



Superior Clamping and Gripping



Product Information

Magnetic switches J02P/N

Non-contact. Easy. Cost-effective.

Electronic magnetic switch J02

A magnetic switch is used for monitoring 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 signal.

Field of application

Used in the monitoring of gripping modules in clean environments with lower requirements on load and service life as well as shorter system run times.

Advantages – Your benefits

Installation into the sensor groove for space-saving, easy, and fast assembly on the product

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



Options and special information

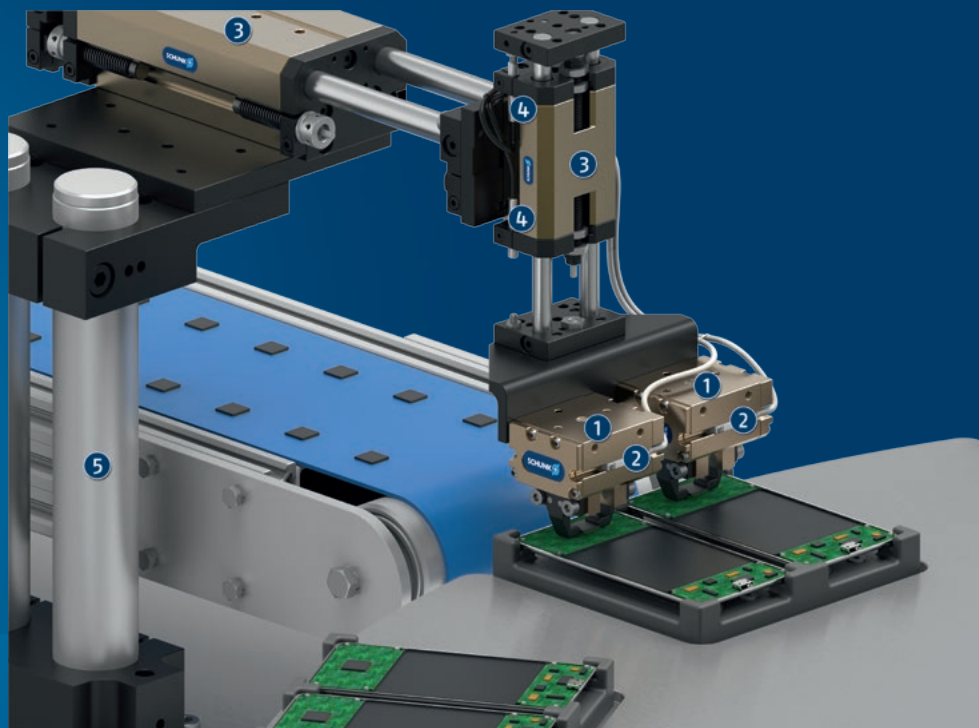
Functional description: Magnetic switches respond to magnetic fields. In the sensor, two shielded and two non-shielded resistors are combined with a bridge connection. In case of presence of a magnetic field, a large signal will be obtained, which is proportional to the size of the magnetic field. Starting from a certain threshold, an output signal is switched via a comparator, and the sensor responds.

Signal output and switching type: The sensors are available in a design with signal output of closer and in the switching types PNP (J02P) and NPN (J02N).

Versions with connector or cable end: The sensor is available in the versions with a plug connector (30 cm cable, M8 connector) or open cable outlet (2 m cable, open strands).

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.

Application example



Pick & Place application for loading electronic components with sensor monitoring on the double gripper

- ① Gripper for small components MPC
- ② Magnetic switch J02
- ③ KLM linear module
- ④ Inductive proximity switches IN
- ⑤ Pillar assembly system

SCHUNK offers more ...

