Hand in hand for tomorrow

SCHUNK®

Product data sheet

Inductive proximity switches IN 41

Reliable. Non-contact. Easy assembly.

Inductive proximity switches IN

Inductive proximity switches are used to scan the current status of automation components. They are offered by SCHUNK in versions IN and INK. The version IN is directly pluggable or has a molded cable with plug connector. The INK version is suitable for direct wiring. It has a molded cable with an open end.

Field of application

Sensors are used for monitoring gripping and rotary modules as well as linear axes and robot accessories. Inductive SCHUNK sensors detect metals without contact, and are resistant to vibrations, dust, and water. The sensors are suitable for connection to a digital input module.

Advantages – Your benefits

Mounting with brackets for easy and fast assembly

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

Proximity switches for flush mounting for minimal interfering contours in the application

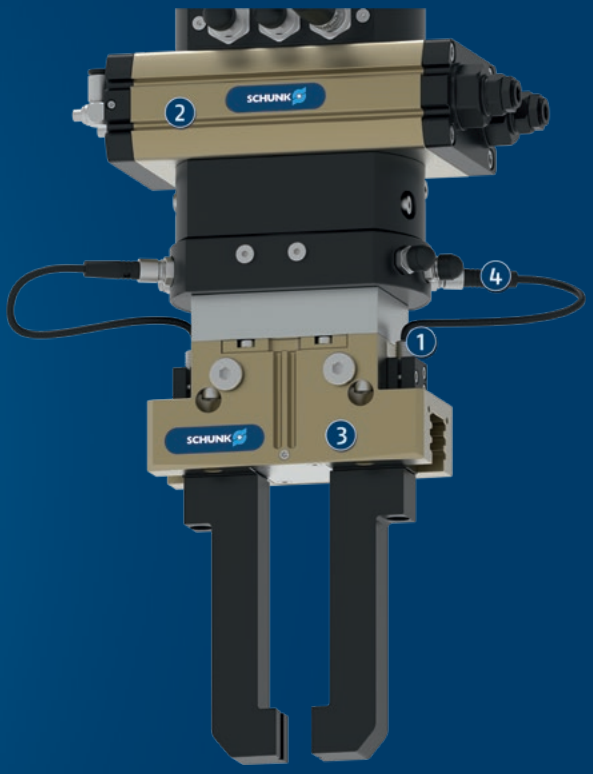
Options and special information

Functional description: With their oscillator coil, inductive proximity switches produce a high-frequency, alternating magnetic field. This field occurs on the active surface of the sensor. If a metal object enters the field, it draws energy from the magnetic field, thereby reducing the oscillation amplitude. This change is detected, and the sensor switches.

Signal output and switching type: Depending on the size and design of the sensors, they are available with the signal outputs opener and closer, and in the switching modes PNP and NPN. Please contact us for assistance.

High protection class: IP67 when plugged in, for use in clean or dusty environments or in case of contact with water. Operability in case of contact with other media (coolant, acids, bases, etc.) is often given, however cannot be guaranteed by SCHUNK.

Application example



Handling and rotary unit for components with sensor monitoring on the gripping module

① **IN sensors**

② **Universal rotary actuator SRM**

③ **2-finger parallel gripper PGN-plus-P**

④ **KST cable connector**

SCHUNK offers more ...

