

Magnetic Switches

Magnetic switches are used for monitoring the position of automation components. They detect the approach of a magnet without contact and, above a certain switching threshold, enable their output.



Function description

Magnetic switches react to magnetic fields. The resistors in the sensor consist of several ferromagnetic and non-magnetic layers. Two shielded and two non-shielded resistors are combined in a bridge circuit, which produces a signal proportional to the magnetic field when one is present. Above a threshold value, an output signal is switched via a comparator, and the sensor reacts.

Your advantages and benefits

Installation in the sensor slot

for space-saving, simple and fast assembly

Version with LED display

for checking the switching position directly at the sensor

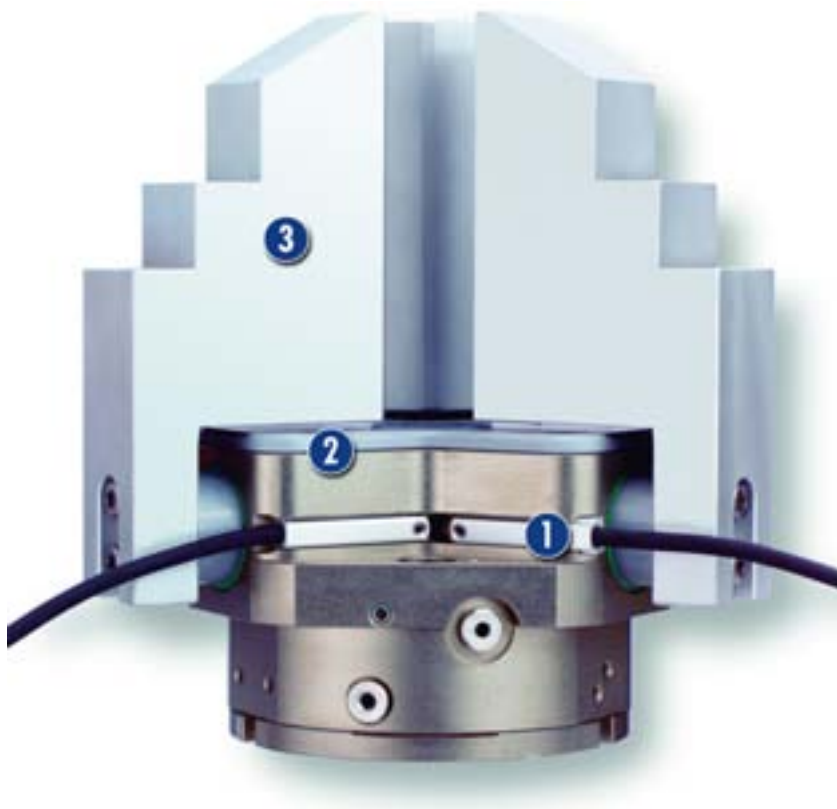
Version with connector

for easy, rapid replacement of the extension cable

Ultra-flexible PUR cable

for a long life and resistance to many chemicals

Application example



1 MMS Electronic Magnetic Switches for mounting in the C-slot of the gripper

2 Sealed 3-Finger Centric Gripper

3 Workpiece-specific Gripper Fingers

Area of application

For use in the monitoring of gripping and rotary modules, 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 fitted in slots and therefore do not form any additional interfering contours.

General information

Material

Sensor housing: PA in the MMS 22 and MZN, aluminum in the MMS 30
Cable: with PUR sheath

Fastening

Clamps in the sensor slot

Protection class according to DIN 40050

IP 67 in connected condition for use in clean or dusty environments or in the event of contact with water. Contact with other media (cooling lubricants, acidic or caustic substances, etc.) frequently does not impair the function, but this cannot be guaranteed by SCHUNK.

Voltage

10 – 30 V DC at < 10 % residual ripple

Switching method

PNP switching / NPN switching

Warranty

24 months

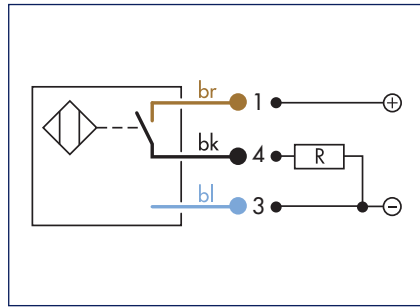
Notes

SCHUNK gripper, rotary and linear modules and robot accessory components that are to be monitored with electromagnetic slot-fitted switches can generally only be reliably monitored with the appropriate electromagnetic switches from SCHUNK.

Sensors and products are matched on the basis of the relationships between the parameters type and field strength of the magnet, distance, wall thickness and wall material of the magnet and the sensor, and the orientation and sensitivity of the sensor itself.

For this reason, sensors from other manufacturers employed in SCHUNK products rarely give satisfactory switching results.

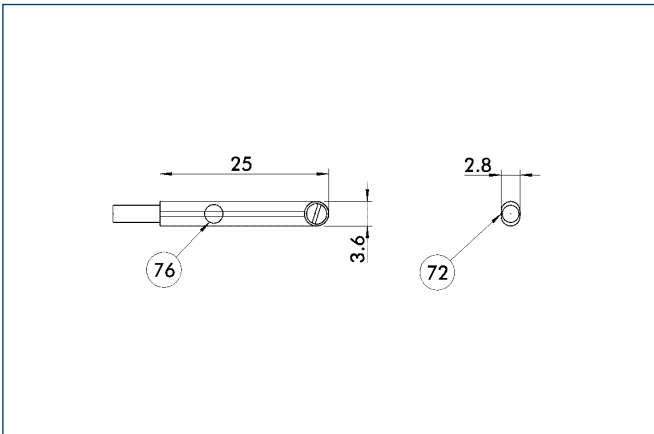
Circuit diagram of closer



Technical data

Description	MZN 1-06VPS-KRD	
ID	0312990	
Switching function	Closer	
Switching method	PNP	
Cable length	[cm]	50.0
Cable connector/cable end	M8	
Type of voltage	DC	
Nominal voltage	[V]	24.0
Min. voltage	[V]	10.0
Max. voltage	[V]	30.0
Voltage drop	[V]	2.5
Max. power on contact	[A]	0.07
Min. ambient temperature	[°C]	-25.0
Max. ambient temperature	[°C]	70.0
Typical switching time	[s]	0.001
IP class (sensor)	67	
IP class (connector, plugged in)	67	
LED display on sensor	Yes	
Cable diameter	[mm]	2.1
Min. bending radius (dynamic)	[mm]	25.0
Min. bending radius (static)	[mm]	12.0
No. of wires	3	
Wire cross section	[mm ²]	

MZN sensor



- ⑦② Active sensor surface
- ⑦⑥ LED

M8 connector

