

4 Technical Data

4.1 General Specifications BCL 21/22

BCL 21/22	
General Specifications	
Housing	ABS
Dimensions	82 x 68 x 28 mm (H x W x D)
Weight	180 g/260 g with cable
Protection class	IP 65
Optical data	
Resolution	BCL 2x SN: 0.15 to 0.5 mm module width BCL 2x SM: 0.2 bis 1.0 mm module width BCL 2x SF: 0.3 bis 1.0 mm module width
Light source	Laser diode, red 650 nm, safety class 2, CDRH Class II
Beam deflection	by means of rotating polygon mirror wheel
Scanning rate	1000 scan/s, vers. M; 800 scan/s, vers. N, F
Reading distance	50 ... 450 mm (depending on optics model N, F, M)
Reading field opening	70 mm at 50 mm distance
Decoder	
Code types	2/5 Interleaved
	Code 39
	Code 128
	EAN 128
	EAN/UPC
	EAN Adendum
	Codabar Pharma Code
Interfaces	
Model	RS 232 (BCL 22) RS 485 (BCL 21), additional service interface (RS 232)
Baud rate:	adjustable 100 ... 57600 baud
Switching input	one/two switching input(s)/output(s) (BCL 21/BCL 22)
Data format:	Data bit: 7, 8, 9; parity: none, even, odd; stopbit: 1, 2
Power supply	
Operating voltage	10 ... 30 V DC
Power consumption	3.2 W
Environmental conditions	
Ambient temperature	0 ... +40 °C
Air moisture	max. 90% rel. humidity, non-condensing
Storage temperature	-20°C - +60°C
Vibration	IEC 68.2.6
Shock	IEC 68.2.27
EMC	IEC 801

Table 1: General Specifications

4.2 LED indicators

LED name	PWR/Ready	ERR/Error	DEC/Decode
LED color	green	red	yellow
State			
no voltage	off	off	off
Initialisation (after reset)	flashing (frequency 1)	off	off
System ready	on	off	off
Read gate active	on	off	on
hardware error	off	on	-
• defective motor			
• defective laser			
• defective system, etc.			
autoConfig/teach-in	flashing (frequency 1)	flashing (frequency 2)	-
service interface active	on	flashing (frequency 2)	-

Table 2: LED indicators



Notice

The flash frequency is 5 Hz; cycle 2 is the reverse of cycle 1.