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

2-finger parallel gripper

Rotary unit

Sensor cables

Sensor distributor

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

IN 41

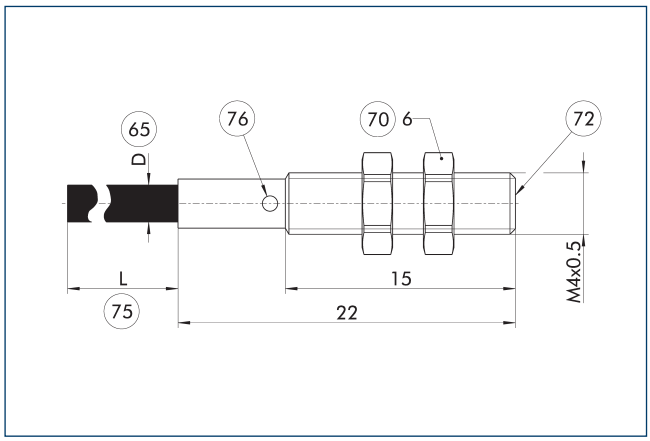
Inductive proximity switches

Technical data

Description		IN 41-S-M8-PNP
ID		1325755
Operating principle		
Measuring principle		inductive
Switching function		Closer
Type of switching		PNP
Number of switching points		1
Teach function		no
General data		
Switching distance	[mm]	0.8
Switching hysterisis from the nominal switching distance		< 15%
Max. switching frequency	[Hz]	3000
Min./max. ambient temperature	[°C]	-25/75
LED display in sensor		yes
Electrical operating data		
Type of voltage		DC
Nominal voltage	[V]	24
Min./max. operating voltage	[V]	6/30
Voltage drop	[V]	2
Max. switching current	[A]	0.1
Short circuit protection		yes
Protected against polarity reversal		yes
Mechanical operating data		
Housing material		stainless steel
Cable connector/cable end		M8 connector, 3-pin
Cable length L	[cm]	20
Cable diameter D	[mm]	2.4
Cable design (wire cross section/ number of wires)		3x 0.14mm2
Cable sheath material		PUR
Min. bending radius (dynamic)	[mm]	24
Min. bending radius (static)	[mm]	24
Weight	[kg]	0.007
Protection class IP (sensor, plugged)		67
Protection class		III
Drilling emulsion resistance *		no

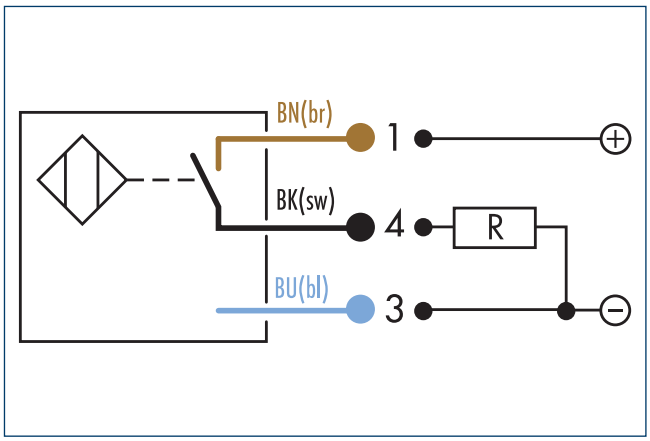
* *Tested cutting emulsions: r.rhenus TU 43P, Motorex Swisscool Magnum UX 550 and Oemeta 760 (1008339).

