

Reliable. Non-contact. Easy Assembly.

Inductive Proximity Switches IN

Inductive proximity switches are used to monitor the current status of automation components. SCHUNK supplies them in two versions – IN (sensor with 30 cm molded cable and cable connector) and INK (sensor with 2 m supply cable and wire strands for connecting).

Field of Application

For monitoring of gripping and rotary modules, linear modules, and robot accessories. Inductive SCHUNK sensors detect metals without contact and are resistant to vibration, dust, and humidity. For connection with a digital input module (utilization categorie DC-12).

Advantages – Your benefit

Mounting using brackets for easy and fast attachment

Version with LED-display for checking the switching position directly at the sensor

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

Very flexible cable in PUR-version for a long service lifetime and resistance against many chemicals

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



Options and special Information

Protection class as per DIN 40050 IP67 in plugged position for the use in clean or dusty environments or if contact with water is given. Functionability in case of contact with other mediums (coolant, acids, bases, etc.) is often given, however cannot be guaranteed by SCHUNK.

Power supply 10 – 30 V DC, residual ripple < 15%

Type of switching PNP

Warranty 24 months (details, general terms and conditions, and operation manuals can be downloaded at www.schunk.com)

Application Example



① Plug-in sensors IN

② Universal Rotary Actuator SRU-plus

③ Universal Gripper PGN-plus

④ Cable Connector KST

SCHUNK offers more ...

The following components make the IN even more productive – the perfect complement for highest functionality, flexibility, and process reliability.



Sensor Cables



Sensor Distributor

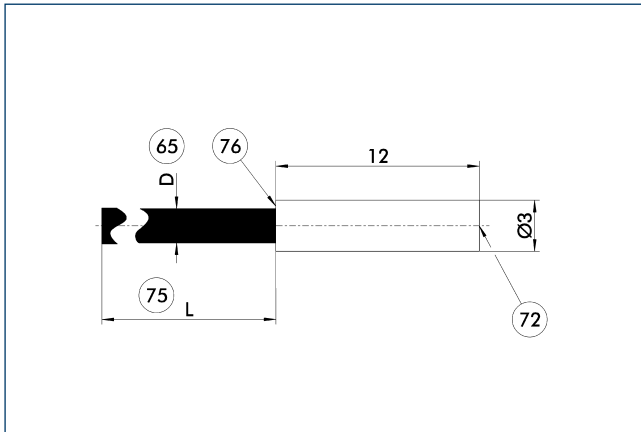
① Further information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696



Technical data

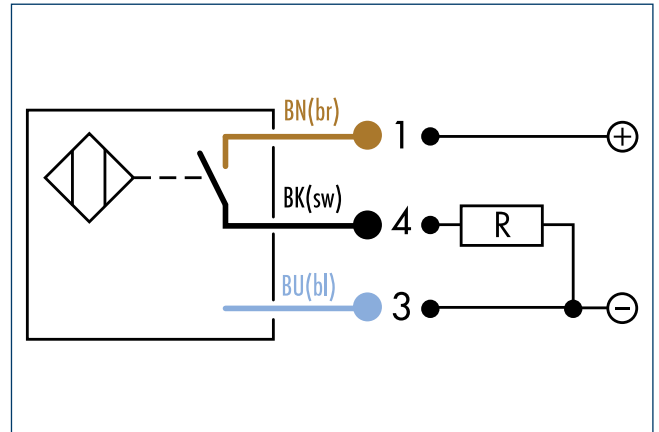
Description		IN 3-S-M8-PNP
ID		0301466
Switching function		Closer
Type of switching		PNP
Switching distance	[mm]	0.8
Switching hysteresis from the nominal switching distance		< 5%
max. switching frequency	[Hz]	3000
Product weight	[kg]	0.05
min. / max. ambient temperature	[°C]	-25/75
IP class (sensor)		67
IP class (sensor connected)		67
Type of voltage		DC
Nominal voltage	[V]	24
min. voltage	[V]	10
max. voltage	[V]	30
Voltage drop	[V]	2
max. switching current	[A]	0.1
Cable diameter D	[mm]	2.5
min. bending radius (dynamically)	[mm]	25
min. bending radius (statically)	[mm]	12.5
Number of wires		3
Wire cross section	[mm²]	0.14
Cable length L	[cm]	20
Cable connector / cable end		M8

