

## Technical data sheet

### Stationary bar code reader

Part no.: 50129662

BCL 900i SM 102

#### Contents

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



Figure can vary



Ethernet

## Technical data

### Basic data

Series	BCL 900i
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### Functions

Functions	Alignment mode
	AutoConfig
	Code fragment technology
	LED indicator

### Read data

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

### Optical data

Reading distance	450 ... 1,700 mm
Light source	Laser, Red
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

### Electrical data

Protective circuit	Polarity reversal protection
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#### Performance data

Supply voltage $U_B$	10 ... 30 V, DC
Power consumption, max.	10 W

#### Inputs

Number of digital switching inputs	3 Piece(s)
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#### Switching inputs

Voltage type	DC
Switching voltage	Typ. $U_B / 0$ V

#### Digital switching input 3

Function	Encoder input
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#### Outputs

Number of digital switching outputs	2 Piece(s)
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#### Switching outputs

Voltage type	DC
Switching voltage	Typ. $U_B / 0$ V

#### Switching output 1

Switching element	Transistor, NPN
Switching principle	Light/dark switchable

#### Switching output 2

Switching element	Transistor, NPN
Switching principle	Light/dark switchable

### Interface

Type	RS 232, RS 422, Ethernet
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#### 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

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)
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#### Connection 1

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

## Technical data

### Connection 2

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

### Connection 3

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

### Connection 4

Function	Data interface
Type of connection	Connector
Designation on device	ETH2
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
Metal housing	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)
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

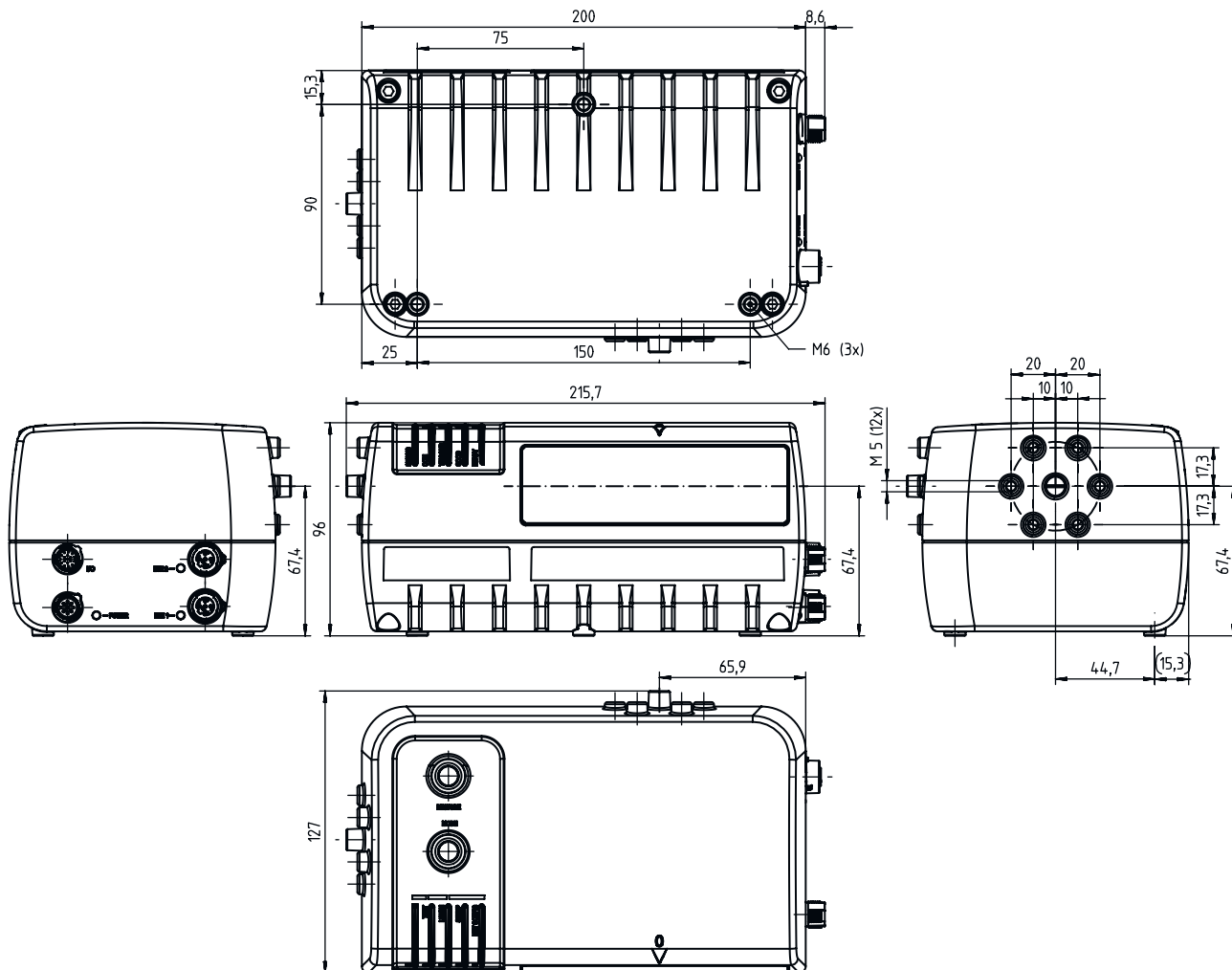
Degree of protection	IP 65
Certifications	c CSA US
Test procedure for EMC in accordance with standard	EN 55022 EN 61000-4-2, -3, -4, -6
Test procedure for shock in accordance with standard	IEC 60068-2-27, test Ea
Test procedure for continuous shock in accordance with standard	IEC 60068-2-29, test Eb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

