

the **sensor** people

Barcode Reader Series BCL 31, BCL 32, BCL 34



BCL 31, BCL 32 and BCL 34: Barcode readers for universal use in conveyor and storage technology.

3 models: numerous advantages.

This technically mature family of barcode readers offers the user an excellent range of reliable line and raster scanners.

High scanning rates, very small installation dimensions and reliable function are characteristics shared by all three models. The additional features of each type ensure perfect solutions to individual problems.

Shared advantages:

Scanning rate of up to 1000 scans/ s for line or raster scanners

For reliable detection with fast applications.

Reference code

Perfect solutions for a wide range of sorting tasks.

Simple mounting

Particularly fast and reliable through the use of a dovetail connection.

Shallow installation depth and a minimum read distance of 10 millimetres

For use in limited spaces, e.g. between two roller conveyors.

Switching inputs

Up to two switching inputs for activating the scanner as well as for starting teach-in events.

Switching outputs

Up to two switching outputs for controlling various devices.

Reads all common code types

2/5 Interleaved, Code 39, UPC (A, E), EAN (8,13), EAN Adendum, Code 128, EAN 128, Codabar, Code 93, Pharma Code.

Ink-jet model

This BCL model is equipped with optics which are specially designed for ink-jet barcodes printed directly on cardboard. As a result, it is possible to obtain optimal read results even in this problematic application area.

Heating

For applications in refrigerated areas, all optics models are also optionally available with heating.




Connection options.



BCL 31

BCL 32

BCL 34

MA 2		KB 031	KB 031	
MA 2L		KB 040 direct	KB 040 direct	
MA 4 1xx L			KB 040 direct	
MA 4 1xx			KB 031	
MA 4D 1xx			KB 031	
MA 4/MA 4D		KB 031	KB 031	
MA 42 IS/MA 42 DP-k			KB 031	
MS 34 103				direct
MS 34 105				direct
MSD 1 101				KB 034 only with MS 34 105

Barcode readers **BCL 31, BCL 32** Stand-alone operation or network.



The scanners with **serial interfaces RS 485 and RS 232.**

Depending on requirements, the BCL 31 or BCL 32 can be operated either as a stand-alone device or networked in the Leuze multiNet. The BCL can also be integrated via the MA 42 IS, MA 42 IS PDP gateways to Interbus. With the MS 31 105 (for the BCL 31) and the MS 32 104 (for the BCL 32) modular hoods with integrated connectors, the barcode readers can be easily wired using the M 12 connection system.

Stand-alone operation

The barcode reader features a 15-pin sub-D connector for the electrical connection of the supply voltage, the interface and the switching inputs.

The use of a connector unit simplifies the electrical installation of the barcode reader in stand-alone operation.

Moreover, the operating parameters are also stored in the MA 4/MA 4D connector units.

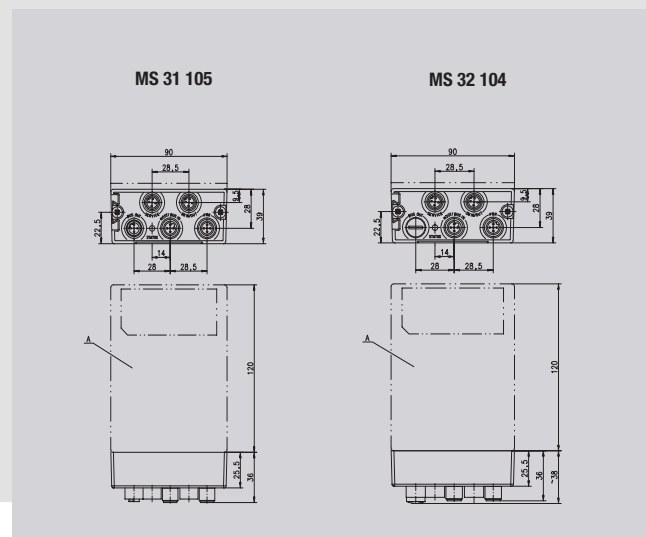
Networking the BCL 31 in multiNet plus.

Up to 30 scanners can be networked together using the MA 2, MA 4 or MA 4D connector units and an MA 30/31 bus master. For this purpose, each BCL 31 is assigned its own hardware address in the corresponding connector unit.

The networking is carried out by simply wiring through the individual RS 485 interfaces. Using this method, networks may extend up to 1200 m.

The network is connected to the primary computer via the host interface of the MA 30/31.

Available for this are plug-in modules for RS 422, RS 232, TTY or RS 485.



Barcode reader **BCL 34**

Scanners with inside.



The scanner especially for the **PROFIBUS interface**.

Maximum transmission rate 12 MBd

The BCL 34 enables the full PROFIBUS transmission speed.

Direct configuration

All important parameters are set centrally via the PROFIBUS project.

No other configuration tools necessary.

The programmer works only with the software tool of the PROFIBUS DP master, a tool with which he is already familiar.

Configuration with as many as 43 modules.