IN 3 main view

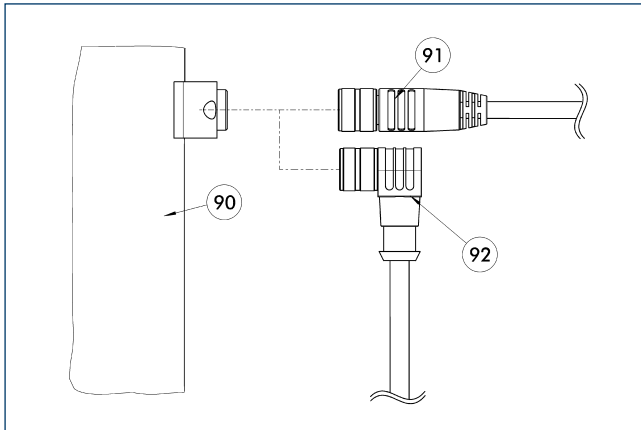


- 65 Cable diameter
72 Active sensor surface
75 Cable length
76 LED

Circuit diagram of PNP closer



Cable connector / cable extension



- 90 Connecting point for component
91 Cable with straight connection
92 Cable with angular connection

Description	ID	Length	Connection electric cabinet sided	often combined
Connection cables				
KA BG08-L 3P-0300-PNP	0301622	3 m	open wires	●
KA BG08-L 3P-0500-PNP	0301623	5 m	open wires	
KA BW08-L 3P-0300-PNP	0301594	3 m	open wires	
KA BW08-L 3P-0500-PNP	0301502	5 m	open wires	
Cable extensions				
KV BW08-SG08 3P-0030-PNP	0301495	0.3 m	Connector	
KV BW08-SG08 3P-0100-PNP	0301496	1 m	Connector	
KV BW08-SG08 3P-0200-PNP	0301497	2 m	Connector	●

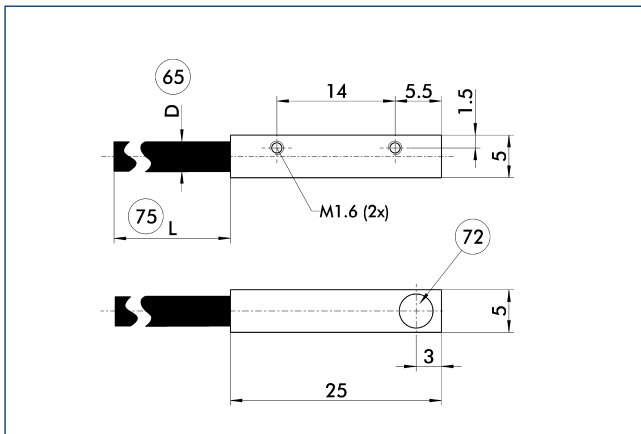
- ① BG stands for a connection cable with a straight female connector and BW for an angled female connector.



Technical data

Description		IN 5-S-M8	IN 5-S-M12	INK 5-S
ID		0301469	0301569	0301501
Switching function		Closer	Closer	Closer
Type of switching		PNP	PNP	PNP
Switching distance	[mm]	1	1	1
Switching hysteresis from the nominal switching distance		< 15%	< 15%	< 15%
max. switching frequency	[Hz]	3000	3000	3000
Product weight	[kg]	0.05	0.05	0.06
min. / max. ambient temperature	[°C]	-25/70	-25/70	-25/70
IP class (sensor)		67	67	67
IP class (sensor connected)		67	67	67
LED display in sensor		no	no	no
Type of voltage		DC	DC	DC
Nominal voltage	[V]	24	24	24
min. voltage	[V]	10	10	10
max. voltage	[V]	30	30	30
Voltage drop	[V]	1.5	1.5	1.5
max. switching current	[A]	0.2	0.2	0.2
Cable diameter D	[mm]	3.5	3.5	3.5
min. bending radius (dynamically)	[mm]	35	35	35
min. bending radius (statically)	[mm]	17.5	17.5	17.5
Number of wires		3	3	3
Wire cross section	[mm²]	0.14	0.14	0.14
Cable length L	[cm]	30	30	200
Cable connector / cable end		M8	M12	open wires

