

the **sensor** people

Bar Code Reader Series BCL 20

A flexible reader for
a variety of applications



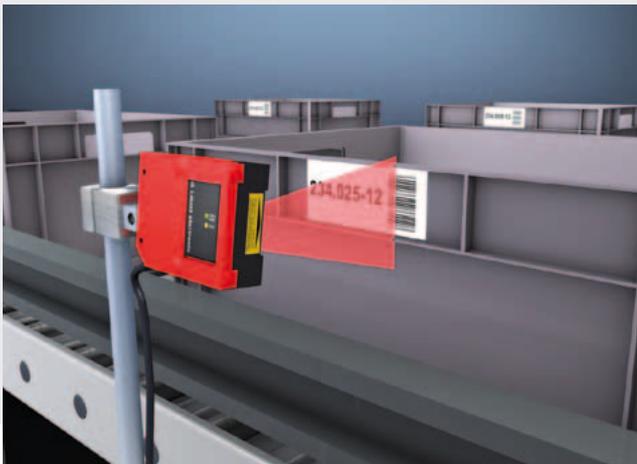
The benchmark for **flexibility**.

Laser scanners of the BCL 20 series – as variable as your requirements demand.

Whether as a single-line scanner for high-density codes, for example, in analysis automation, with raster optics for reading trays in intra-logistics applications or for inspecting industrial or printed products: the compact bar code readers of the BCL 20 series convince with their high level of flexibility and handling reliability in all areas.

The broad selection of optics also allows the scanners to be used in difficult installation situations and in a wide range of applications, both in networks as well as a standalone solution. Furthermore, the BCL 20 series convinces with its outstanding reading performance through the automatic adaptation of the receiver unit to the reading task on each scan. For an extended reading field, such as that of a bar code reader with focusing function, the new BCL 20 S B is available for higher resolution codes.

By means of simple online commands it is possible to set the reading task without knowledge of the code. The PC-based BCL-Config tool, which is available for all Leuze bar code readers, is used to access the full function range. Simple online commands make it possible to set the reading task without knowledge of codes. The BCL Config tool, which can be used for the entire function range, is available for all bar code readers from Leuze electronic Connectivity. Connection to industrial or Ethernet-based networks is now done directly via our MA 200i modular interfacing units.



Universally usable – **fast** integration –
simple to operate.

The advantages of the bar code reader series BCL 20.

- Various optics models: Different models with front or lateral beam exit enable optimum use of the installation space. Depending on the code alignment, single-line or raster scanners offer optimised reading capacity
- High, constant scanning rate up to 1000 scans/s: Considerable increase in the reading reliability through multiple decoding of the read codes, even during fast processes
- Large depth of field and wide opening angle: High reading capacity with codes having line thicknesses as narrow as 150 µm facilitates front or lateral reading on your goods
- Integrated multiNet: Up to 31 scanners can be networked in Leuze electronic's own scanner network with minimal installation effort and, if desired, integrated via gateways to the fieldbus level or directly to the host
- Simple operation: With the aid of online commands such as AutoConfig, the scanner can be set optimally, even without knowledge of the code
- Easy configuration: The PC-based BCL-Config operating software for all Leuze bar code readers simplifies adjustments and direct communication with the scanner through graphical configuration
- Blue laser diodes with extended reading field without focus adjustment for higher resolution codes and optimized optics for glossy and cylindrical objects.

Interface variants and connector units.



Fig.: BCL 21/22
Front beam exit



Fig.: BCL 21/22
Lateral beam exit

BCL 21



- Integrated RS 485 interface and RS 232 service interface
- Freely configurable or direct connection to the Leuze electronic multiNet network
- 1 switching input and 1 switching output
- Connect up to 31 scanners to one master in the Leuze electronic multiNet

