Bar code reader BCL 300i
The multi-talent with extensive equipment options
You decide
what your bar code reader can do.

The bar code readers of the BCL 300i series set new standards in equipment options.

What makes our new BCL 300i series special is its modularity. For the first time, you can select from a large number of equipment options to individually configure a device optimally for your application. You thereby obtain a bar code reader perfectly tailored to your needs with regard to function, connection, mounting, and operation and one that stands for reliability and system availability.

Top performance and practical innovation in all areas

The BCL 300i convinces not only with its proven performance characteristics such as the high-performance code reconstruction technology, the integrated fieldbus connectivity and the—in this performance class—unrivalled optical data at long operating range and wide opening angle.

With the unique hood with integrated connectors, the device can also be quickly connected to your fieldbus environment without complicated plug mounting.

In addition, the compact scanner can be used as an Ethernet switch in the network and can be configured either via the browser-based webConfig tool conveniently and directly via Ethernet or directly in the PROFIBUS / PROFINET environment.
Compromises are a thing of the past – today the word is modular.

With the new BCL 300i, select between freely combinable equipment variants. We call this flexible type of product configuration modular.

**Display elements**
- Graphical display
- LED display

**Optics/read fields**
- High Density (N)
- Medium Density (M)
- Low Density (F)
- Ultra Low Density (L)

**Scanner**
- Oscillating mirror
- Deflection mirror
- Front scanner
- Line scanner
- Raster scanner

**Options**
- Heating
- Mounting systems

**Connection technology**
- Modular connector hood
- Modular terminal hood
- Modular connection box
- Connection cable

**Interfaces**
- PROFIBUS
- PROFINET
- Ethernet TCP/IP
- multiNet
- RS 232 / 422 / 485
**Convincing performance characteristics:**

The advantages of the BCL 300\textit{i} at a glance.

<table>
<thead>
<tr>
<th>Modularity</th>
<th>Full CRT (code reconstruction technology)</th>
<th>High-quality optics</th>
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<tbody>
<tr>
<td>First bar code reader with freely combinable equipment for optimum adaptation to your application.</td>
<td>The most powerful code reconstruction technology on the market; also reliably detects heavily damaged or soiled codes.</td>
<td>The used optics facilitate a large depth of field and wide opening angle for reliable detection, even with wide conveyor lines.</td>
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<tr>
<th>Integrated fieldbus connectivity = \textit{i}</th>
<th>webConfig</th>
<th>Ethernet switch</th>
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<tr>
<td>A range of available fieldbus interfaces enables direct integration and configuration of the system without additional software.</td>
<td>Operating-system independent, browser-based configuration tool.</td>
<td>The device can function as an Ethernet switch to create a linearly structured network.</td>
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<tr>
<th>Flexible electrical connection</th>
<th>Small construction</th>
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<tbody>
<tr>
<td>For the BCL 300\textit{i}, you can select from four different connection options.</td>
<td>Compact housing design for problem-free placement directly at the conveyor line.</td>
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</table>
Configuration made simple.

The fast track to custom configuration of your bar code reader.

The Leuze electronic BCL 300i webConfig.

With the integrated webConfig tool, an operating-system independent, web-technology based, multi-language user interface is available for configuring the device. The individual parameters are presented in an easy-to-understand, graphic form.

The BCL 300i in the PROFIBUS/PROFINET world.

With the integrated PROFIBUS or the integrated PROFINET, it is possible to configure the BCL 300i via the module structure contained in the GSD/GSDML file directly via the HW Config. In doing so, the parameters that are set are stored in the control and, should a device need to be replaced, automatically transferred to the new device.
Diverse application possibilities

- **Pallet ID**
- **Container identification**
- **Container identification with variable heights**
- **Container identification from the side**
- **Tray identification**
- **Container identification with autoReflAct**
Reading field curves Low Density (F)

BCL 3xxi S/R1 F 102 – line scanner w/o deflection mirror

Reading field curves Ultra Low Density (L)

BCL 3xxi S/R1 L 102 – line scanner w/o deflection mirror

BCL 3xxi S/R1 F 100 – line scanner w/ deflection mirror

BCL 3xxi S/R1 L 100 – line scanner w/ deflection mirror

BCL 3xxi OF 100 – for oscillating-mirror scanner

BCL 3xxi OL 100 – for oscillating-mirror scanner

BCL 3xxi OF 100 – lat. oscillating-mirror scanner

BCL 3xxi OL 100 – lat. oscillating-mirror scanner
### Line scanner

**Type**
- BCL 300/ BCL 301/ BCL 304/ BCL 308/ BCL 348
- Line scanner without heating*

**Optical data**
- Light source: Laser diode λ = 655 nm
- Beam exit: At the front
- Scanning rate: 1,000 scans/s
- Useful opening angle: Max. 60°
- Optics models / resolution: High density (N): 0.127 – 0.2 mm; medium density (M): 0.2 – 0.5 mm; low density (F): 0.3 – 0.8 mm; ultra low density (L): 0.35 – 0.8 mm
- Laser safety class: 2 acc. to EN 60825-1, CDRH (U.S. 21 CFR 1040.10)

**Bar code data**
- Code types: 2/5 Interleaved, Code 39, Code 128, EAN / UPC, Codabar, Code 93, RSS 14
- Number of bar codes per scan: 6

