

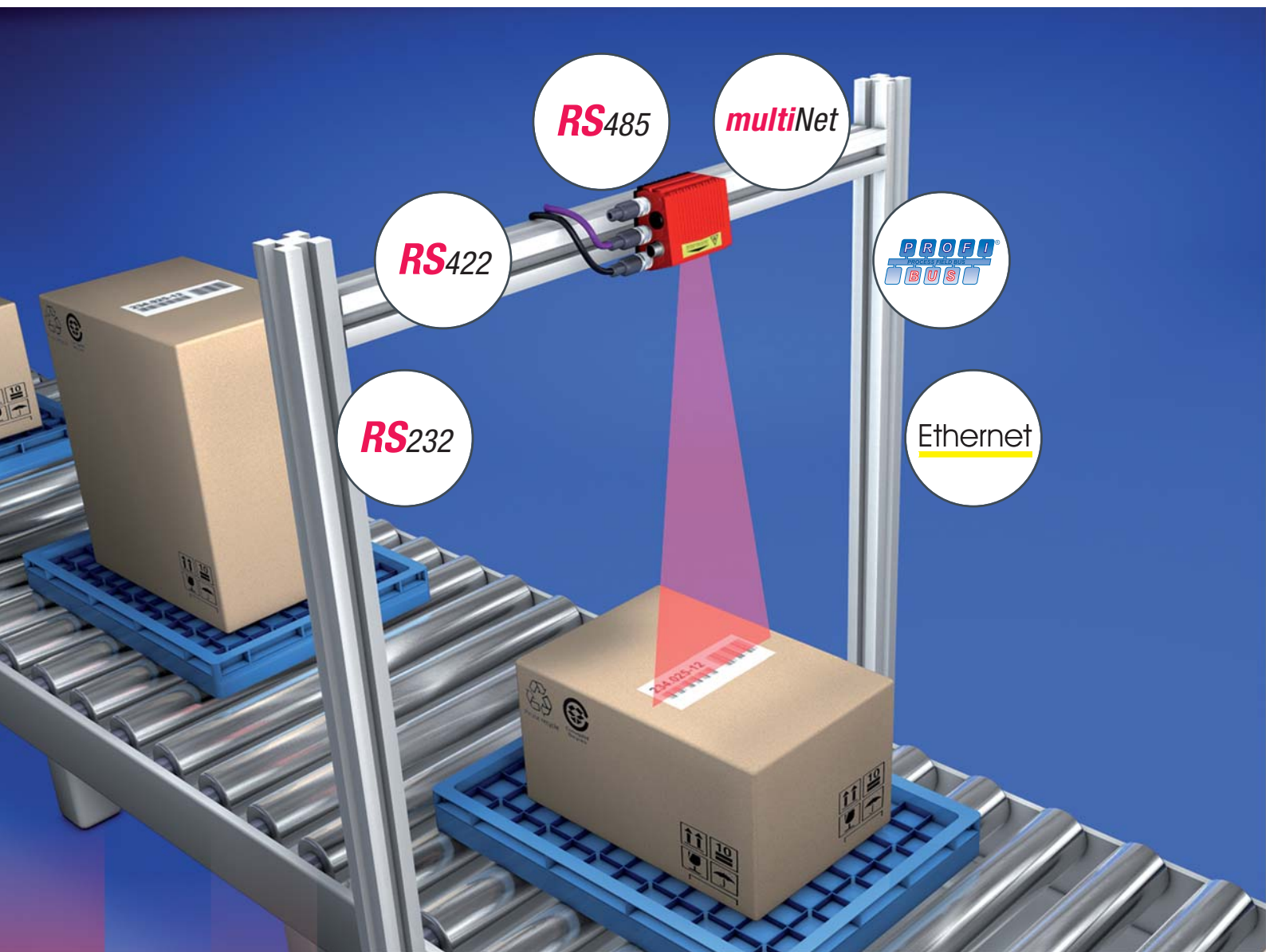
the **sensor** people

## Barcode reader BCL 500*i*

The new generation with  
integrated interface versatility



The ultimate in connectivity.