### Classification

Customs tariff number	84719000
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



## Electrical connection

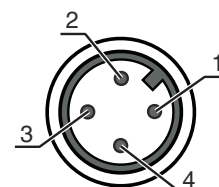
### Connection 1

### POWER

Function	Voltage supply
Type of connection	Connector
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



# Electrical connection

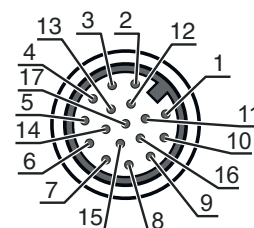
## Connection 2

### I/O

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

Pin	Pin assignment
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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+



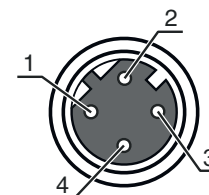
## Connection 3

### ETH1

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

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



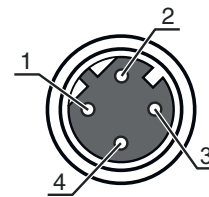
## Connection 4

### ETH2

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

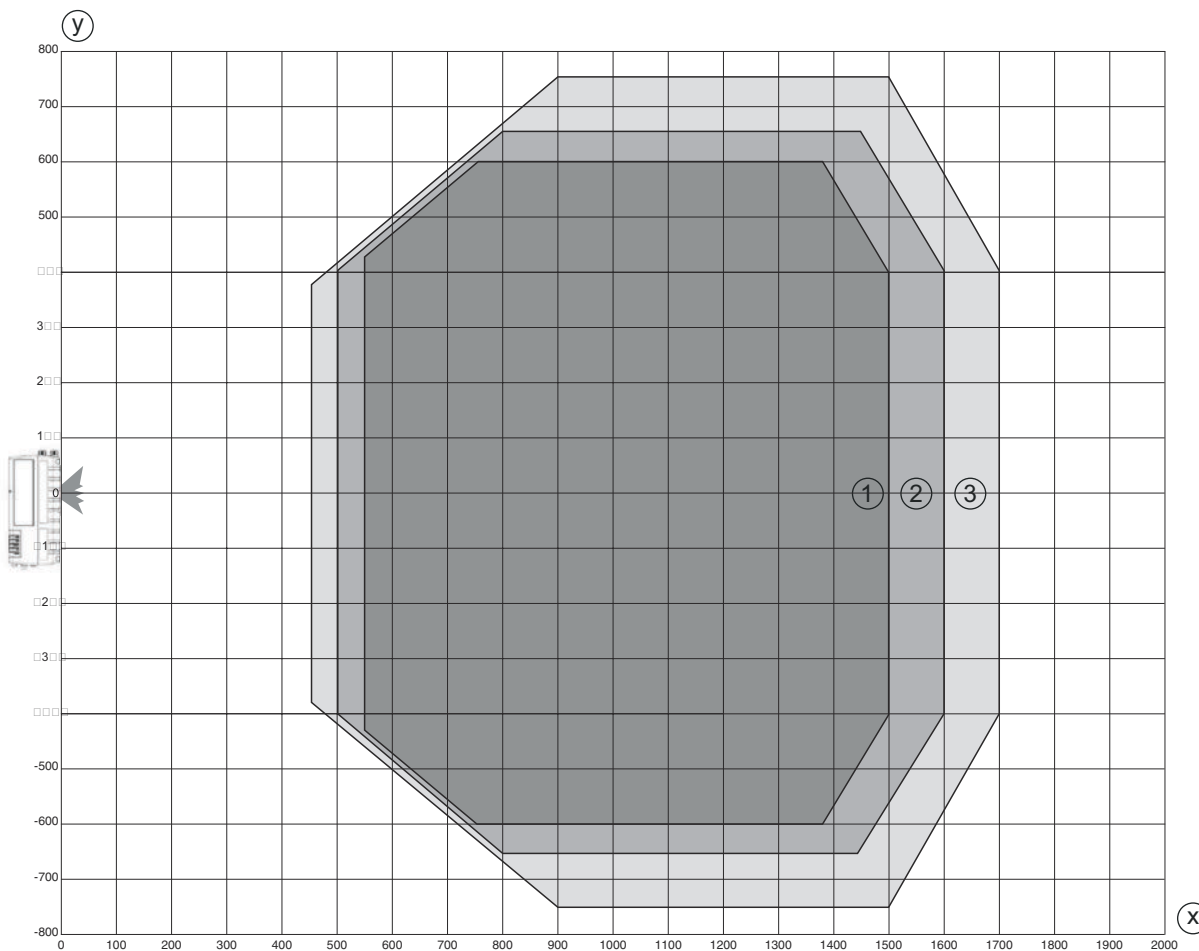
# Electrical connection

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

## Operation and display

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

# Operation and display

LED	Display	Meaning
5	STATUS Red	No reading result

## Part number code

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

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


### Note



A list with all available device types can be found on the Leuze 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

## Accessories

### 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

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