The following components make the product J02P/N even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Gripper for small components



Connection cables



Sensor distributor



SST sensor tester

① For more information on these products can be found on the following product pages or at schunk.com. Please contact us: SCHUNK technical hotline +49-7133-103-2696

J02 J02P/N

Magnetic switches

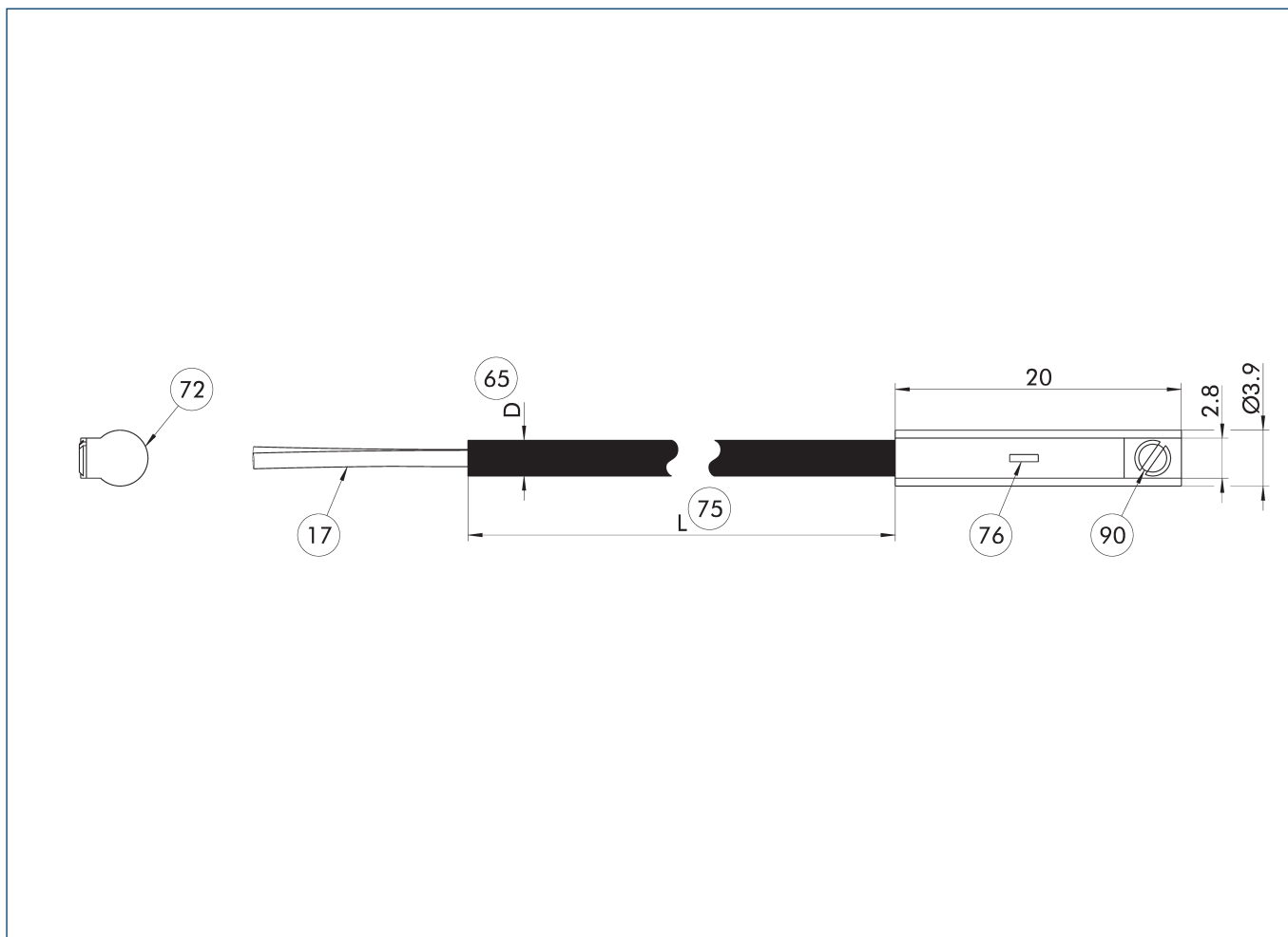


Technical data

Description		J02P-2M	J02P-Q8	J02N-2M	J02N-Q8
ID		1353035	1353072	1353058	1353073
Principle of function					
Switching function		Closer	Closer	Closer	Closer
Type of switching		PNP	PNP	NPN	NPN
Number of switching points		1	1	1	1
Teach function		no	no	no	no
General data					
Max. switching frequency	[Hz]	3000	3000	3000	3000
Min./max. ambient temperature	[°C]	-25/70	-25/70	-25/70	-25/70
LED display in sensor		yes	yes	yes	yes
Electrical operating data					
Type of voltage		DC	DC	DC	DC
Nominal voltage	[V DC]	24	24	24	24
Min./max. operating voltage	[V DC]	10/28	10/28	10/28	10/28