BCL 22



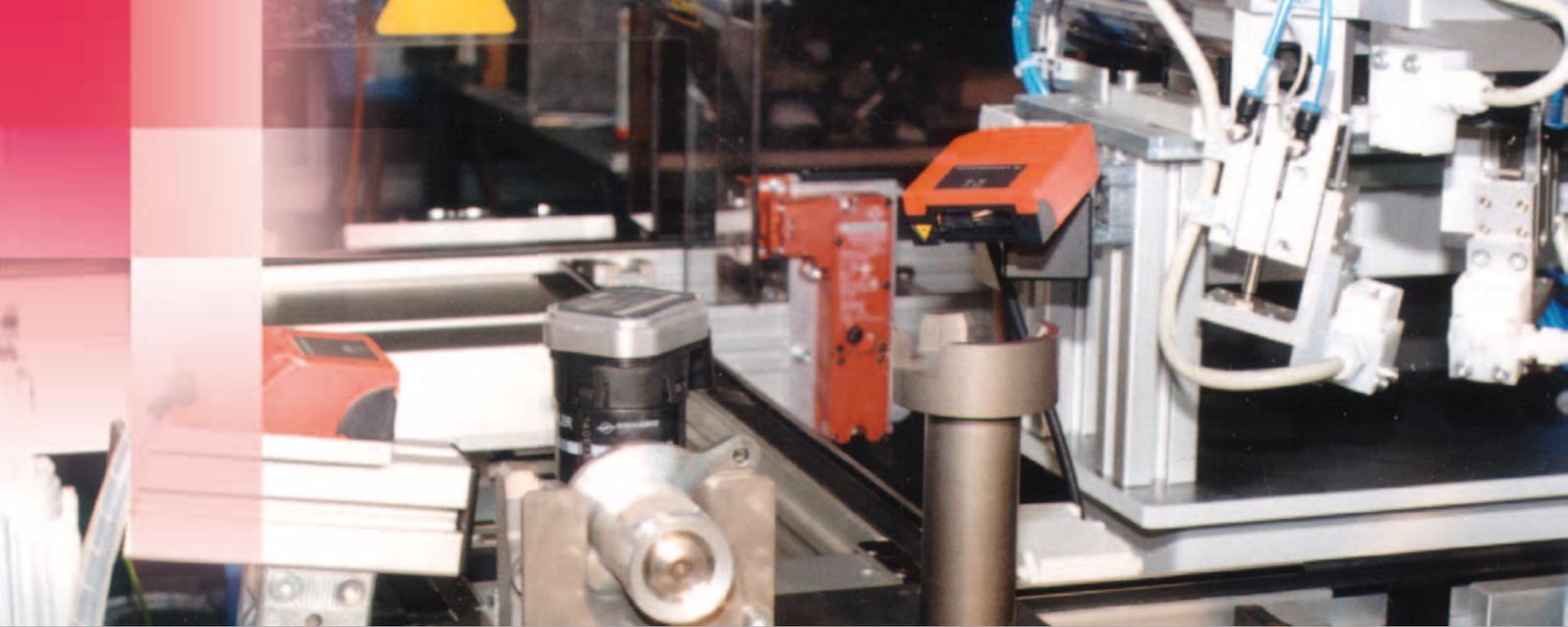
- Integrated, freely configurable RS 232 interface
- Standalone operation or daisy chain with up to four BCL 22 devices
- 2 switching inputs and 2 switching outputs
- Direct connection to PROFIBUS or other networks via modular connector units as gateways

Both systems are available with a 15-pin Sub-D connector or with a system plug for directly connecting to a modular connector unit.

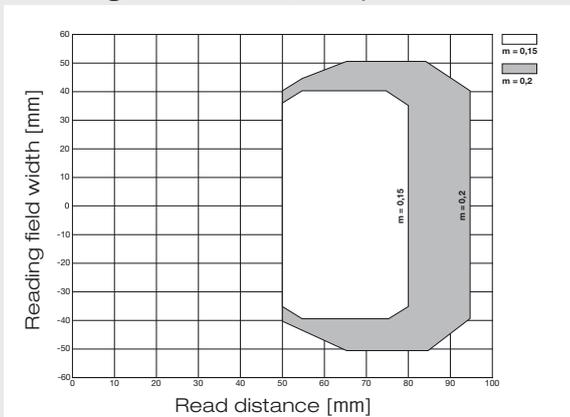
Modular connector units	BCL 21	BCL 22
MA 22 DC		●
MA 2	●	●
MA 4 (D) 1xx		●
MA 4 (D)	●	●
MA 42 IS/DP-k		●
MA 200i	PROFINET IO/RT, PROFIBUS DP, INTERBUS, Ethernet TCP/IP, UDP, IP, EtherCAT, DeviceNet, CANopen	PROFINET IO/RT, PROFIBUS DP, INTERBUS, Ethernet TCP/IP, UDP, IP, EtherCAT, DeviceNet, CANopen
Mounting devices		
BT 20	●	●
BT 21	●	●

