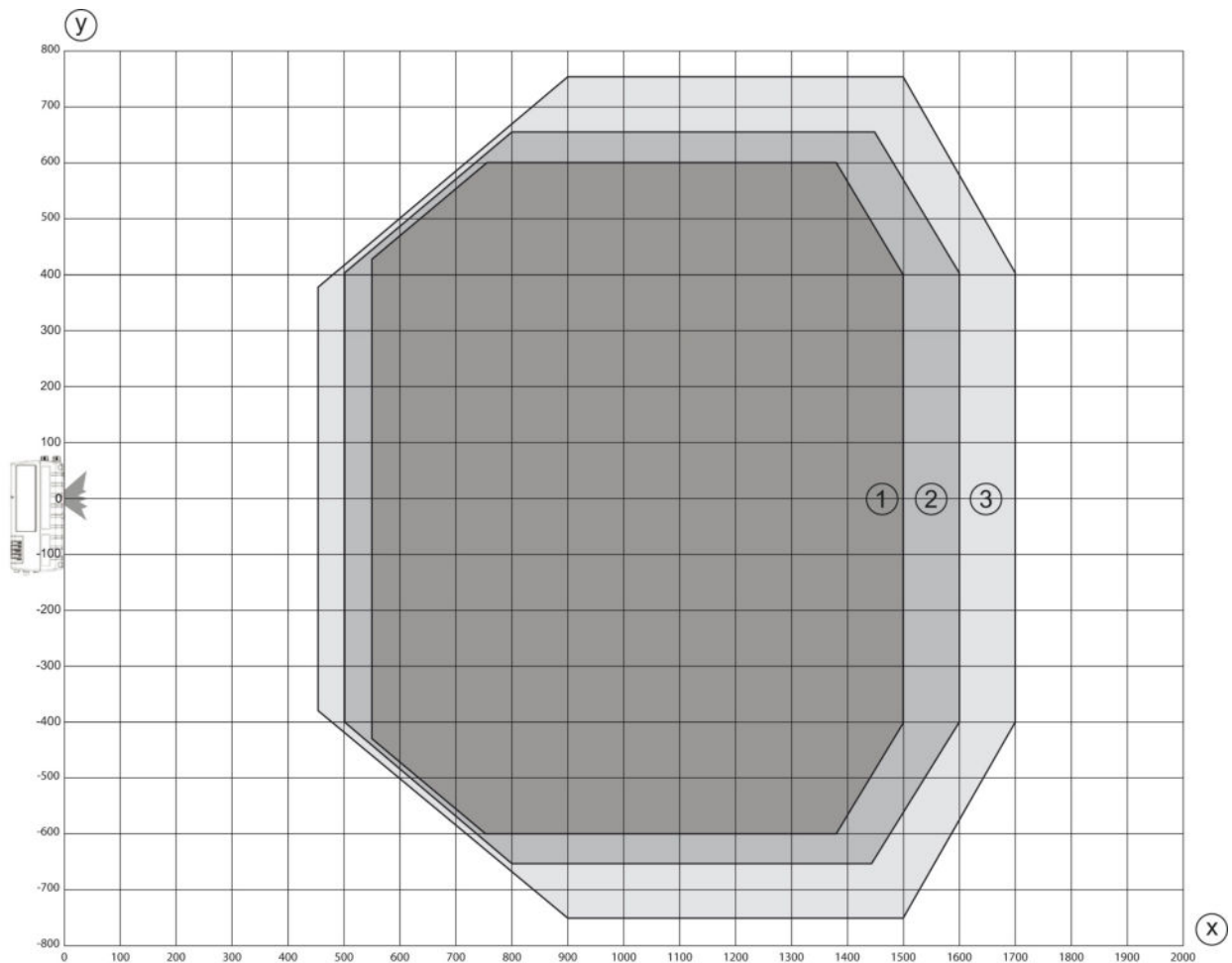
<b>Connection 4</b>	<b>ETH2</b>
No. of pins	4 -pin
Encoding	D-coded

Pin	Pin assignment
1	Tx+
2	Rx+
3	Tx-
4	Rx-



**Diagrams**

Reading field curve - Medium Density



- x Reading field distance [mm]
- y Reading field width [mm]
- 1 Module: 0.33 mm / 13 mil
- 2 Module: 0.38 mm / 15 mil
- 3 Module: 0.50 mm / 20 mil



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## Operation and display

### LEDs

LED	Display	Meaning	
1	READY	Green	Operational readiness
2	GOOD	Green	Reading successful
3	TRIGGER	Yellow	Reading gate active
4	COM	Yellow	Active communication with serial interface
5	STATUS	Red	No reading result

## Part number code

Part designation: **BCL XXXX YYZ AAA B**


BCL	<b>Operating principle:</b> BCL: bar code reader
XXXX	<b>Series/interface (integrated fieldbus technology):</b> 900i: RS 232 / RS 422 / EtherNet IP
YY	<b>Scanning principle:</b> S: line scanner (single line)
Z	<b>Optics:</b> N: High Density (close) M: Medium Density (medium distance)
AAA	<b>Beam exit:</b> 102: front

### Note

A list with all available device types can be found on the Leuze electronic website at [www.leuze.com](http://www.leuze.com).

## Accessories

### Connection technology - Connection unit

	Part no.	Designation	Article	Description
	50129663 *	MA 900	Modular connection unit	Interface: RS 232, RS 422 Connections: 1 Piece(s) Degree of protection: IP 65


\* Necessary accessories, please order separately

### Connection technology - Interconnection cables

	Part no.	Designation	Article	Description
	50131531	KB 900-1000	Interconnection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 17 -pin Connection 2: Sub-HD, Axial, Male, 25 -pin Shielded: Yes Cable length: 1,000 mm
	50131529	KB 900-3000	Interconnection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 17 -pin Connection 2: Sub-HD, Axial, Male, 25 -pin Shielded: Yes Cable length: 3,000 mm

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## Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
	50131534 **	BT 900	Fastening	Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Rigid Material: Metal

\*\* Included in delivery contents