4.3 Dimensioned and Connection Drawings

BCL 21/22

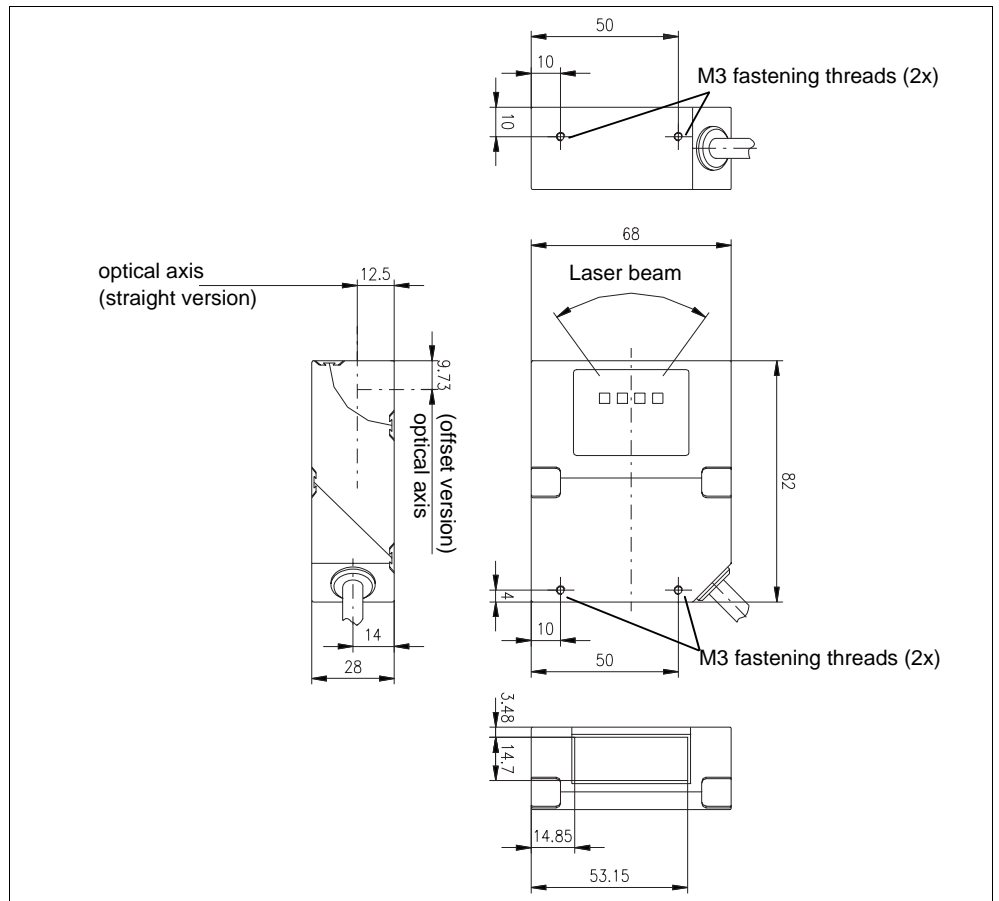


Figure 4.1: Dimensioned drawing BCL 21/22

4.4 Optical data



Notice

Please note that the size of the bar code module influences the maximum reading distance and the width of the reading field. Therefore, when selecting a mounting location and/or the bar code label, take into account the different reading characteristics of the scanner with various bar code modules.

The BCL 21/22 is available in various models for various reading tasks. Please refer to the following table or the respective scanning curves for ratings.

4.4.1 Type overview

Model	Range	Module/resolution (mm)	Scanning rate (scan/s)	Beam-outlet	Part No.
BCL 21 SN 200	up to 95 mm	0.15 ... 0.5	800	perpendicular	500 30 986
BCL 21 SN 202				front	500 30 987
BCL 22 SN 300				perpendicular	500 30 990
BCL 22 SN 302				front	500 30 991
BCL 21 SM 200	up to 260 mm	0.2 ... 1.0	1000	perpendicular	500 30 988
BCL 21 SM 202				front	500 30 989
BCL 22 SM 300				perpendicular	500 30 992
BCL 22 SM 302				front	500 30 993
BCL 21 SF 200	up to 450 mm	0.3 ... 1.0	800	perpendicular	500 31 080
BCL 21 SF 202				front	500 31 082
BCL 22 SF 300				perpendicular	500 31 104
BCL 22 SF 302				front	500 31 106

Table 3: Type overview



Notice

*BCL 21: interface RS 485 and cable/PG;
BCL 22: interface RS 232 and cable/Sub-D*

4.4.2 Optics variants and reading fields

The BCL 21/22 is available with three different optics. The optics differ in range and resolution (see Chapter 4.4.1).

- Optic N: for small modules.
- Optic M: for small to medium modules
- Optic F: for medium to large modules

The following graphic displays the scanning curves of the various BCL models.



Notice

Please note that the actual scanning curves can vary due to factors such as label material, print quality, reading angle, print contrast, etc.