If necessary, an additional 43 modules can be included in the project. E.g. result and control modules or statistics and alignment modules which simplify mechanical alignment of the scanner and monitor its fault-free operation.

Economical BCL PROFIBUS solution

By eliminating the PROFIBUS gateway and its RS 232 components, it was possible to considerably reduce the costs of the entire system.

Plug and Play

Configuration performed by the control during device installation. By means of this functionality, it is possible to exchange a scanner in just seconds without any special technical knowledge.

PROFIBUS diagnostics includes BCL 34.

The scanner state can be monitored directly by the PROFIBUS diagnostics tool.



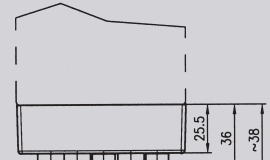
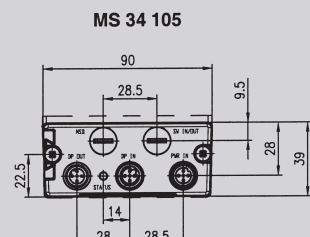
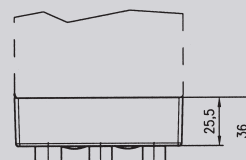
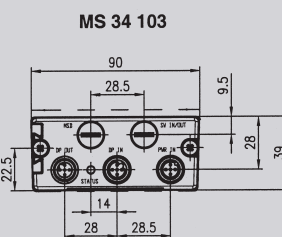
BCL 34 accessories (necessary for the PROFIBUS connection)

M 34 103 with
M 12 connector for:

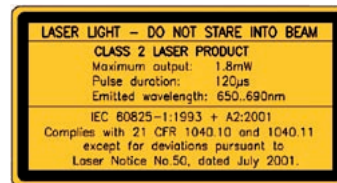
- PROFIBUS DP IN/OUT
- Voltage supply
PWR IN

M 34 105 with
M 12 connector for:

- PROFIBUS DP IN/OUT
- Voltage supply
PWR IN
- Switching input and output
SW IN/OUT
- Modular Service Display MSD



Specifications



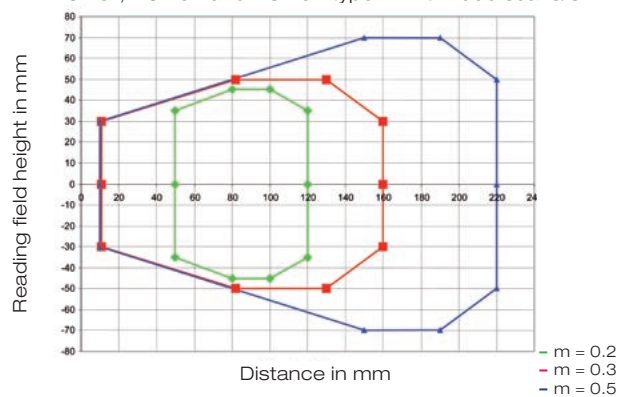
Optical data	BCL 31/32	BCL 34
Light source	laser diode 650 nm	laser diode 650 nm
Laser safety class	class 2 acc. to IEC 60825-1	class 2 acc. to IEC 60825-1
Scanning rate and resolution	BCL with M optics: 1000 scans/s module m = 0.2 mm ... 0.5 mm BCL with F optics: 800 scans/s module m = 0.3 mm ... 0.8 mm BCL with L optics: 800 scans/s module m = 0.35 mm ... 0.8 mm BCL with J optics: 1000 scans/s* module m = dependent on application all optics models available with heating	BCL with M optics: 1000 scans/s module m = 0.2 mm ... 0.5 mm BCL with F optics: 800 scans/s module m = 0.3 mm ... 0.8 mm BCL with L optics: 800 scans/s module m = 0.35 mm ... 0.8 mm BCL with J optics: 1000 scans/s* module m = dependent on application all optics models available with heating
Scan lines	raster or line scanner	raster or line scanner
Reading fields	see reading curves	see reading curves
Software		
Code types	all common code types	all common code types
Software features	selectable output format, autoConfig, autoControl, reference code comparison, multiple read, real time decoding, alignment mode, diagnosis, reading gate control, control of the switching inputs and outputs etc.	selectable output format, autoControl, reference code comparison, multiple read, real time decoding, alignment mode, diagnostics, reading gate control, control of the switching inputs and outputs etc.
Electrical data		
Interface type	BCL 31: RS 485 BCL 32: RS 232	PROFIBUS DP
Baud rate	110 ... 115 400 Bd	9.6 kBd –12 MBd
Protocol	with/without framing protocol	PROFIBUS DP
Configuration	via service interface	via PROFIBUS DP
Ports	BCL 31: 1 switching output, 1 switching input BCL 32: 2 switching outputs, 2 switching inputs	1 switching output, 1 switching input
Indicators		
Operating voltage	10 ... 30V DC	10 ... 30V DC
Power consumption	3.2 W	5 W
Mechanical data		
Protection class	IP 65	IP 65
Weight	400 g	405 g
Dimensions (W x H x D)	120 x 90 x 43 mm	120 x 90 x 43 mm
Housing	diecast aluminium	diecast aluminium
Environmental data		
Ambient temperature operation/storage	0 °C ... +40 °C/-20 °C ... +60 °C	0 °C ... +40 °C/-20 °C ... +60 °C
Air humidity	max. 90% rel. humidity, non-condensing	max. 90% rel. humidity, non-condensing
Vibration	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
EMC	EN 61326-1 EN 61000-6-2 EN 61000-6-3	EN 61326-1 EN 61000-6-2 EN 61000-6-3
Accessories	MA 2, MA 2.2, MA 4, MA 4 D, MA 22 DC MS 31 105 (for BCL 31) MS 32 104 (for BCL 32)	MS 34 103, MS 34 105