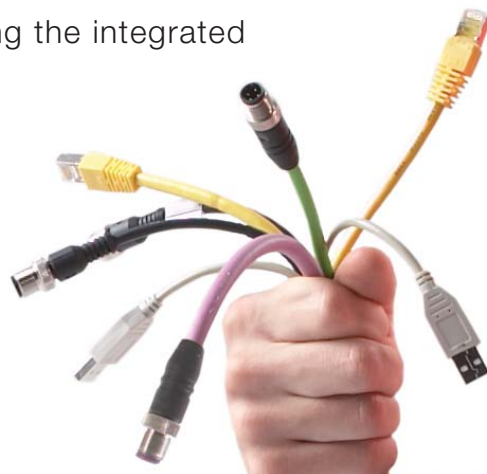
## Barcode reader with integrated field bus connectivity. The BCL 500*i* series.

Integrated networking capability – this feature characterizes the outstanding capability of the pioneering barcode reader series BCL 500*i*. As of now, industrial users can benefit from universally applicable identification systems which can be installed without the need for interfacing units or gateways. Integrated field bus interfaces make for substantially simpler handling. Time-consuming connections via gateways are a thing of the past. This unique series benefits from extreme commissioning simplicity due to direct connection of the relevant field bus system and parameterization without the need for additional software.

## Simple handling. Wide variety of interfaces and variants.

### ➔ The major benefits of the BCL 500*i* series:

- Integrated field bus connectivity = *i*: plug-and-play field bus link and convenient networking
- Code reconstruction technology (CRT):  
Permits identification of soiled or damaged codes
- High scanning rate of 800 – 1200 scans/s (adjustable):  
Permits identification even at very high conveyor speeds
- High depth of field and large angle of aperture:  
For wide conveyor lines
- Simple commissioning and connection using M12 Ultra-Lock™ connection technology and intelligent fastening concept
- Intuitive multiple-language display with menu prompting
- Convenient parameterization using the integrated webConfig tool via USB
- Different variants: single line, deflecting mirror, oscillating mirror for flexible application
- Optional heating variants down to -35°C



## BCL 500*i* series Interface variants.

### BCL 500*i*



- Integrated network master for control of the Leuze multiNet plus network
- Stand-alone operation
- Number of slave users adjustable at the display

### BCL 501*i*



- multiNet slave in Leuze network
- User addresses in the network adjustable at the display

### BCL 504*i*



- Integrated PROFIBUS
- Direct parameterization via PROFIBUS
- PROFIBUS user addresses adjustable at the display

### BCL 508*i*



- Integrated Ethernet
- TCP/IP
- Baud rate 10/100 Mbaud



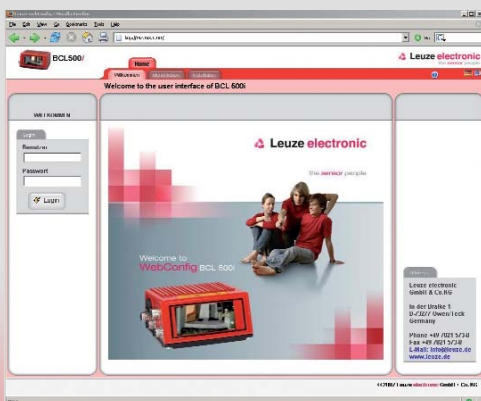
# Parameterization made easy: BCL 500*i* webConfig

## The fast track to individual barcode reader configuration.

The Leuze electronic webConfig tool integrated in the device provides a web technology-based graphic user interface for configuration of the BCL 500i series bar code readers which is totally independent of the operating system.

By using HTTP as a communication protocol and restricting clients to the use of standard technologies (HTML, JavaScript and AJAX), the webConfig tool can be operated at any PC with browser without the need for a direct internet link. Connection to the barcode reader's USB service interface in the BCL 500i series takes place via the USB port at the PC using a USB cable.

