



Superior Clamping and Gripping



## Product Information

Programmable magnetic switches MMS 22-PI1-EX

# MMS 22-PI1-EX

Programmable magnetic switches

## Programmable. Reliable. Robust.

### Programmable MMS 22-PI1-EX magnetic switch

A magnetic switch is used to monitor the status of automation components. They detect the approach of a magnet without contact and above a certain switching value, they put out a digital value. 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 metals without contact or wear, and are resistant to vibration, 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 category 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 MMS 22-PI1-EX 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

- ① Additional information regarding the products can be found on the following product pages or at [www.schunk.com](http://www.schunk.com).  
Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

# MMS 22-PI1-EX 22

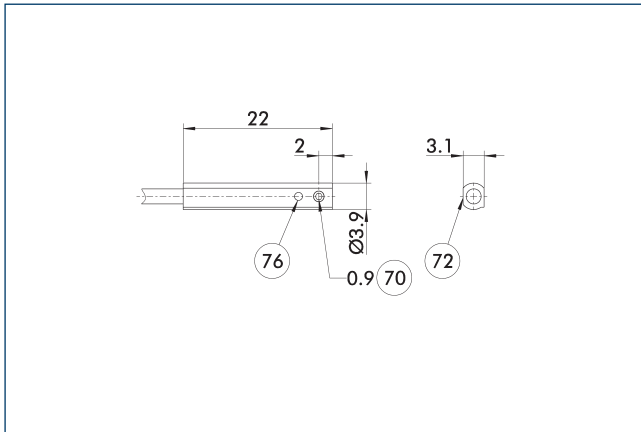
Programmable magnetic switches



## Technical data

Description		MMS 22-PI1-S-M8-PNP-EX	MMSK 22-PI1-S-PNP-EX
ID		1001354	1001355
<b>principle of function</b>			
Measuring principle		magnetic	magnetic
Switching function		Closer	Closer
Type of switching		PNP	PNP
Number of switching points		1	1
Teach function		yes	yes
<b>General data</b>			
typical switching time	[s]	0.001	0.001
Max. switching frequency	[Hz]	1000	1000
min./max. ambient temperature	[°C]	-10/70	-10/70
LED display in sensor		yes	yes
<b>Electrical operating data</b>			
Type of voltage		DC	DC
Nominal voltage	[V]	24	24
Min. / max. operating voltage	[V]	10/30	10/30
Voltage drop	[V]	1.5	1.5
Max. switching current	[A]	0.05	0.05
Short circuit protection		yes	yes
Protected against polarity reversal		yes	yes
<b>Mechanical operating data</b>			
Housing material		PA 12	PA 12
Cable connector/cable end		M8	open wire strands
Cable length L	[cm]	30	200
Cable diameter D	[mm]	2.1	2.1
Cable sheath material		PUR	PUR
Min. bending radius (dynamically)	[mm]	21	21
Min. bending radius (statically)	[mm]	10.5	10.5
<b>Approval / conformity</b>			
CE		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

## MMS(k) 22-PI1 main view

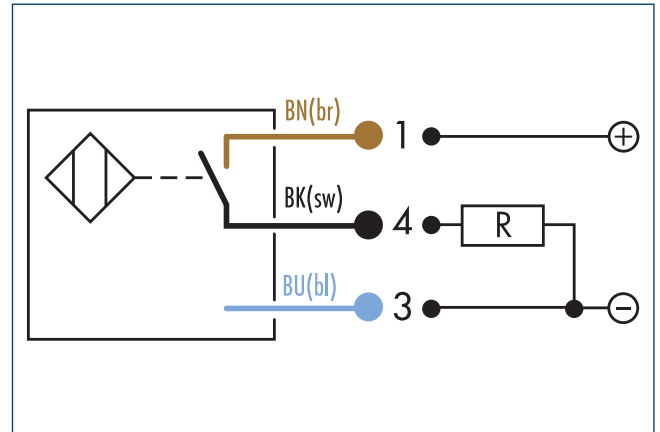


70 Wrench size

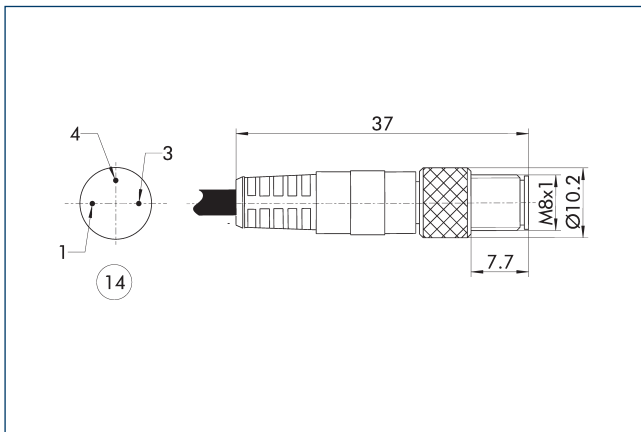
76 LED

72 Active sensor surface

## 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.

**SCHUNK GmbH & Co. KG**  
**Spann- und Greiftechnik**

Bahnhofstr. 106 – 134  
D-74348 Lauffen/Neckar  
Tel. +49-7133-103-0  
Fax +49-7133-103-2239  
info@de.schunk.com  
www.schunk.com

 [www.youtube.com/SCHUNKHQ](http://www.youtube.com/SCHUNKHQ)  
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*J. Lehmann*

Jens Lehmann, German goalkeeper legend, SCHUNK brand ambassador since 2012 for precise gripping and safe holding.  
[www.gb.schunk.com/Lehmann](http://www.gb.schunk.com/Lehmann)