The specified reading curve applies to the standard case: black on white, sharp contours, homogeneously printed code.
The actual reading field for an ink-jet application must be checked for the respective application.

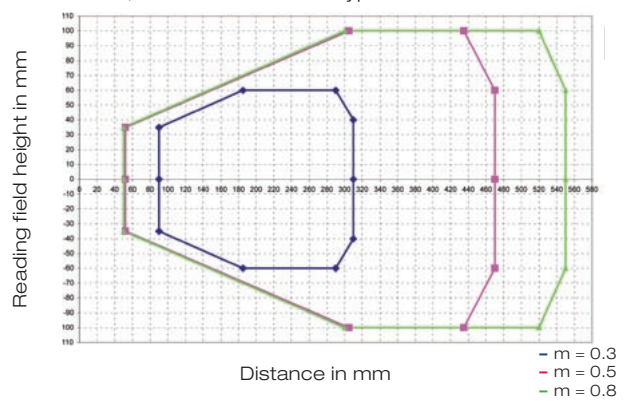
Reading curves



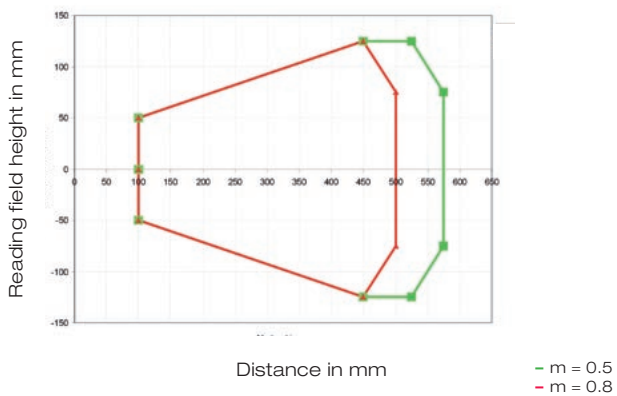
BCL 31, BCL 32 and BCL 34 type M with 1000 scans/s



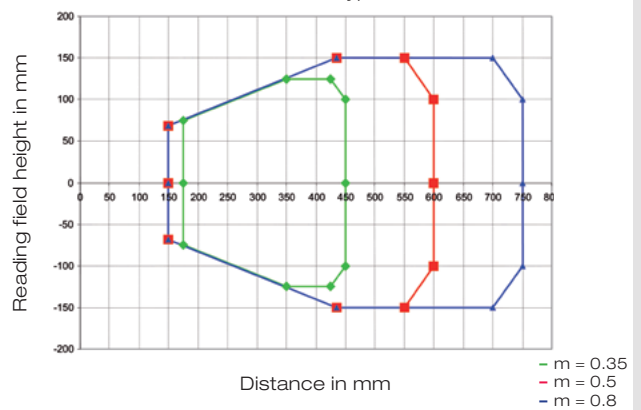
BCL 31, BCL 32 and BCL 34 type F with 800 scans/s



BCL 31, BCL 32 and BCL 34 type J with 1000 scans/s



BCL 31, BCL 32 and BCL 34 type L with 800 scans/s



Optical Electronic Sensors

Cubic Series
Cylindrical Sensors, Mini Photoelectric Sensors, Fibre Optic Amplifiers
Measuring Sensors
Special Sensors
Light Curtains
Forked Sensors
Double Sheet Testing Unit, Splice Detection
Accessories

Identification Systems

Data Transmission Systems

Distance Measurement

Barcode Readers
RF IDent Systems
Modular Connector Units
Industrial Image Processing Systems
Optical Data Transmission Systems
Optical Distance Measurement/Positioning
Hand-Held Readers

Safety Sensors

Safety Systems

Safety Services

Safety Laser Scanners
Safety Light Curtains
Transceivers and Multi-Beam Safety Photoelectric Sensors
Single-Beam Safety Photoelectric Sensors
AS-i-Safety Product Line
Safety Sensors for the PROFIBUS DP
Safety Switches and Locks
Safety Relays and Interfaces
Sensor Accessories and Signal Devices
Machine Safety Services

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