

Superior Clamping and Gripping

Product Information

Programmable magnetic switches MMS 22-PI1-EX

Programmable. Reliable. Robust.

MMS 22-PI1-EX Programmable magnetic switch

ATEX magnetic switches are used to monitor the status of automation components in potentially explosion hazard atmospheres They detect the approach of a magnet without contact and above a certain switching value, they put out a digital signal. The switching value can be programmed.

Field of application

Used for monitoring gripping and rotary modules, as well as linear modules, and robot accessories. Magnetic switches from SCHUNK detect magnets without contact or wear, and are resistant to vibrations, dust and humidity. Magnetic switches are installed in slots, and thus do not produce any additional interfering contours. For connection with a digital input module (utilization categorie DC-12).



Advantages – Your benefits

Programmable within no time due to non-contact adjustment of the switching points and hysteresis

Adjustable hysteresis for precise position monitoring – even at very low strokes

Suitable for narrow installation spaces due to wired teaching with TeachTool plug

Version with LED display for control of the switching position directly at the sensor

Version with standard plug connector for fast and easy exchangeability of the extension cable

Very flexible cable in PUR version for a long service life

C-slot sensor for space-saving, easy, and fast assembly on the product

Certification suitable for explosion-endangered areas

Options and special information

Sources of interference: Sensors can be influenced by other magnetic fields in the immediate vicinity. Disturbing magnetic fields can be generated by motors, electric welders, permanent magnets or magnetized material (so-called soft magnets) such as hexagon socket wrenches, chips, etc.

Security for ATEX applications: The sensor must be provided with a fuse that corresponds to the rated current. The breaking capacity of the fuse must correspond to the possible short circuit current of the supply source.

Connection cable for ATEX applications: For MMS(K) 22-PI1...EX, the fixed connection cable should be connected in non-explosive areas or in a certified housing in compliance with an ignition protection type according to EN 60079-0 or in a certified housing according to EN 60079-31.

Application example



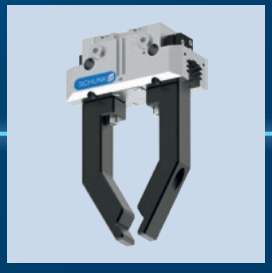
① **Actuator with explosion protection**
PGN-plus-EX

② **Sensor with explosion protection**
MMS 22-PI1-EX

③ **MT magnet teaching tool**

SCHUNK offers more ...

The following components make the product even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.


PGN-plus-EX


PZN-plus-EX


DPG-plus-EX


SRU-plus-EX

ⓘ For more information on these products can be found on the following product pages or at schunk.com.

MMS 22-PI1-EX 22

Programmable magnetic switches

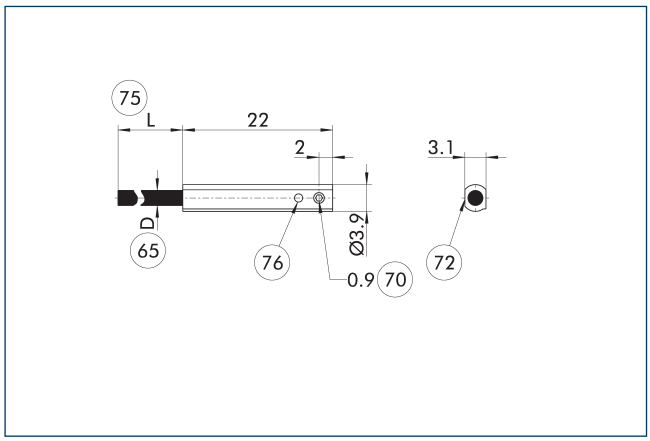


Technical data

Description		MMS 22-PI1-S-M8-PNP-EX	MMSK 22-PI1-S-PNP-EX
ID		1001354	1001355
Principle of function			
Measuring principle		magnetic	magnetic
Switching function		Closer	Closer
Type of switching		PNP	PNP
Number of switching points		1	1
Teach function		yes	yes
General data			
typical switching time	[s]	0.001	0.001
Max. switching frequency	[Hz]	1000	1000
Min./max. ambient temperature	[°C]	-20/80	-20/80
LED display in sensor		yes	yes
Electrical operating data			
Type of voltage		DC	DC
Nominal voltage	[V]	24	24
Min./max. operating voltage	[V]	10/30	10/30
Voltage drop	[V]	2	2
Max. switching current	[A]	0.05	0.05
Short circuit protection		yes	yes
Protected against polarity reversal		yes	yes
Mechanical operating data			
Housing material		PA	PA
Cable connector/cable end		M8	open wire strands
Cable length L	[cm]	30	200
Cable diameter D	[mm]	2.2	2.2
Cable sheath material		PUR	PUR
Min. bending radius (dynamic)	[mm]	22	22
Min. bending radius (static)	[mm]	11	11
Drilling emulsion resistance *		yes	yes
ATEX labeling		II 2 G Ex mb IIC T6 Gb / II 2 D Ex tb IIIC T85°C Db	II 2 G Ex mb IIC T6 Gb / II 2 D Ex tb IIIC T85°C Db

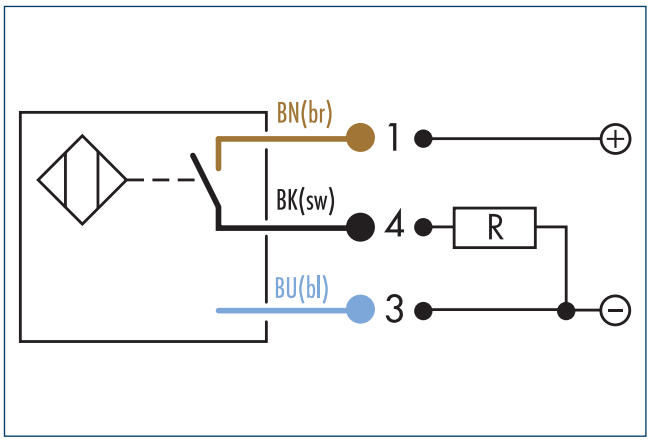
* Tested cutting emulsions: r.rhenus TU 43P, Motorex Swisscool Magnum UX 550 and Oemeta 760 (1008339).

MMS(K) 22-PI1 main view

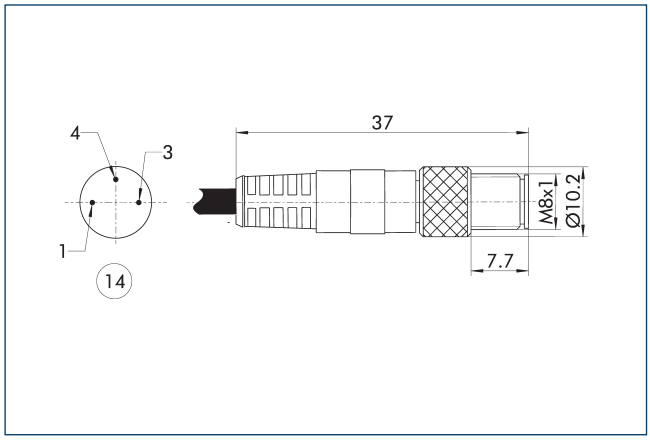


65 Cable diameter
70 Wrench size
72 Active sensor surface
75 Cable length
76 LED

Wiring diagram closer PNP



View of M8 connector (3-pin)



14 Connector

This view shows the plug connector on the cable end of the sensor.

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