IN 5 main view

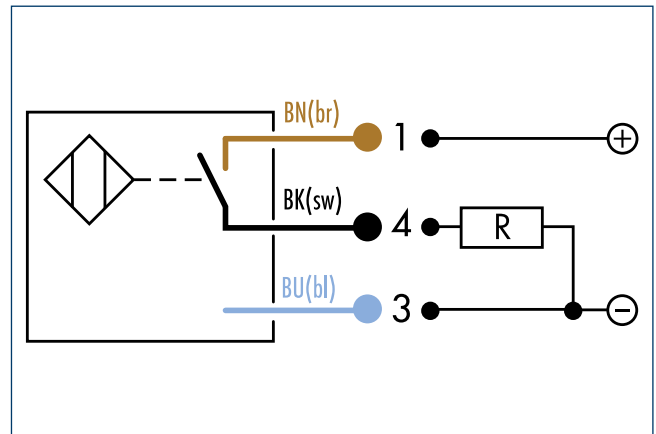


65 Cable diameter

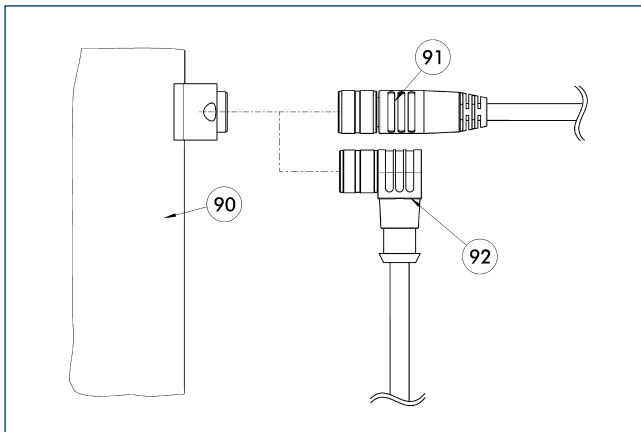
75 Cable length

72 Active sensor surface

Circuit diagram of PNP closer



Cable connector / cable extension



90 Connecting point for component

91 Cable with straight connection

92 Cable with angular connection

Description	ID	Length	Connection electric cabinet sided	often combined
Connection cables				
KA BG08-L 3P-0300-PNP	0301622	3 m	open wires	●
KA BG08-L 3P-0500-PNP	0301623	5 m	open wires	
KA BG12-L 3P-0500-PNP	30016369	5 m	open wires	
KA BW08-L 3P-0300-PNP	0301594	3 m	open wires	
KA BW08-L 3P-0500-PNP	0301502	5 m	open wires	
KA BW12-L 3P-0300-PNP	0301503	3 m	open wires	
KA BW12-L 3P-0500-PNP	0301507	5 m	open wires	
Cable extensions				
KV BG12-SG12 3P-0030-PNP	0301999	0.3 m	Connector	
KV BG12-SG12 3P-0060-PNP	0301998	0.6 m	Connector	
KV BW08-SG08 3P-0030-PNP	0301495	0.3 m	Connector	
KV BW08-SG08 3P-0100-PNP	0301496	1 m	Connector	
KV BW08-SG08 3P-0200-PNP	0301497	2 m	Connector	●
KV BW12-SG12 3P-0030-PNP	0301595	0.3 m	Connector	
KV BW12-SG12 3P-0100-PNP	0301596	1 m	Connector	
KV BW12-SG12 3P-0200-PNP	0301597	2 m	Connector	

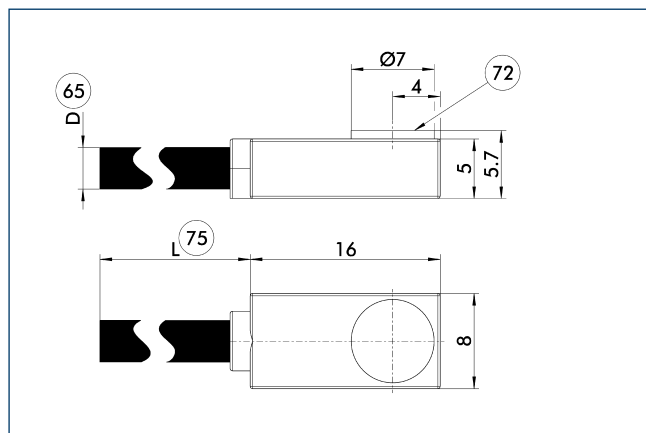
① BG stands for a connection cable with a straight female connector and BW for an angled female connector.