Voltage drop	[V]	0.8	0.8	0.8	0.8
Max. switching current	[mA]	50	50	50	50
Short circuit protection		yes	yes	yes	yes
Protected against polarity reversal		yes	yes	yes	yes
Mechanical operating data					
Housing material		PA	PA	PA	PA
Cable connector/cable end		open wire strands	M8, 3-pin Male Connector	open wire strands	M8, 3-pin Male Connector
Cable length L	[cm]	200	30	200	30
Cable diameter D	[mm]	2.6	2.6	2.6	2.6
Cable design (wire cross section / number of wires)		3x 0,13 mm ²	3x 0,13 mm ²	3x 0,13 mm ²	3x 0,13 mm ²
Cable sheath material		PVC	PVC	PVC	PVC
Min. bending radius (static)	[mm]	26	26	26	26
Weight	[g]	22	7	22	7
Protection class IP (sensor, plugged)		67	67	67	67
Protection class		III	III	III	III

ⓘ The connection cable of the sensor may only be laid statically. A dynamic payload is not permitted.

J02x-2M - Main view



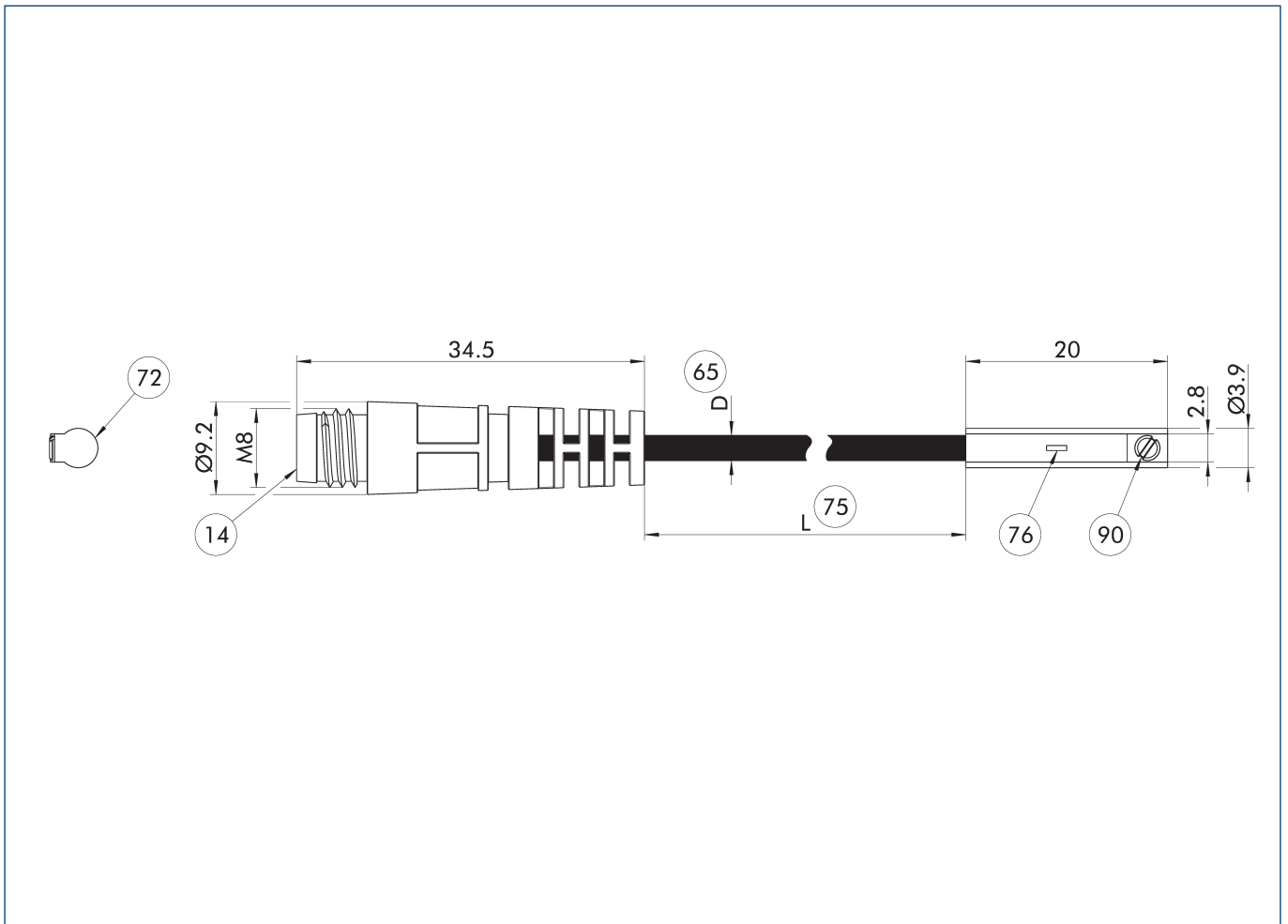
The drawing shows the sensor with a connection cable. For further information, including among other things details on cable diameter and cable length, see the technical data table.

