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

The BCL 300i bar code series sets new standards when it comes to individual 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 range and wide opening angle.

With the unique connector hood, 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.
Diverse application possibilities.

- Pallet ID
- Container identification in constrained spaces
- Container identification with variable heights
- Container identification from the side
- Tray identification
- Container identification with autoReflectAct
Impressive performance characteristics:  
*The benefits* of the BCL 300i at a glance.

With the new BCL 300i, you can select between freely combinable equipment variants and a variety of impressive performance parameters integrated by default. We call this flexible type of product configuration modular.

### Ethernet

- **Ethernet switch**
  
  The device can function as an Ethernet switch to create a line structure network.

- **High-quality optics**
  
  The optics used enable a large depth of field and opening angle for the reliable detection of even the widest transport systems.

- **Full CRT (Code Fragment Technology)**
  
  With the most powerful code fragment technology on the market, it also reliably detects heavily damaged or soiled codes.

- **Compact design**
  
  Compact housing design for problem-free placement directly at the conveyor line.
Options
- Heating
- Mounting systems

Integrated switch
- For Ethernet-based interfaces for setting up a line structure

Display elements
- Graphical display
- LED display

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

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

Scanners
- Oscillating mirror
- Deflecting mirror
- Front mirror
- Line scanner
- Raster scanner

Interfaces
- PROFIBUS
- PROFINET
- Ethernet TCP/IP
- multiNet
- RS 232 / 422 / 485
- EtherNet IP
Various **connector hoods** make possible flexible **connection options**.

The three available models of the BCL 300i – with front scanner, with deflection mirror or with oscillating mirror – can be combined with any of three different connector hoods. Thanks to this feature and the optional MA 100 connector unit, you can integrate the device flexibly into a variety of environments.

**Code reader**

- **Front mirror**
- **Deflecting mirror**
- **Oscillating mirror**

**Connector hood/connector unit**

- **KB 301**
- **KB 301**
- **MS 3xx**
- **MK 3xx**

- **Cable connection via MA 100**
- **Cable connection**
- **M12 connection**
- **Connection with terminal hood**
Configuration and parameterization made easy.

The quick way to individually configure your bar code reader.

The Leuze electronic BCL 300i webConfig tool.

With the integrated webConfig tool, an operating system independent, web-technology based, multilingual user interface is available for configuring and parameterizing. The individual parameters are graphically displayed in an easy-to-understand manner.

The BCL 300i in the world of PROFIBUS/PROFINET.

The integrated Profibus or Profinet makes it possible to configure the BCL 300i directly in the HW Config via the module structure contained in the GSD/GSDML file. The set parameters are stored in the control and automatically transferred to the new device in the event of a device exchange.
Reading field curves High Density (N)
Line / raster scanner without deflection mirror

Reading field curves Medium Density (M)
Line / raster scanner without deflection mirror

Line / raster scanner with deflection mirror

Line scanner with oscillating mirror

Line scanner with oscillating mirror (lateral reading curve)
## Technical data

### Line scanner Specifications of the line scanners without heating

<table>
<thead>
<tr>
<th>Design</th>
<th>Stand-alone</th>
<th>multiNet plus slave</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line scanner without heating*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Optical data

<table>
<thead>
<tr>
<th>Light source</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Beam exit</td>
<td></td>
</tr>
<tr>
<td>Scanning rate</td>
<td></td>
</tr>
<tr>
<td>Useful opening angle</td>
<td></td>
</tr>
<tr>
<td>Optics models / resolution</td>
<td>High Density</td>
</tr>
<tr>
<td>Reading distance</td>
<td></td>
</tr>
<tr>
<td>Laser safety class</td>
<td></td>
</tr>
</tbody>
</table>

### Bar code data

<table>
<thead>
<tr>
<th>Code types</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of bar codes per scan</td>
<td></td>
</tr>
</tbody>
</table>

### Electrical data

<table>
<thead>
<tr>
<th>Interface type</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocols</td>
<td>Leuze Standard, Leuze multiNet plus</td>
</tr>
<tr>
<td>Baud rate</td>
<td>4,800 ... 115,200 Baud</td>
</tr>
<tr>
<td>Data formats</td>
<td>Data bit: 7,8 / stop bit: 1,2</td>
</tr>
<tr>
<td>Service interface</td>
<td>Parity: None, Even, Odd</td>
</tr>
<tr>
<td>Operating voltage</td>
<td></td>
</tr>
<tr>
<td>Power consumption</td>
<td></td>
</tr>
</tbody>
</table>

