



Miniature magnetic position sensors

Programmable switching points with integrated electronics

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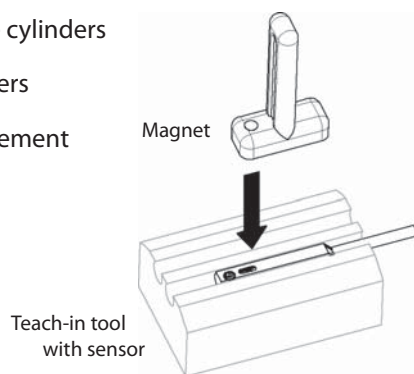
Programmable switching points with integrated electronics

The Bernstein 6S 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). This combines with the IP67 rated sensor enclosure to provide maximum protection for the integrated electronics, rendering additional and often expensive safeguards unnecessary. When the easy to use teach-in tool is paced over the installed sensor, it automatically selects programming mode and the two switching points can then be quickly and easily set at the push of a button. With the teach-in tool removed the two LEDs at the top of the sensor then serve as the function indicator and provide information on the programming status, as well as displaying signal faults.

This configuration largely prevents unintentional changes to the settings and substantially increases resistance to environmental influences while retaining the safety class rating. This freely programmable switching does away with the need to set switching points by pushing the sensor to the proper position and clamping it there. Instead, the sensor is simply mounted near the cylinder or gripper, which is then moved to the desired switching position. One push of a button is enough to program the sensor to this switch-on point and the process is simply repeated for the second switching position. This method saves installation time and greatly improves accuracy. The new sensors also feature protection against short circuits and polarity reversal as standard and include an internal EEPROM that stores the switching points in the event of power failure. They are available both as a connector version with 4-pin M8 connector and a cable version with open wires.

Industries and Applications

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



- the installed sensor assumes programming mode when the teach-in tool is placed over it
- the positions of the magnet are assigned to the respective outputs by aligning the tool
- the programmable switching points are stored in the sensor
- the switching points can be changed by repeating the teach-in procedure

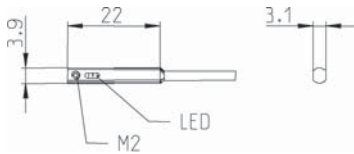
Advantages

- 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

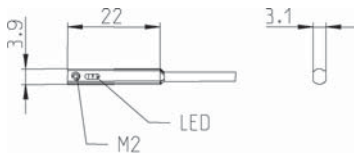
Delivery Range

Intelligent electronic magnetic sensors – two switching points, teachable

Size	Series	Material	Type of connection	Type of installation	Article number	Article designation
22 x 3,9 x 3,1 mm	E22	Plastic	Cable	C-slot – SMC	6370281109	MEK-E22PS/HP-KL2
22 x 3,9 x 3,1 mm	E22	Plastic	M8 plug	C-slot – SMC	6370281110	MEK-E22PS/HP-KL0,3S

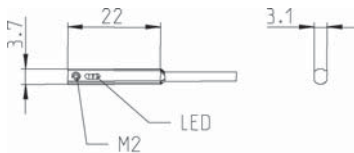


Size	Series	Material	Type of connection	Type of installation	Article number	Article designation
22 x 3,9 x 3,1 mm	E22	Plastic	Cable	C-slot – SMC	6370281152*	MEK-E22PS/HP-KL2-EX
22 x 3,9 x 3,1 mm	E22	Plastic	M8 plug	C-slot – SMC	6370281153*	MEK-E22PS/HP-KL0,3S-EX



* 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

Size	Series	Material	Type of connection	Type of installation	Article number	Article designation
22 x 3,7 x 3,1 mm	E22	Plastic	Cable	C-slot – Festo	6370281144	MEK-E22PS/HP-KL2
22 x 3,7 x 3,1 mm	E22	Plastic	M8 plug	C-slot – Festo	6370281145	MEK-E22PS/HP-KL0,3S



Size	Series	Material	Type of connection	Type of installation	Article number	Article designation
25 x 6,5 x 5 mm	E30	Aluminium	Cable	T-slot	6370299136	MEA-E30PS/HP-KL2
25 x 6,5 x 5 mm	E30	Aluminium	M8 plug	T-slot	6370299143	MEA-E30PS/HP-KL0,3S



Accessories

Cable coupler (straight version, 2 m cable)	4-pin M8	4139100837	GDK-M08UA/W00-2
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All sensors come with the following accessories:

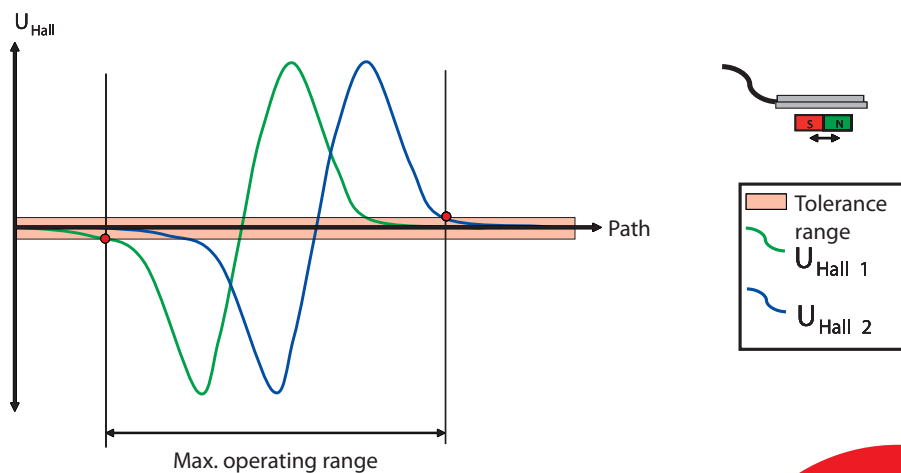
- 1 x setscrew M2x3 (E22), M3x6 (E30), DIN 913
- 1 x offset screwdriver (E22)
- 1 x teach-in tool
- 1 x operating and installation instructions

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").

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



**Other products
in our complete range**

Technical Data

- Magnetic sensitivity $\pm 1.5 \text{ mT}$ to $\pm 13.5 \text{ mT}$ / switching range up to 50 mm (depending on magnet / air gap)
- Repeatability $\leq 0.1 \text{ mT}$
- Hysteresis $1 \text{ mT} \leq H \leq 1.35 \text{ mT}$
- Operating voltage range UB 10-30 V DC
- PNP / make contact NO
- Output current $I_e \leq 50 \text{ mA}$ (one output switched)
 $\leq 25 \text{ mA}$ per output (both outputs switched)
- Ambient temperature $-20 \text{ }^\circ\text{C}$ to $+80 \text{ }^\circ\text{C}$
- Type of protection IP 67



**Switch technology –
Economy meets safety**



**Sensor technology –
Compact intelligence**



**Enclosure technology –
Function and design**

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