Main view

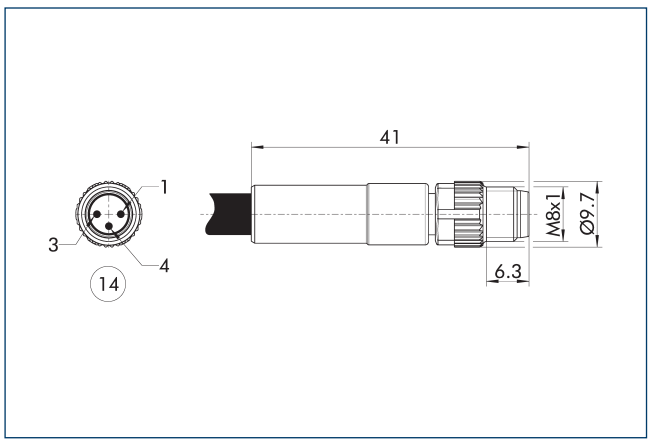


65 Cable diameter
70 Wrench size
72 Active sensor surface
75 Cable length
76 LED

Wiring diagram closer PNP

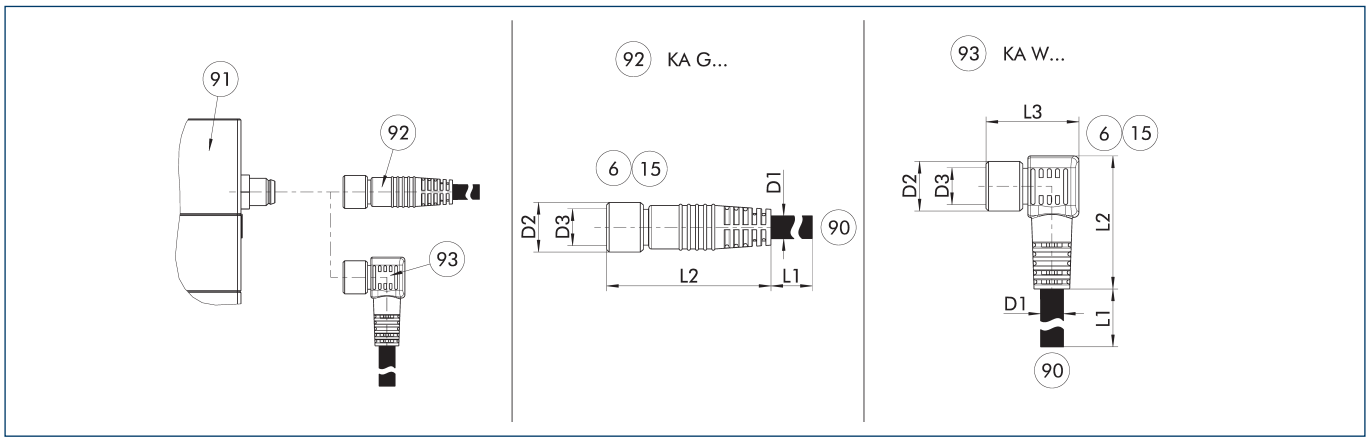


View of M8 connector (3-pin)



14 Connector

Voltage supply/signals connection cable



KA G... Connection cable with straight socket

KA W... Connection cable with angular socket

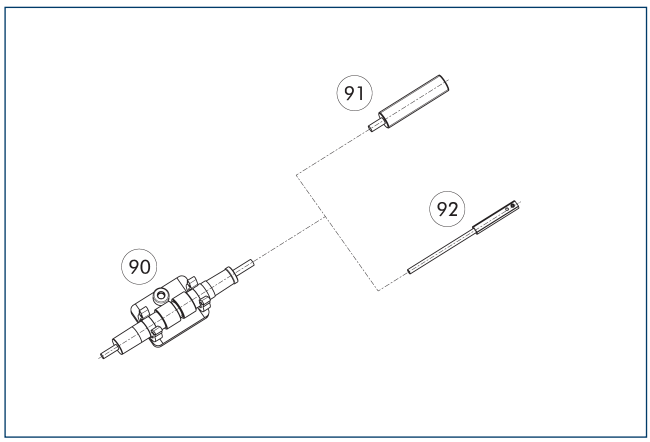
(6) Connection module side
(15) Socket
(90) SAC connection cable with open wire strands
(91) Connection plug component
(92) Cable with straight female connector
(93) Cable with angled female connector

The connection cable is ideal for connecting the corresponding components to the controller or the power supply unit. The connection cable has an M8 socket on one side and an open wire strand on the other side for individual connections. The connection cables are suitable for use both in the cable track as well as in torsion applications.

Description	ID	L1	D1	D3	Often combined
		[m]	[mm]		
Connection cables					
KA BG08-L 3P-0300-PNP	0301622	3	4.5		●
KA BG08-L 3P-0500-PNP	0301623	5	4.5	M8	
KA BW08-L 3P-0300-PNP	0301594	3	4.5		
KA BW08-L 3P-0500-PNP	0301502	5	4.5	M8	

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

Clip for connector/socket



(90) CLI plug bracket
(91) IN proximity switch
(92) Magnetic switch MMS

The CLI clip is used for fastening and strain relief for the plug connectors. For example for the sensor and cable extension connection.

Description	ID	
Clip for connector/socket		
CLI-M8	0301463	

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