### Operating and display elements

| Display (optional)          |                     |
| Keyboard (optional)         |                     |
| LEDs                        |                     |

### Mechanical data

| Protection class only with MS/MK/KB connection hood |                     |
| Weight                                             |                     |
| Dimensions (H × W × D)                             |                     |
| Housing                                            |                     |

### Environmental data

| Operating temperature range |                     |
| Storage temperature range   |                     |
| Air humidity                |                     |
| Vibration                  |                     |
| Shock                       |                     |
| Continuous shock            |                     |
| Electromag. compatibility   |                     |

### Line scanner with oscillating mirror

<table>
<thead>
<tr>
<th>Design</th>
<th>Stand-alone</th>
<th>multiNet plus slave</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line scanner with oscillating mirror w/o heating*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Optical data

| Oscillation frequency |                     |
| Max. swivel angle     |                     |

### Electrical data

| Power consumption        |                     |

### Mechanical data

| Dimensions (H × W × D)   |                     |

### Line scanner with deflection mirror

<table>
<thead>
<tr>
<th>Design</th>
<th>Stand-alone</th>
<th>multiNet plus slave</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line scanner with deflection mirror w/o heating*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Optical data

| Beam exit                   |                     |

### Electrical data

| Power consumption           |                     |

### Mechanical data

| Dimensions (H × W × D)     |                     |

* Data for scanners with optics heating, see technical description, download under www.leuze.com
Line scanner Specifications of the line scanners without heating

**Design**
- Line scanner without heating
- Stand-alone multiNet plus slave

**Optical data**
- Light source: Laser diode = 655 nm
- Beam exit: 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 (L): 0.3 – 0.8 mm
- Ultra Low Density (UL): 0.35 – 0.8 mm

**Reading distance**
See reading field curves

**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 304
  - Terminals via MK 304
  - M12 via MS 308
  - Terminals via MK 308
  - 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, Xon / Xoff
  - PROFINET / RT, TCP / IP, UDP
- Baud rate:
  - 4,800 ... 115,200 Baud
  - 9.6 Kbaud – 12 MBaud

**Data formats**
- Data bit: 7,8
- Stop bit: 1,2
- Parity: None, Even, Odd

**Service interface**
- Mini-B type USB 2.0 socket

**Operating voltage**
- 18 ... 30 V DC (SC III, class 2)

**Power consumption**
- Approx. 4 W

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

**Mechanical data**
- Protection class:
  - Only with connection hood
  - IP

**Weight**
- 270 g

**Dimensions (H × W × 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:
  - Max. 90 % rel. humidity, non-condensing

**Vibration**
- IEC 60068-2-6, test FC

**Shock**
- IEC 60068-2-27, test Ea
- IEC 60068-2-29, test Eb

**Electromag. compatibility**
- EN 55022, EN 61326-1; IEC 61000-6-2 (contains IEC 61000-4-2, -3, -4, -5 and -6)

---

**Technical data same as for line scanner without heating with the following differences:**

**Design**
- Line scanner with oscillating mirror
- Stand-alone multiNet plus slave

**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)

**Power consumption**
- Approx. 10 W

**Mechanical data**
- Weight:
  - 580 g
- Dimensions (H × W × D):
  - 58 × 125 × 110 mm

---

**Technical data same as for line scanner without heating with the following differences:**

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

**Power consumption**
- Approx. 4 W

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

---

* Data for scanners with optics heating, see technical description, download under www.leuze.com
Switching Sensors
Optical Sensors
Ultrasonic Sensors
Fiber Optic Sensors
Inductive Switches
Forked Sensors
Light Curtains
Special Sensors

Measuring Sensors
Distance Sensors
Sensors for Positioning
3D Sensors
Light Curtains
Forked Sensors

Products for safety at work
Optoelectronic Safety Sensors
Safe Locking Devices and Switches
Safe Control Components
Machine Safety Services

Identification
Bar Code Identification
2D-Code Identification
RF Identification

Data Transmission/
Control Components
MA Modular Interfacing Units
Data Transmission
Safe Control Components

Industrial Image Processing
Light Section Sensors
Smart Cameras