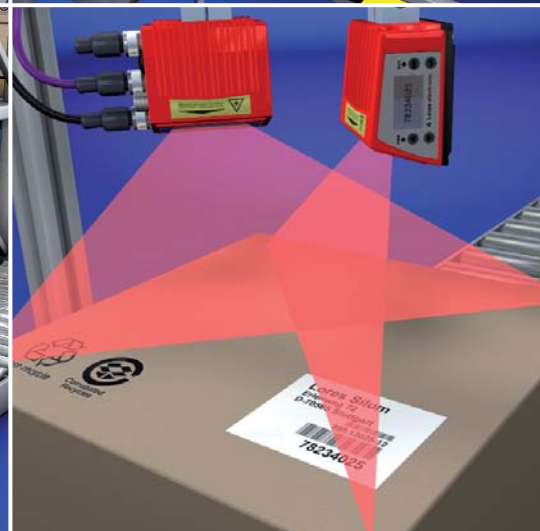
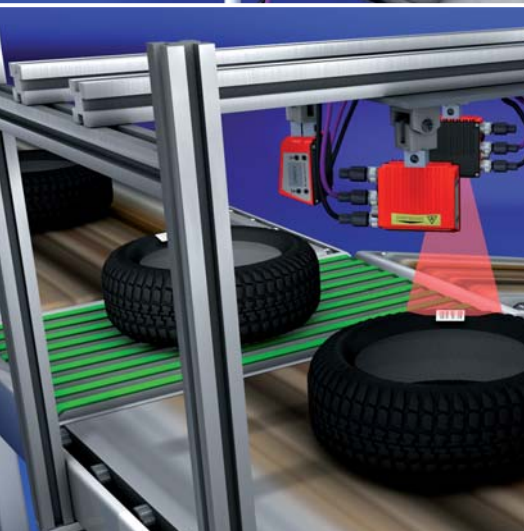
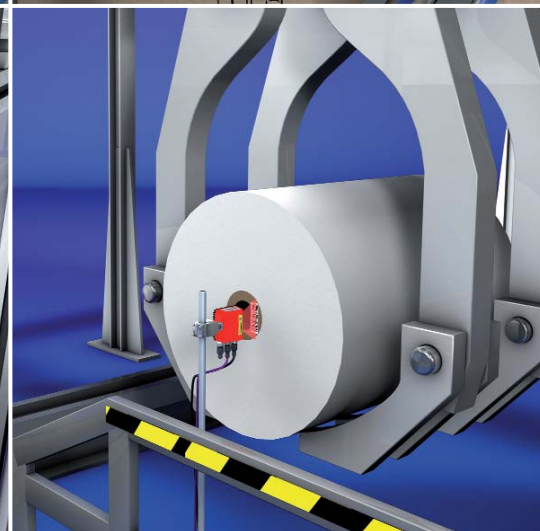
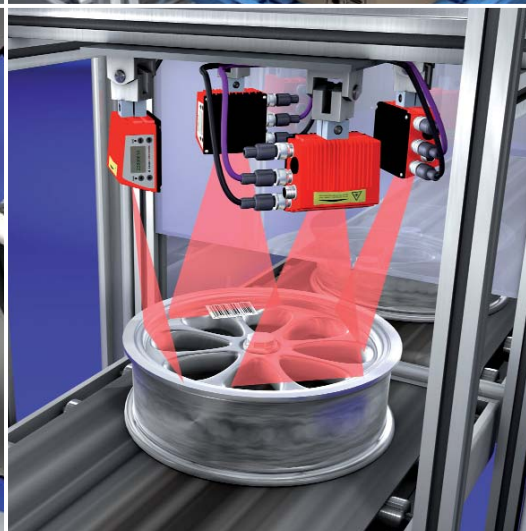
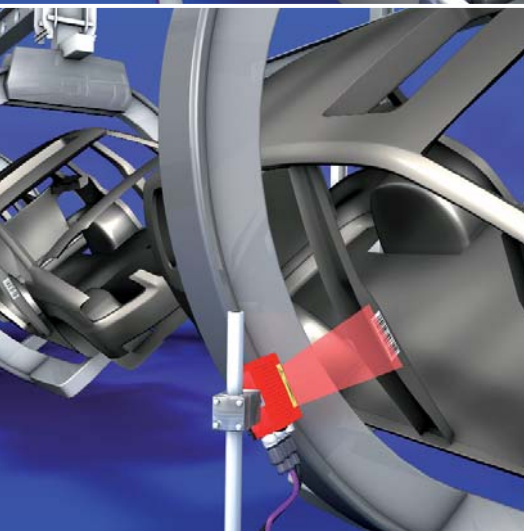
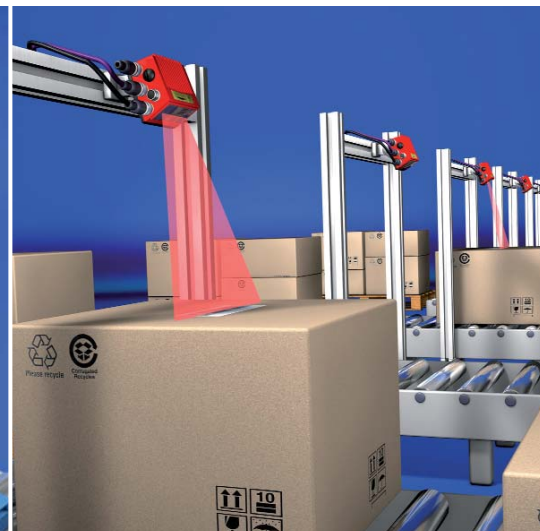
The webConfig tool is entered by login, which permits different levels of access to individual pages and their content depending on the entitlement level of the registered user.



