

Miniature magnetic position sensors

Programmable switching points and completely integrated electronics

Miniature magnetic position sensors

Programmable switching points and completely integrated electronics

The teachable magnetic sensors are characterised by one or two freely programmable switching points. Despite this high degree of functionality, BERNSTEIN has succeeded in integrating the entire electronics into a compact sensor enclosure with the smallest possible dimensions. This design feature renders additional protection (e.g. for the cable electronics or high-cost safeguards) unnecessary.

The compact design is suitable for installation in all standard T- and C-slots (e.g. FESTO or SMC).

In an installed position, the freely programmable switching points can be quickly and easily set with the aid of the easy-to-use teach-in tool. This configuration largely avoids unintentional changes to the settings

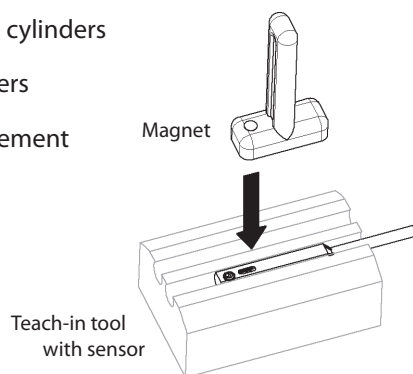
and substantially increases the resistance to environmental influences while retaining the protection class rating.

Manually searching for the switching points has been replaced by rapid electronic balancing with the sensor installed in position. LEDs at the top of the sensor serve as the function indicator, provide information on the programming status and also signal faults.

In addition to featuring effective polarity reversal protection as standard, the sensors also have an internal EEPROM that stores the switching points in the event of power failure.

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 correspondingly aligning the tool
- The programmable switching points are stored in the sensor
- The switching points can be changed by repeating the teach-in procedure

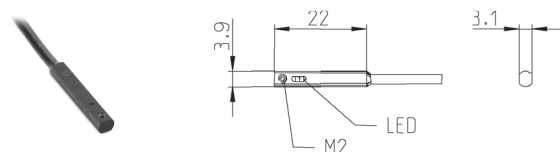
Advantages

- Completely integrated electronic solution
- Permanent protection rating
- No need for additional electronics
- Fully immersed and therefore protected installation in the slot
- Suitable for standard C- and T-slots
- Available as cable or plug version
- Occupies only one slot
- Freely programmable switching points
- Straightforward teach-in procedure
- Reduced installation and wiring requirements
- Can be fitted from above
- High switching accuracy

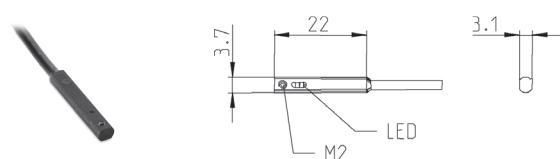
Product range

Intelligent electronic magnetic sensors – teachable, one or two switching points

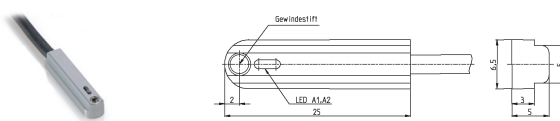
Configuration	Series	Material	Type of connection	Type of installation	Article number	Article designation
2 switching points	E22	Plastic	Cable	C-slot – SMC	6370281109	MEK-E22PS/HP2-KL2
2 switching points	E22	Plastic	M8 plug	C-slot – SMC	6370281110	MEK-E22PS/HP2-KL0,3S8
1 switching point	E22	Plastic	Cable	C-slot – SMC	6372281154	MEK-E22PS/HP1-KL2
1 switching point	E22	Plastic	M8 plug	C-slot – SMC	6372281155	MEK-E22PS/HP1-KL0,3S8



Configuration	Series	Material	Type of connection	Type of installation	Article number	Article designation
2 switching points	E22	Plastic	Cable	C-slot – Festo	6370281144	MEK-E22PS/HP2-KL2
2 switching points	E22	Plastic	M8 plug	C-slot – Festo	6370281145	MEK-E22PS/HP2-KL0,3S8
1 switching point	E22	Plastic	Cable	C-slot – Festo	6372281156	MEK-E22PS/HP1-KL2
1 switching point	E22	Plastic	M8 plug	C-slot – Festo	6372281157	MEK-E22PS/HP1-KL0,3S8



Configuration	Series	Material	Type of connection	Type of installation	Article number	Article designation
2 switching points	E30	Aluminium	Cable	T-slot	6370299136	MEA-E30PS/HP2-KL2
2 switching points	E30	Aluminium	M8 plug	T-slot	6370299143	MEA-E30PS/HP2-KL0,3S8
1 switching point	E30	Aluminium	Cable	T-slot	6372299158	MEA-E30PS/HP1-KL2
1 switching point	E30	Aluminium	M8 plug	T-slot	6372299159	MEA-E30PS/HP1-KL0,3S8



Accessories

Cable coupler (straight version, 2 m cable)	4-pin M8	4139100837	GDK-M08UA/W00-2
---	----------	------------	-----------------

All sensors come with the following accessories:

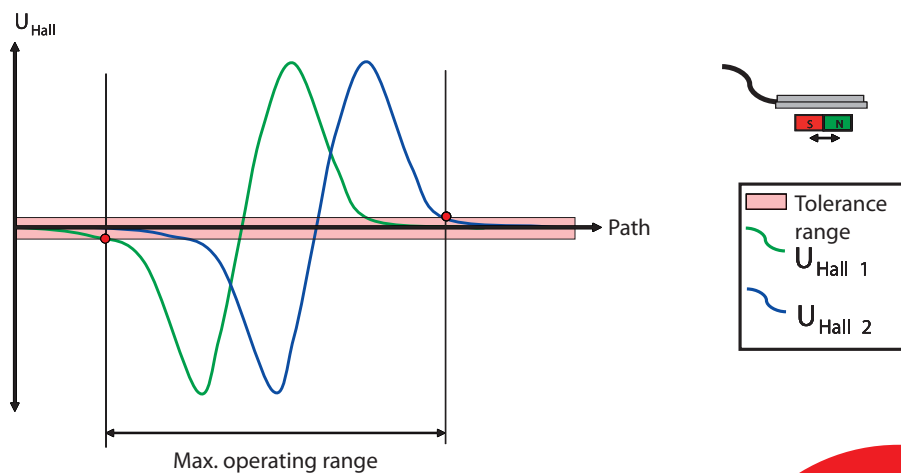
- 1 x setscrew M2x3 (E22), M3x6 (E30), DIN 913
- 1 x Offset screwdriver (E22)
- 1 x Teach-in tool
- 1 x Operating and installation instructions

Other slot sensors:

Sensors with only one output can also be used for applications that require only one switching point. For this purpose BERNSTEIN offers a range of Hall sensors with set sensitivity or reed contact versions that do not require 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




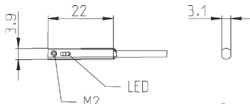

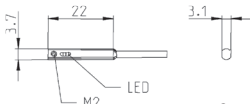

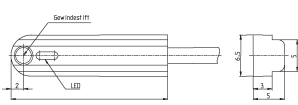

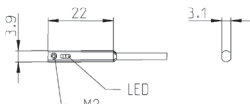

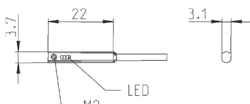


**Other products
in our complete range**

Technical data

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

Product range

Other slot sensors – one switching point, non-teachable

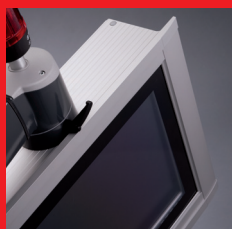
Technology	Series	Material	Type of connection	Type of installation	Article number	Article designation
Reed	E22	Plastic	Cable	C-slot – SMC	6310281656	MAK-8112-2
	E22	Plastic	M8 plug	C-slot – SMC	6310281657	MAK-8112-0,3/S8
						
	Series	Material	Type of connection	Type of installation	Article number	Article designation
	E22	Plastic	Cable	C-slot – Festo	6310281658	MAK-8112-2
	E22	Plastic	M8 plug	C-slot – Festo	6310281659	MAK-8112-0,3/S8
						
	Series	Material	Type of connection	Type of installation	Article number	Article designation
	E30	Aluminium	Cable	T-slot	6310299660	MAA-9912-2
	E30	Aluminium	M8 plug	T-slot	6310299661	MAA-9912-0,3/S8
						
Technology	Series	Material	Type of connection	Type of installation	Article number	Article designation
Hall	E22	Plastic	Cable	C-slot – SMC	6372281146	MEK-E22PS/H03-KL2
	E22	Plastic	M8 plug	C-slot – SMC	6372281147	MEK-E22PS/H03-KL0,3S8
						
	Series	Material	Type of connection	Type of installation	Article number	Article designation
	E22	Plastic	Cable	C-slot – Festo	6372281148	MEK-E22PS/H03-KL2
	E22	Plastic	M8 plug	C-slot – Festo	6372281149	MEK-E22PS/H03-KL0,3S8
						
	Series	Material	Type of connection	Type of installation	Article number	Article designation
	E30	Aluminium	Cable	T-slot	6372299150	MEA-E30PS/H03-KL2
	E30	Aluminium	M8 plug	T-slot	6372299151	MEA-E30PS/H03-KL0,3S8
						



**Switch systems –
Economy meets safety**



**Sensor systems –
Compact intelligence**



**Enclosure systems –
Function and design**

www.bernstein.eu

Contact

**International Headquarters
BERNSTEIN AG**
Tieloser Weg 6
32457 Porta Westfalica
Phone +49 571 793-0
Fax +49 571 793-555
info@de.bernstein.eu
www.bernstein.eu

**Denmark
BERNSTEIN A/S**
Phone +45 7020 0522
Fax +45 7020 0177
info@dk.bernstein.eu

**France
BERNSTEIN S.A.R.L.**
Phone +33 1 64 66 32 50
Fax +33 1 64 66 10 02
info@fr.bernstein.eu

**Italy
BERNSTEIN S.r.l.**
Phone +39 035 4549037
Fax +39 035 4549647
info@it.bernstein.eu

**United Kingdom
BERNSTEIN Ltd**
Phone +44 1922 744999
Fax +44 1922 457555
info@uk.bernstein.eu

**Austria
BERNSTEIN GmbH**
Phone +43 2256 62070-0
Fax +43 2256 62618
info@at.bernstein.eu

**Switzerland
BERNSTEIN (Schweiz) AG**
Phone +41 44 775 71-71
Fax +41 44 775 71-72
info@ch.bernstein.eu

**Hungary
BERNSTEIN Kft.**
Phone +36 1 4342295
Fax +36 1 4342299
info@hu.bernstein.eu

**China
BERNSTEIN Safe Solutions
(Taicang) Co., Ltd.**
Phone +86 512 81608180
Fax +86 512 81608181
info@bernstein-safesolutions.cn

Service Hotlines:
For products: +49 571 793-3000
For orders: +49 571 793-3010