**Scanning curves
BCL 21/22 with optic N**

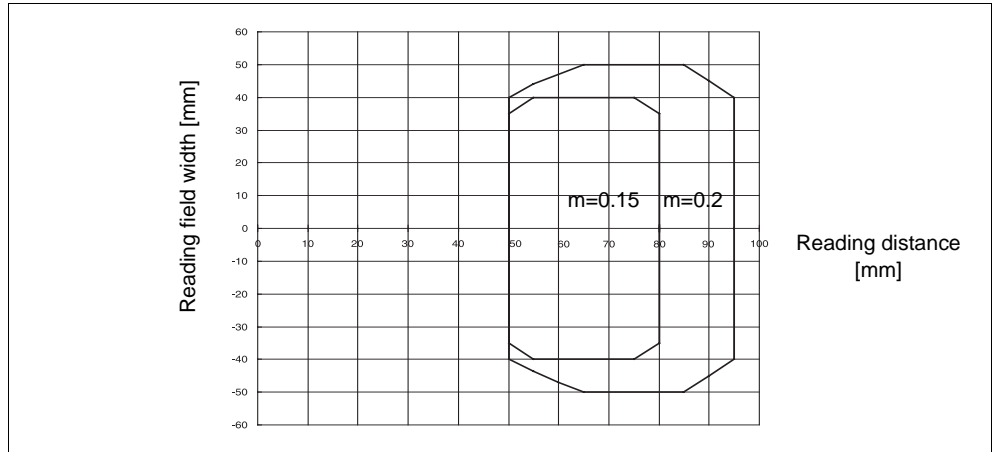


Figure 4.2: Reading field, optics model N (high density)

**Scanning curves
BCL 21/22 with optic M**

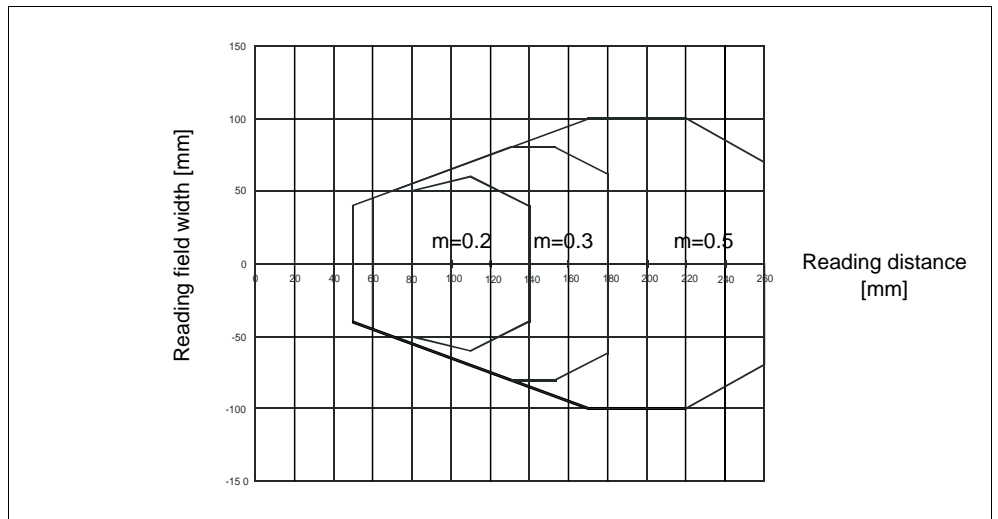


Figure 4.3: Reading field, optics model M (medium density, normal range)

**Scanning curves
BCL 21/22 with optic F**

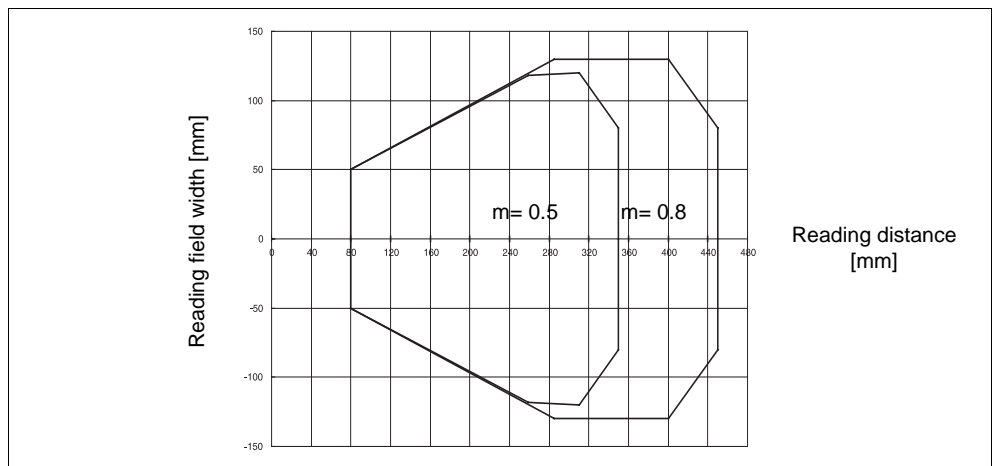


Figure 4.4: Reading field, optics model F (low density, long range)

5 Accessories/Order Designation

5.1 Accessories



Notice

Products from Leuze electronic GmbH + Co. can be ordered from any of the sales and service offices listed on the back page of this operating manual.