Depiction of the individual parameters takes place – where expedient – in graphically processed form, providing a clear illustration of what can otherwise appear as highly abstract data. All these benefits make for a highly convenient and application-oriented user interface.

The user interface is broken down into different functional groups in order to provide optimum support for users in the various operating situations.

Unlimited variants  
for your application needs.



The most important features  
**BCL 500*i* / 501*i***  
**504*i* / 508*i***



## Specifications

### Line scanner

<b>Version</b>	Lines scanner without heating*
<b>Optical data</b>	Light source
	Beam outlet
	Scanning rate
	Usable aperture angle
	Lens variants/resolution
<b>Barcode data</b>	Reading distance
	Laser protection class
	Code types
<b>Electrical data</b>	Number of barcodes per scan
	Interface type

### Protocols

Baud rate
Data formats
Service interface
Switching input/output
Operating voltage
Current consumption

### Operating/ display elements

Display
Keypad
LEDs

### Mechanical data

Protection class
Weight
Dimensions (H x W x D)
Housing

### Ambient data

Operating temperature range
Storage temperature range
Humidity
Vibration
Shock
Continuous shock
Electromagnetic compatibility

### Line scanner with oscillating mirror

<b>Version</b>	Line scanner with oscillating mirror without heating*
<b>Optical data</b>	Beam outlet
	Oscillating frequency
	Max. oscillating angle
<b>Electrical data</b>	Current consumption
<b>Mechanical data</b>	Weight
	Dimensions (H x W x D)

### Line scanner with deflecting mirror

<b>Version</b>	Line scanner with deflecting mirror without heating*
<b>Optical data</b>	Beam outlet
	Max. optical adjustment range of beam outlet
<b>Electrical data</b>	Current consumption
<b>Mechanical data</b>	Weight
	Dimensions (H x W x D)

\*For data on scanners with lens heating, refer to the technical description. This is available for download on [www.leuze.de](http://www.leuze.de)

