Miniature magnetic position sensors
Programmable switching points with integrated electronics
The BERNSTEIN range of teachable electronic magnetic sensors combines two programmable switching points and fully integrated electronics in an enclosure that boasts the smallest dimensions in its class.

This highly compact design allows the intelligent sensor to be fully recessed in standard T and C-slots (e.g. FESTO or SMC), providing maximum protection for the integrated electronics within an IP67 rated enclosure.

When the easy to use teaching tool is placed over the installed sensor, it automatically selects programming mode and the two switching points can then be set at the push of a button. The two LEDs on the sensor then serve as function indicators, providing information on the programming status and displaying signal faults. This helps prevent unintentional changes to the settings whilst retaining the safety class rating.

This switching is quickly programmed by mounting the sensor near the cylinder or gripper, which is then moved to the desired switching position. One push of a button sets the switch-on point and the process is repeated for the second switching position. This method saves installation time and greatly improves accuracy.

The new sensors include protection against short circuits and polarity reversal as standard. An internal EEPROM stores the switching points in the event of power failure. Versions are available with a 4-pin M8 connector or as a cable version with open wires.

### Industries and Applications

- Assembly and handling systems
- Short-stroke cylinders
- Block cylinders
- Clamping element
- Robotics
- Grippers

### Advantages

- Fully integrated electronic solution
- Permanent protection rating
- No need to mount additional electronics
- Fully immersed and therefore protected installation in the slot
- Suitable for standard C and T-slots
- Available as cable or plug version
- Only takes up one slot
- Two freely programmable switching points
- Straightforward teach-in procedure
- Reduced installation and wiring requirements
- Top-mounted
- High switching accuracy
## Delivery Range

Intelligent electronic magnetic sensors – two switching points, teachable

<table>
<thead>
<tr>
<th>Size</th>
<th>Series</th>
<th>Material</th>
<th>Type of connection</th>
<th>Type of installation</th>
<th>Article number</th>
<th>Article designation</th>
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<tbody>
<tr>
<td>22 x 3,9 x 3,1 mm</td>
<td>E22</td>
<td>Plastic</td>
<td>Cable</td>
<td>C-slot – SMC</td>
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<td>MEK-E22PS/HP-KL2</td>
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</table>

* Version with Ex approval
  KEMA 08ATEX0130 X
  II 2 G Ex mb II T6
  II 2 D Ex tD A21 IP 67 T 85 °C

### Accessories

- Cable coupler (straight version, 2 m cable)
  - Article number: 4139100837
  - Article designation: GDK-M08UA/W00-2

**All sensors come with the following accessories:**

- 1 x setscrew M2x3 (E22), M3x6 (E30), DIN 913
- 1 x offset screwdriver (E22)
- 1 x teach-in tool
- 1 x operating and installation instructions

**Other slot sensors:**

Sensors with only one output can also be used for applications that require only one switching point. For these applications, BERNSTEIN AG offers Hall sensors with set sensitivity or reed contact versions that require no auxiliary energy (see “Delivery Range – Other Slot Sensors”).

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The illustration shows the maximum sensing range of both sensor elements over the traverse range of the magnet. A curve must be outside the tolerance range in order to achieve clear assignment of the switching points. The sensor immediately detects the moment at which both curves are within the tolerance range of low magnetic sensitivity due to the magnet and air gap constellation and signals a fault.

Magnetic field parallel to sensor

- Magnetic sensitivity ±1.5 mT to ±13.5 mT / switching range up to 50 mm (depending on magnet / air gap)
- Repeatability ≤ 0.1 mT
- Hysteresis 1 mT ≤ H ≤ 1.35 mT
- Operating voltage range UB 10-30 V DC
- PNP / make contact NO
- Output current Ie ≤ 50 mA (one output switched) ≤ 25 mA per output (both outputs switched)
- Ambient temperature -20 °C to + 80 °C
- Type of protection IP 67
## Delivery Range

### Other slot sensors – one switching point, non-teachable

<table>
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