Technical data

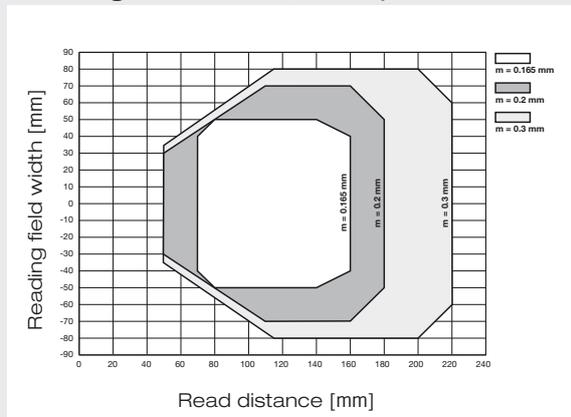
Optical data	BCL 21	BCL 22	BCL 2x S B
Type	line or raster scanner (10 lines)	line or raster scanner (10 lines)	line scanner
Light source	laser diode, red, approx. 650 nm	laser diode, red, approx. 650 nm	laser diode, blue, approx. 405 nm
Beam exit	front or lateral	front or lateral	front or lateral
Scanning rate	800 scans/s (N-/F-optics), 1000 scans/s (M-optics)	800 scans/s (N-/F-optics), 1000 scans/s (M-optics)	800 scans/s (B-optics)
Max. usable opening angle	approx. 65°	approx. 65°	approx. 65°
Optics models / resolution	N-/M-/F-optics, see reading field curves	N-/M-/F-optics, see reading field curves	N-/M-/F-optics, see reading field curves
Read distance	see reading field curves	see reading field curves	see reading field curves
Laser safety class	Class 2 acc. to EN 60825-1, CDRH (U.S. 21 CFR 1040.10)	Class 2 acc. to EN 60825-1, CDRH (U.S. 21 CFR 1040.10)	Class 2 acc. to EN 60825-1, CDRH (U.S. 21 CFR 1040.10)
Bar code data			
Code types	2/5l, Code 39, Code 93, Code 128, EAN 128, EAN/UPC, EAN add-on, Codabar (monarch), Pharmacode	2/5l, Code 39, Code 93, Code 128, EAN 128, EAN/UPC, EAN add-on, Codabar (monarch), Pharmacode	2/5l, Code 39, Code 93, Code 128, EAN 128, EAN/UPC, EAN add-on, Codabar (monarch), Pharmacode
Number of codes per scan	6	6	6
Number of codes per reading gate	62	62	62
Electrical data			
Interface	RS 485	RS 232	RS 232
Protocols	Leuze Standard, multiNet, Ack/Nak	Leuze Standard, multiNet, Ack/Nak, 3964, DC	Leuze Standard, multiNet, Ack/Nak, 3964, DC
Baud rate	110 ... 115200 baud	110 ... 115200 baud	110 ... 115200 baud
Data formats	7, 8, 9 data bits none, even, odd parity 1, 2 stop bit(s)	7, 8, 9 data bits none, even, odd parity 1, 2 stop bit(s)	7, 8, 9 data bits none, even, odd parity 1, 2 stop bit(s)
Service interface	RS 232, 9600 baud, 8 data bits, no parity, 1 stop bit	RS 232, 9600 baud, 8 data bits, no parity, 1 stop bit	RS 232, 9600 baud, 8 data bits, no parity, 1 stop bit
Switching inputs/outputs	1 switching input, 1 switching output	2 switching inputs, 2 switching outputs	2 switching inputs, 2 switching outputs
Operating voltage	10 ... 30VDC	10 ... 30VDC	10 ... 30VDC
Power consumption	max. 3.2 VA	max. 3.2 VA	max. 3.2 VA
Operating and display elements			
LEDs	1 Pwr/Err LED, 1 Decode LED	1 Pwr/Err LED, 1 Decode LED	1 Pwr/Err LED, 1 Decode LED
Mechanical data			
Protection class	IP 54	IP 54	IP 54
Weight	180 g (0.8 m)/260 g (3 m cable)	180 g (0.8 m)/260 g (3 m cable)	180 g (0.8 m)/260 g (3 m cable)
Dimensions (W × H × D)	82 × 68 × 28 mm ³	82 × 68 × 28 mm ³	82 × 68 × 28 mm ³
Housing	plastic ABS / PC	plastic ABS / PC	plastic ABS / PC
Environmental data			
Operating temperature range	0 °C ... +40 °C	0 °C ... +40 °C	0 °C ... +40 °C
Storage temperature range	-20 °C ... +60 °C	-20 °C ... +60 °C	-20 °C ... +60 °C
Air humidity	max. 80% rel. humidity, non-condensing	max. 80% rel. humidity, non-condensing	max. 80% rel. humidity, non-condensing
Vibration	IEC 60068-2-6, FC test	IEC 60068-2-6, FC test	IEC 60068-2-6, FC test
Shock	IEC 60068-2-27, Ea test	IEC 60068-2-27, Ea test	IEC 60068-2-27, Ea test
Electromag. compatibility	IEC 61000-6-2, -6-3	IEC 61000-6-2, -6-3	IEC 61000-6-2, -6-3
Certifications	CE CDRH C ^{UL} US	CE CDRH C ^{UL} US	CE CDRH C ^{UL} US