- ①7 Cable outlet
- ⑥5 Cable diameter
- ⑦2 Active sensor surface
- ⑦5 Cable length
- ⑦6 LED
- ⑨0 Fastening screw

J02 J02P/N

Magnetic switches

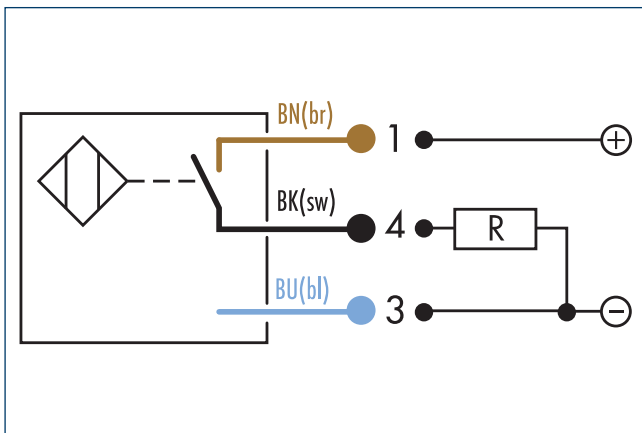
J02x-Q8 - Main view



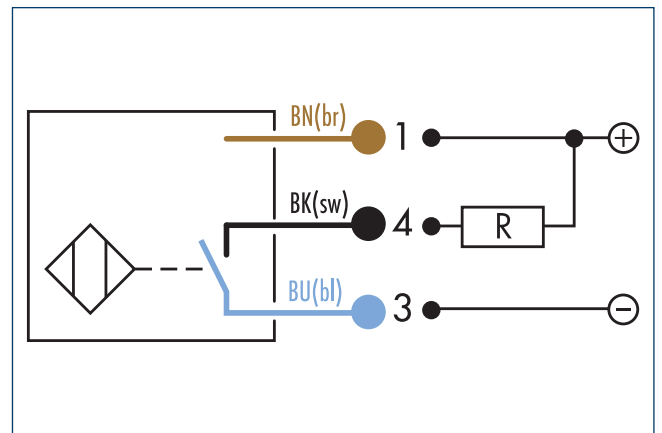
The drawing shows the sensor with a connection cable and plug connector. For further information, for example on cable diameter and cable length, see the technical data table.

- | | |
|--------------------------|--------------------|
| ⑭ Connector | ⑦⑤ Cable length |
| ⑥⑤ Cable diameter | ⑦⑥ LED |
| ⑦② Active sensor surface | ⑨① Fastening screw |

Wiring diagram closer PNP



Circuit diagram of NPN closer



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Folgen Sie uns



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Jens Lehmann, German goalkeeper legend, SCHUNK brand ambassador since 2012 for safe, precise gripping and holding.
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