Technical data

Description		IN 8-S-M8	IN 8-S-M12	INK 8-S
ID		0301481	0301581	9700052
Switching function		Closer	Closer	Closer
Type of switching		PNP	PNP	PNP
Switching distance	[mm]	1.5	1.5	0.8
Switching hysteresis from the nominal switching distance		< 10%	< 10%	< 15%
max. switching frequency	[Hz]	3000	3000	3000
Product weight	[kg]	0.04	0.08	0.01
min. / max. ambient temperature	[°C]	-25/70	-25/70	-25/70
IP class (sensor)		67	67	67
IP class (sensor connected)		67	67	67
LED display in sensor		no	no	no
Type of voltage		DC	DC	DC
Nominal voltage	[V]	24	24	24
min. voltage	[V]	10	10	10
max. voltage	[V]	30	30	30
Voltage drop	[V]	1.5	1.5	1.5
max. switching current	[A]	0.2	0.2	0.2
Cable diameter D	[mm]	3.5	3.5	3.5
min. bending radius (dynamically)	[mm]	35	35	35
min. bending radius (statically)	[mm]	17.5	17.5	17.5
Number of wires		3	3	3
Wire cross section	[mm²]	0.14	0.14	0.14
Cable length L	[cm]	30	30	200
Cable connector / cable end		M8	M12	open wires