**BCL 500i**

**BCL 501i**

**BCL 504i**

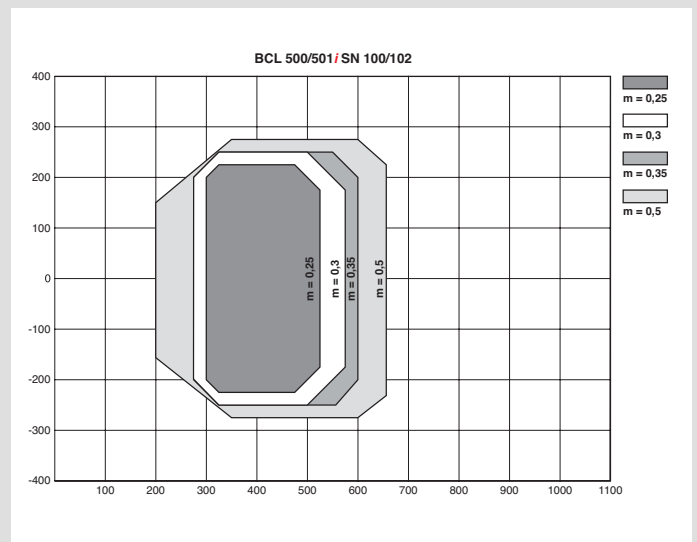
**BCL 508i**

<b>Specifications of line scanner without heating</b>			
Stand-alone and multiNet Plus master	multiNet Plus Slave	PROFIBUS DP	Ethernet
Laser diode $\varnothing = 650 \text{ mm} / 655 \text{ mm}$ (red light)			
Front	Front	Front	Front
1000 scans/s (adjustable range 800 – 1200 scans/s)			
Max. 60°	Max. 60°	Max. 60°	Max. 60°
High density (N): 0.25 – 0.5 mm; Medium density (M): 0.35 – 0.8 mm; Low density (F): 0.5 – 1.0 mm			
See reading field graphs	See reading field graphs	See reading field graphs	See reading field graphs
2 in accordance with EN 60825-1, II in accordance with CDRH (U.S. 21 CFR 1040.10 and 1040.11)			
2/5 Interleaved, Code 39, Code 128, EAN / UPC, Codabar, Code 93, RSS 14-Codes			
6	6	6	6
1 x RS232/422 and 1 x RS485 each encoded to M12 (B)	1 x RS485 encoded to 2 x M12 (B)	1 x RS485 encoded to 2 x M12 (B)	Ethernet encoded to 2 x M12 (B)
Leuze Standard, Leuze multiNet Plus, ACK / NAK, 3964 (R) RK 512, Xon / Xoff	Leuze Standard, Leuze multiNet Plus	PROFIBUS DP	Ethernet TCP / IP
4800 – 115400 Baud	4800 – 115400 Baud	9.6 Kbaud – 12 MBaud	10 / 100 MBaud
Data bit: 7,8 / Stop bit: 1,2 Parity: None, Even, Odd	Data bit 7,8 / Stop bit: 1,2 Parity: None, Even, Odd	Slave DPV1	
USB 1.1 compatible, A coded	USB 1.1 compatible, A coded	USB 1.1 compatible, A coded	USB 1.1 compatible, A coded
4 switching inputs / switching outputs, functions freely programmable			
10 – 30 V DC	10 – 30 V DC	10 – 30 V DC	10 – 30 V DC
Appr. 10 W	Appr. 10 W	Appr. 10 W	Appr. 10 W
Monochrome graphic display, 128 x 64 Pixel, background lit			
4 keys	4 keys	4 keys	4 keys
2 LEDs for power (PWR) and bus status (BUS), two-colour (red/green)			
IP 65	IP 65	IP 65	IP 65
1.1 kg	1.1 kg	1.1 kg	1.1 kg
63 x 123,5 x 106,5 mm	63 x 123,5 x 106,5 mm	63 x 123,5 x 106,5 mm	63 x 123,5 x 106,5 mm
Die-cast aluminium	Die-cast aluminium	Die-cast aluminium	Die-cast aluminium
0°C – +40°C	0°C – +40°C	0°C – +40°C	0°C – +40°C
-20°C – +70°C	-20°C – +70°C	-20°C – +70°C	-20°C – +70°C
Max. 90% relative humidity, non-condensing			
IEC 60068-2-6, Test Fc	IEC 60068-2-6, Test Fc	IEC 60068-2-6, Test Fc	IEC 60068-2-6, Test Fc
IEC 60068-2-27, Test Ea	IEC 60068-2-27, Test Ea	IEC 60068-2-27, Test Ea	IEC 60068-2-27, Test Ea
IEC 60068-2-29, Test Eb	IEC 60068-2-29, Test Eb	IEC 60068-2-29, Test Eb	IEC 60068-2-29, Test Eb
EN 55022, EN 61326-1; IEC 61000-6-2 (encompasses IEC 61000-4-2, 4, 4 5 and 6)			
<b>Specifications as line scanner without heating but with the following differences:</b>			
Stand-alone and multiNet Plus Master	multiNet Plus Slave	PROFIBUS DP	Ethernet
Lateral zero position below an angle of 90°			
0 – 10 Hz (adjustable, max. frequency dependent upon adjusted oscillating angle)			
+/- 20° (adjustable)	+/- 20° (adjustable)	+/- 20° (adjustable)	+/- 20° (adjustable)
Appr. 14 W	Appr. 14 W	Appr. 14 W	Appr. 14 W
1.5 kg	1.5 kg	1.5 kg	1.5 kg
84 x 173 x 147 mm	84 x 173 x 147 mm	84 x 173 x 147 mm	84 x 173 x 147 mm
<b>Specifications as line scanner without heating but with the following differences:</b>			
Stand-alone and multiNet Plus Master	multiNet Plus Slave	PROFIBUS DP	Ethernet
Lateral zero position below an angle of 90°			
+/- 10° (adjustable using display or software)			
Appr. 11 W	Appr. 11 W	Appr. 11 W	Appr. 11 W
1.4 kg	1.4 kg	1.4 kg	1.4 kg
84 x 173 x 147 mm	84 x 173 x 147 mm	84 x 173 x 147 mm	84 x 173 x 147 mm