**Electrical data**
- Interface type:
  - External connection box (MA 100)
  - M12 via MS 300
  - Terminals via MK 300
  - External connection box (MA 100)
  - M12 via MS 301
  - Terminals via MK 301
  - M12 via MS 304
  - Terminals via MK 304
  - M12 via MS 308
  - Terminals via MK 308
  - M12 via MS 348
  - Terminals via MK 348
- Protocols:
  - Leuze standard,
  - ACK/NAK, 3964 (R), RK 512, Xerox
  - Leuze standard,
  - Leuze multiNet plus
  - PROFIBUS DP
  - Ethernet, TCP / IP / UDP
  - PROFINET / RT, TCP / IP, UDP
- Baud rate: 4,800 ... 115,400 Baud
- Data formats:
  - Data bits: 7,8 / Stop bits: 1,2
  - Parity: None, Even, Odd
  - Slave DPV1
- Service interface: USB 2.0 Mini-B type socket
- Operating voltage: 18 ... 30 V DC (SK III, class 2)
- Power consumption: Approx. 4 W

**Operating and display elements**
- Display (optional): Monochromatic graphical display, 128 × 32 pixel, background lighting (optional)
- Keyboard (optional): 2 buttons
- LEDs: 2 LEDs for power (PWR) and bus state (BUS), two-colored (red/green)

**Mechanical data**
- Protection class only with MS / MK / KB connection hoods: IP 65
- Weight: 270 g
- Dimensions (W × H × D): 44 × 95 × 68 mm
- Housing: Diecast aluminum

**Environmental data**
- Operating temperature range: 0 °C – +40 °C
- Storage temperature range: -20 °C – +70 °C
- Air humidity: Air humidity max. 90 % rel. humidity, non-condensing
- Vibration: IEC 60068-2-6, test FC
- Shock: IEC 60068-2-27, test Ea
- Continuous shock: IEC 60068-2-29, test Eb
- Electromag. compatibility: EN 55022, EN 61326-1; IEC 61000-6-2 (includes IEC 61000-4-2, -3, -4, -5 and -6)

**Line scanner with oscillating mirror**
- Technical data same as for line scanner without heating, however with the following differences:

  **Type**
  - Line scanner with oscillating mirror w/o heating*

  **Optical data**
  - Beam exit: Lateral zero position at an angle of 90°
  - Oscillation frequency: 0-10 Hz (adjustable, max. frequency is dependent on set swivel angle)
  - Max. swivel angle: +/- 20° (adjustable)

  **Electrical data**
  - Power consumption: Approx. 10 W
  - Weight: 580 g
  - Dimensions (W × H × D): 58 × 125 × 110 mm

**Line scanner with deflection mirror**
- Technical data same as for line scanner without heating, however with the following differences:

  **Type**
  - Line scanner with deflection mirror w/o heating*

  **Optical data**
  - Beam exit: Optical data - beam exit with lateral zero position at an angle of 105°
  - Oscillation frequency: 0-10 Hz (adjustable, max. frequency is dependent on set swivel angle)
  - Max. swivel angle: +/- 20° (adjustable)

  **Electrical data**
  - Power consumption: Approx. 4 W
  - Weight: 350 g
  - Dimensions (W × H × D): 44 × 103 × 96 mm
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 Scanner
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, Safety Command Devices
Safety Relays
Sensor Accessories and Signal Devices
Safety Engineering Software
Machine Safety Services

Line scanner Specifications of the line scanners without heating

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<th>Type</th>
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<td>Standalone multiNet Plus Slave PROFIBUS DP Ethernet PROFINET / RT</td>
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- Beam exit: At the front
- Scanning rate: 1,000 scans/s
- Useful opening angle: Max. 60°
- Optics models / resolution:
  - High density (N): 0.127 – 0.2 mm
  - Medium density (M): 0.2 – 0.5 mm
  - Low density (F): 0.3 – 0.8 mm
  - Ultra low density (L): 0.35 – 0.8 mm
- Read distance: See reading field curves
- Laser safety class 2 acc. to EN 60825-1, CDRH (U.S. 21 CFR 1040.10)

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  - Leuze multiNet/uni00A0plusPROFIBUS DP Ethernet, TCP / IP / UDP PROFINET / RT,
- Baud rate: 4,800 ... 115,400 Baud
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**Mechanical data**
- Protection class only with MS / MK / KB connection hoods: IP/uni00A065
- Weight: 270 g
- Dimensions (W  ×  H  ×  D): 44 × 95 × 68 mm
- Housing: Diecast aluminum

**Environmental data**
- Operating temperature range: 0 °C – +40 °C
- Storage temperature range: -20 °C – +70 °C
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- Vibration: IEC 60068-2-6, test FC
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Type
- Line scanner with oscillating mirror w/o heating
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- Beam exit: Lateral zero position at an angle of 90°
- Oscillation frequency: 0-10 Hz (adjustable, max. frequency is dependent on set swivel angle)
- Max. swivel angle: +/- 20° (adjustable)

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**Mechanical data**
- Weight: 580 g
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Type
- Line scanner with deflection mirror w/o heating
- Standalone multiNet Plus Slave PROFIBUS DP Ethernet PROFINET / RT

**Optical data**
- Beam exit: Optical data - beam exit with lateral zero position at an angle of 105°

**Electrical data**
- Power consumption: Approx. 4 W

**Mechanical data**
- Weight: 350 g
- Dimensions (W×  H  ×  D): 44 × 103 × 96 mm