EdgeMaster™ Series
For precise detection of moving objects or webs
Production problems that need solutions

Skew, material shifting, and drag can be caused by a number of machine related issues. Tighter control of moving surfaces will result in higher production speeds on your equipment and lead to a reduction in material waste, thus improving your bottom line.

Traditional solutions have relied on mechanical devices, which are difficult to maintain and limit your design flexibility due to specific implementation constraints.

Discrete Edge Detection

Dual outputs device maintains edge tracking

Analog Array Edge Position

Absolute position information based on how far an object enters the slot

BAV MA

BGL C Series
Innovation to match your application

EdgeMaster™ sensors are designed to work with a variety of materials, making them a reliable solution for many problems.

Based on the latest in photoelectric sensing technology, they provide:

- Precise position feedback
- High speed edge detection
- Design flexibility and installation versatility

Analog Line Edge Position

Absolute position information based on percentage of reflective line tape covered by an object

Discrete Registration Mark Detection

Outputs are taught specific color registration marks for tracking and cutting

BOL 27K

BGL 21
**EdgeMaster™**

BAV MA edge detection sensor

<table>
<thead>
<tr>
<th>Ordering code</th>
<th>Part number</th>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAV0001</td>
<td>BAV MA-OD-000001-01</td>
<td>PNP x2</td>
</tr>
<tr>
<td>BAV0002</td>
<td>BAV MA-OD-000001-02</td>
<td>NPN x2</td>
</tr>
</tbody>
</table>

**General Specifications**

- **Supply voltage**: 10...30 Vdc
- **Max. load current**: 50 mA
- **Short circuit protection**: yes
- **Current overload protection**: yes
- **Polarity reversal protection**: yes
- **Degree of protection**: IP 67
- **Temperature rating**: -20 to +50 °C
- **Switching frequency**: 800 Hz
- **Light source**: 660 nm (red light)
- **Maximum sensing range**: 15 mm
- **Connection**: M8 4-pole connector
- **Recommended cable**: BCC0543

Featuring an innovative dual-sensing design, the BAV MA Edge Detection sensor offers you two independent discrete outputs in a compact package for excellent discrete, offset detection.

A web or object can pass horizontally or vertically over the first sensing element to activate output 1, then an additional offset distance to activate output 2.

The BAV MA is ideal for:

- Films
- Labels
- Transparencies

Using the BAV MA for edge tracking:

- No outputs on
- Output B on
- Both outputs on
For applications that require exact position measurement, the BGL C series is your best choice. With its standard 30 or 50 mm sensing window and 28 mm of measuring area, thick or thin objects or webs can be tracked to a resolution of 0.08 mm.

Models include dual-discrete outputs, one discrete output plus one analog output (either 0-10 V or 4-20 mA) or IO-Link communications.

*Note: The outputs of the sensor can be toggled between NO and NC.

### General Specifications

- **Supply voltage**: 10...30 Vdc
- **Max. load current**: 100 mA
- **Short circuit protection**: yes
- **Current overload protection**: yes
- **Polarity reversal protection**: yes
- **Degree of protection**: IP 67
- **Temperature rating**: -5 to +55 °C
- **Switching frequency**: 500 Hz
- **Light source**: 633 nm (red light)
- **Maximum resolution**: 0.08 mm
- **Connection**: M12 4-pole connector
- **Recommended cable**: BCC02N6 (non-IO-Link)
- **Recommended cable**: BCC039P (IO-Link)
EdgeMaster™
BOL 27K line measurement sensor

Precise feedback for larger targets often requires a sensor with a longer sensing range. The BOL 27K provides up to 150 mm of measuring distance with the sensor mounted 200 mm away from the reflective tape provided with the sensor, and is able to detect changes as small as 0.15 mm.

Operating modes:

- **Edge mode**
  monitors leading edge position

- **Center mode**
  monitors edge position relative to a centerline

- **Width mode**
  measures width of a target

- **Area mode**
  detects relative reflectivity

*Includes reflective tape*

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<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOL0002</td>
<td>BOL 27K-PS-L01-S115</td>
<td>PNP x2* and 4-20 mA</td>
</tr>
<tr>
<td>BOL0001</td>
<td>BOL 27K-NS-L01-S115</td>
<td>NPN x2* and 4-20 mA</td>
</tr>
</tbody>
</table>

*Note: The outputs of the sensor can be toggled between NO and NC.*

**General Specifications**

- Supply voltage: 10...30 Vdc
- Max. load current: 70 mA
- Short circuit protection: yes
- Current overload protection: yes
- Polarity reversal protection: yes
- Degree of protection: IP 67
- Temperature rating: -10 to +55 °C
- Switching frequency: 130 Hz
- Light source: 875 nm (infrared light)
- Minimum target size: 0.9 mm
- Maximum resolution: 0.15 mm
- Connection: M12 8-pole connector
- Recommended cable: BCC01F5
Designed specifically to keep up with high-speed automated machinery of all kinds, the BGL 21 is the best solution for difficult contrast applications.

It features:

- EEPROM memory
- Single pushbutton programming
- Fast switching frequency
- 2 mm sensing gap

**EdgeMaster™**

BGL 21 registration mark/label sensor

<table>
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<tr>
<th>Ordering code</th>
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<th>Outputs</th>
<th>Application</th>
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</thead>
<tbody>
<tr>
<td>BGL002L</td>
<td>BGL 21-IR</td>
<td>PNP x1 and NPN x1*</td>
<td>Hole/Label detection on continuing surfaces</td>
</tr>
<tr>
<td>BGL002M</td>
<td>BGL 21-RG</td>
<td>PNP x1 and NPN x1*</td>
<td>Registration mark detection</td>
</tr>
</tbody>
</table>

*Note: The outputs of the sensor can be toggled between NO and NC.

**General Specifications**

- Supply voltage: 10...30 Vdc
- Max. load current: 100 mA
- Short circuit protection: yes
- Current overload protection: yes
- Polarity reversal protection: yes
- Degree of protection: IP 67
- Temperature rating: -20 to +60 °C
- Switching frequency: 25 kHz
- Light source: 635 nm/535 nm (RG version) 880 nm (IR version)
- Connection: M8 4-pole connector
- Recommended cable: BCC0543

High speed label detection

Registration mark detection on a film
## Accessories

<table>
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<tr>
<th>Standard Connectivity</th>
<th>BMS Mounting Accessories</th>
<th>Power Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td>– Standard M8 and M12 cordsets, 3-wire &amp; 4-wire, PVC, PUR &amp; TPE</td>
<td>– Exact positioning</td>
<td>– Ultra reliable</td>
</tr>
<tr>
<td>– Standard DIN connectors</td>
<td>– Accommodate a variety sensor applications</td>
<td>– Protect against unforeseen events</td>
</tr>
<tr>
<td>– Multiple interface blocks</td>
<td>– Attach to base plates or all common extrusion rails</td>
<td>– Clean, accurate power for the most demanding equipment</td>
</tr>
</tbody>
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## Other product families from Balluff

- [GlobalProx](#)
- [GlobalEye](#)
- [ULTRAFRAME™](#)

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