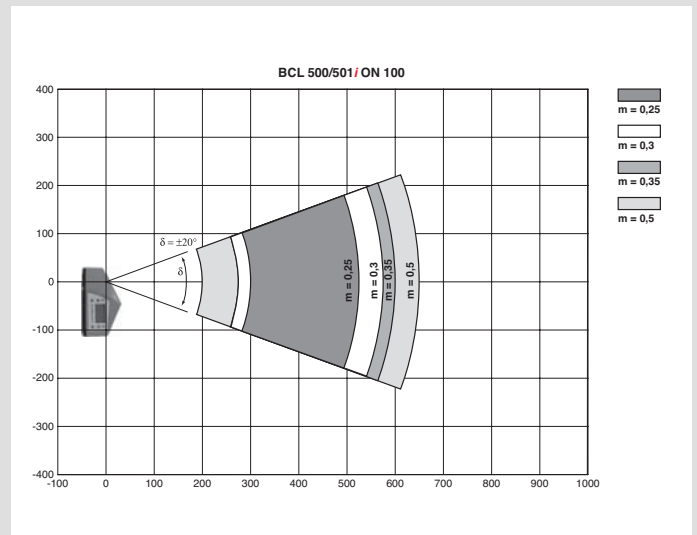
# Reading Field Graphs.