Designation	Order No.	Short Description
MA2	500 31 256	Connector unit MA2 for BCL 21; standard, multiNet Slave with host interface RS 485
BT 20	500 60 503	Mounting part
BCLConfig	500 60 298	Programming software

Table 4: Accessories/Order Designations



Notice

The connector unit MA 2 is also available with an RS 232 interface (9-pole Sub D-plug).

5.1.1 Connector unit MA 2/dimensioned drawing

Connector unit MA 2

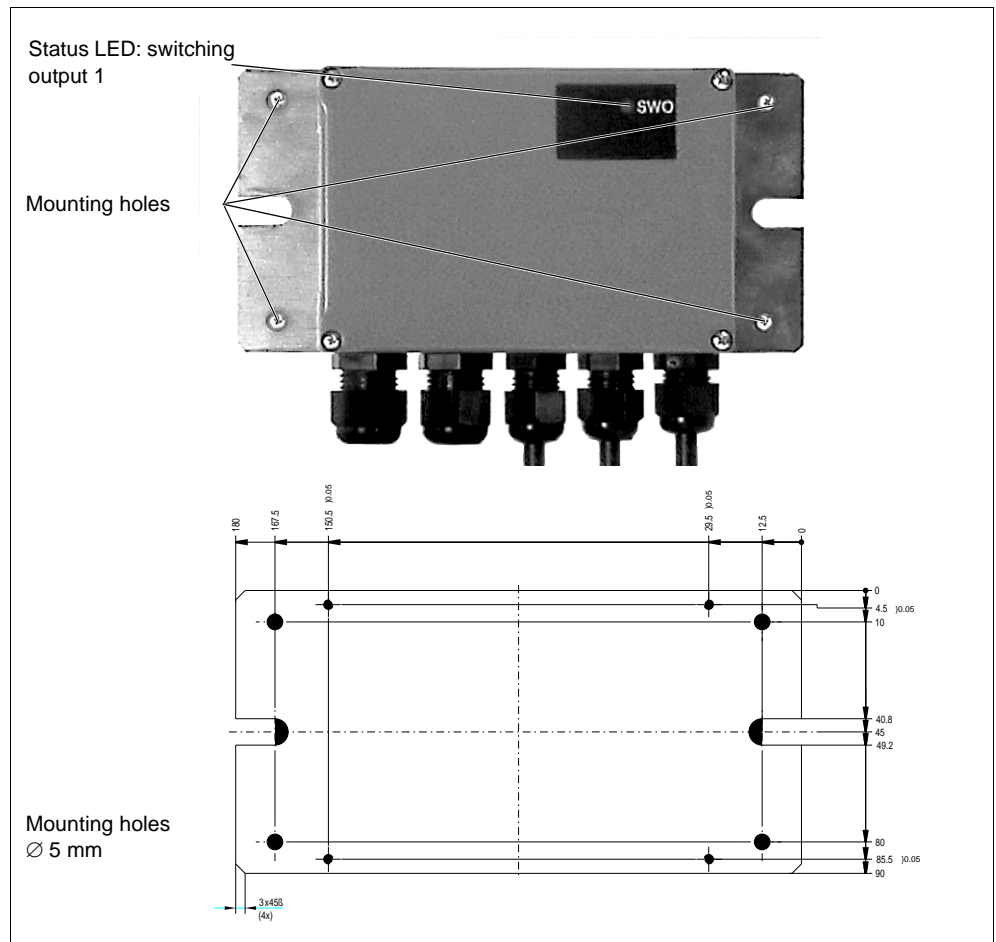


Figure 5.1: Connector unit MA 2/dimensioned drawing