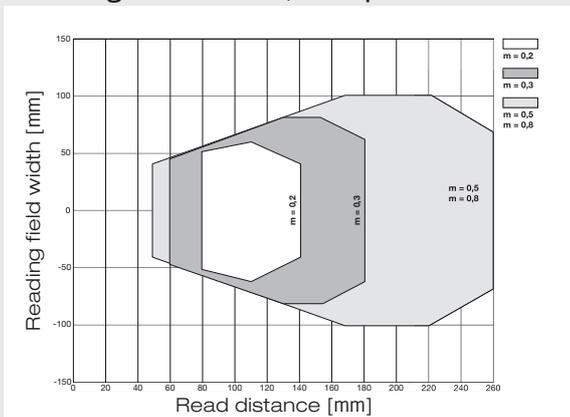
Reading field curve, N-optics



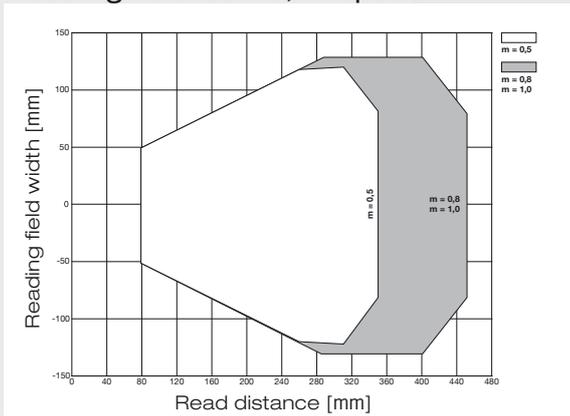
Reading field curve, SB-optics



Reading field curve, M-optics



Reading field curve, F-optics



Optoelectronic Sensors

Cubic Series
Cylindrical Sensors, Mini Sensors, Fiber Optic Amplifiers
Measuring Sensors
Special Sensors
Light Curtains
Forked Sensors
Double Sheet Monitoring, Splice Detection
Inductive Switches
Accessories

Identification Systems

Data Transmission Systems

Distance Measurement

Bar Code Readers
RF-IDent-Systems
Modular Interfacing Units
Industrial Image Processing Systems
Optical Data Transmission Systems
Optical Distance Measurement/Positioning
Mobile Code Readers

Safety Sensors

Safety Systems

Safety Services

Safety Laser Scanners
Safety Light Curtains
Transceivers and Multiple Light Beam Safety Devices
Single Light Beam Safety Devices
AS-i-Safety Product Range
Safety Sensor Technology for PROFIBUS DP
Safety Switches, Safety Locking Devices and Safety Command Devices
Safety Relays
Sensor Accessories and Signal Devices
Safety Engineering Software
Machine Safety Services