Reading field graph N lens

**Line scanner with/without deflecting mirror or oscillating mirror**

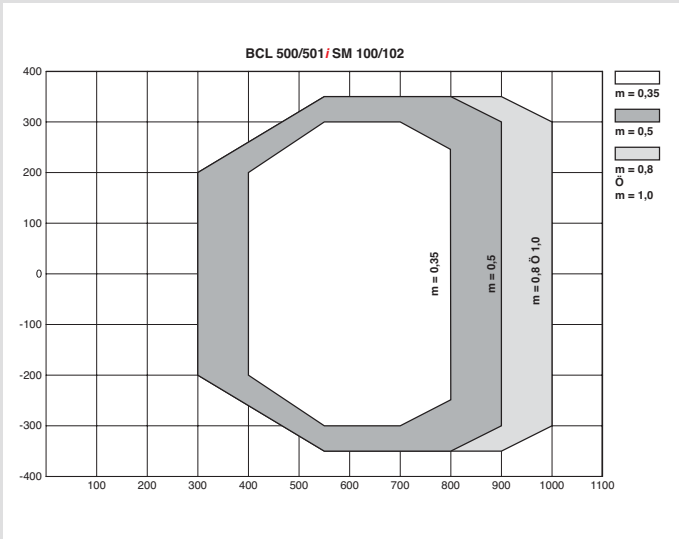


**Line scanner with oscillating mirror (lateral reading graph)**

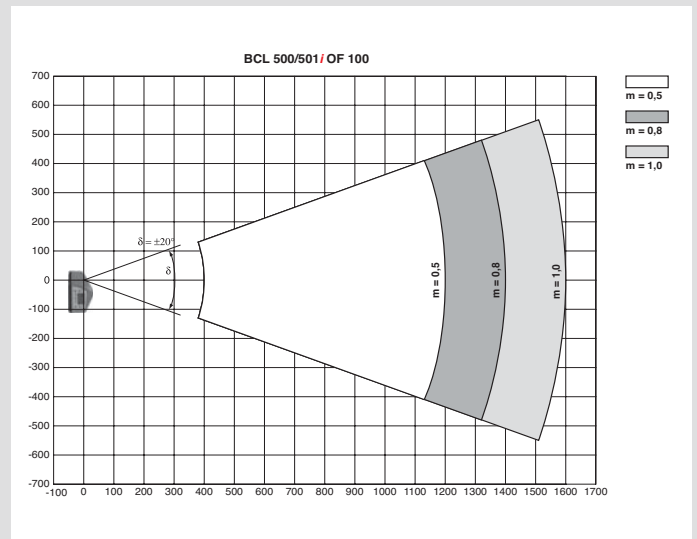
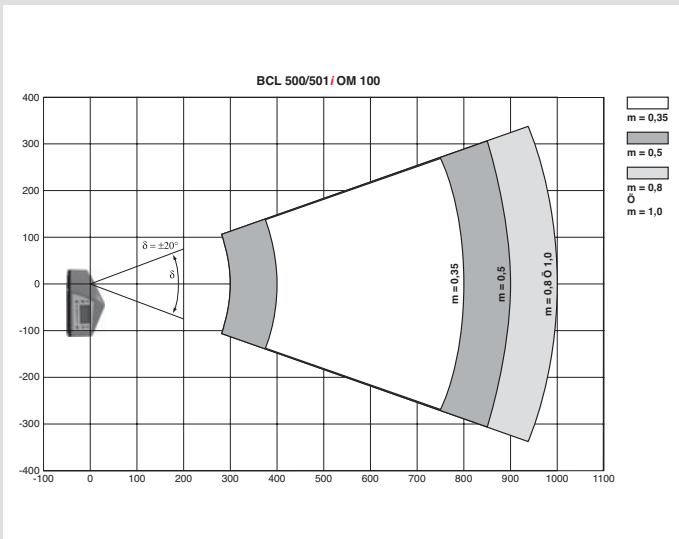
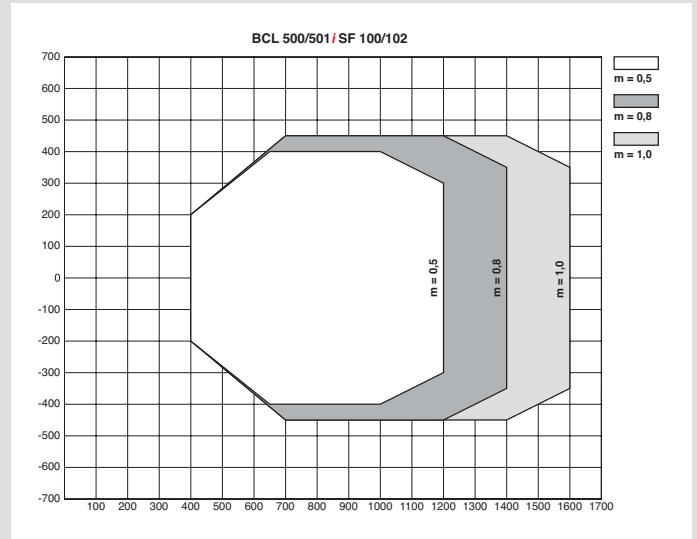




Reading field graph M lens



Reading field graph F lens



## **Optoelectronic Sensors**

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

## **Identification Systems**

### **Data Transmission Systems**

### **Distance Measurement**

Barcode Reader  
RF-IDent-System  
Modular Interfacing Units  
Industrial Image Processing Systems  
Optical Data Transmission Systems  
Optische Entfernungsmessung/Positionierung  
Hand-held Readers

## **Safety Sensors**

### **Safety Systems**

### **Safety Services**

Safety Laser Scanner  
Safety Light Curtains  
Transceiver and Multiple Light Beam Safety Devices  
Single Beam Safety Devices  
AS-i Safety Product Range  
Safety Sensor Technology for PROFIBUS DP  
Safety Switches and Safety Locking Devices  
Safety Relays and Safety Interfaces  
Sensor Accessories and Signal Devices  
Machine Safety Services

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