IN 8 main view

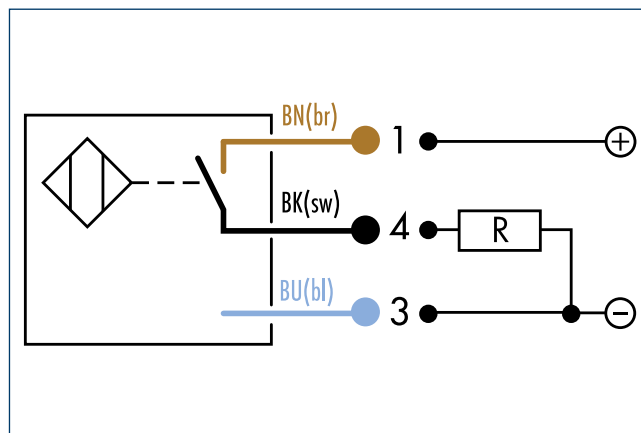


65 Cable diameter

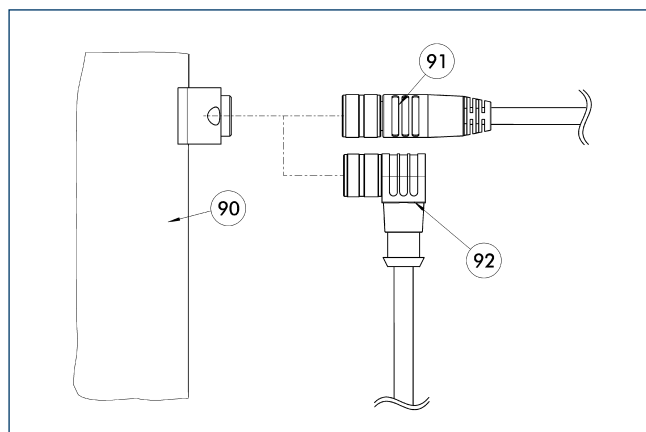
75 Cable length

72 Active sensor surface

Circuit diagram of PNP closer



Cable connector / cable extension



90 Connecting point for component

91 Cable with straight connection

92 Cable with angular connection

Description	ID	Length	Connection electric cabinet sided	often combined
Connection cables				
KA BG08-L 3P-0300-PNP	0301622	3 m	open wires	●
KA BG08-L 3P-0500-PNP	0301623	5 m	open wires	
KA BG12-L 3P-0500-PNP	30016369	5 m	open wires	
KA BW08-L 3P-0300-PNP	0301594	3 m	open wires	
KA BW08-L 3P-0500-PNP	0301502	5 m	open wires	
KA BW12-L 3P-0300-PNP	0301503	3 m	open wires	
KA BW12-L 3P-0500-PNP	0301507	5 m	open wires	
Cable extensions				
KV BG12-SG12 3P-0030-PNP	0301999	0.3 m	Connector	
KV BG12-SG12 3P-0060-PNP	0301998	0.6 m	Connector	
KV BW08-SG08 3P-0030-PNP	0301495	0.3 m	Connector	
KV BW08-SG08 3P-0100-PNP	0301496	1 m	Connector	
KV BW08-SG08 3P-0200-PNP	0301497	2 m	Connector	●
KV BW12-SG12 3P-0030-PNP	0301595	0.3 m	Connector	
KV BW12-SG12 3P-0100-PNP	0301596	1 m	Connector	
KV BW12-SG12 3P-0200-PNP	0301597	2 m	Connector	

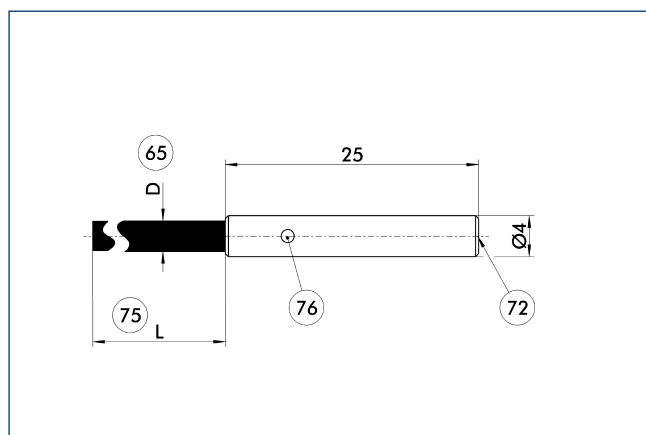
① BG stands for a connection cable with a straight female connector and BW for an angled female connector.



Technical data

Description		IN 40-S-M8	IN 40-S-M12	INK 40-S	IN 40-O-M8	IN 40-O-M12	INK 40-O
ID		0301474	0301574	0301555	0301484	0301584	0301556
Switching function		Closer	Closer	Closer	Opener	Opener	Opener
Type of switching		PNP	PNP	PNP	PNP	PNP	PNP
Switching distance	[mm]	0.8	0.6	0.8	0.6	0.6	0.8
Switching hysteresis from the nominal switching distance		< 5%	< 5%	< 5%	< 5%	< 5%	< 5%
max. switching frequency	[Hz]	3000	3000	3000	3000	3000	3000
Product weight	[kg]	0.04	0.05	0.06	0.04	0.05	0.04
min. / max. ambient temperature	[°C]	-25/70	-25/70	-25/70	-25/70	-25/70	-25/70
IP class (sensor)		67	67	67	67	67	67
IP class (sensor connected)		67	67	67	67	67	67
LED display in sensor		yes	yes	yes	yes	yes	yes
Type of voltage		DC	DC	DC	DC	DC	DC
Nominal voltage	[V]	24	24	24	24	24	24
min. voltage	[V]	10	10	10	10	10	10
max. voltage	[V]	30	30	30	30	30	30
Voltage drop	[V]	0.6	0.6	0.6	0.6	0.6	0.6
max. switching current	[A]	0.2	0.2	0.2	0.2	0.2	0.2
Cable diameter D	[mm]	3.5	3.5	3.5	3.5	3.5	3.5
min. bending radius (dynamically)	[mm]	35	35	35	35	35	35
min. bending radius (statically)	[mm]	17.5	17.5	17.5	17.5	17.5	17.5
Number of wires		3	3	3	3	3	3
Wire cross section	[mm²]	0.14	0.14	0.14	0.14	0.14	0.14
Cable length L	[cm]	30	30	200	30	30	200
Cable connector / cable end		M8	M12	open wires	M8	M12	open wires
Options and their characteristics							
Version with lateral cable outlet		IN 40-S-M8-SA	IN 40-S-M12-SA	INK 40-S-SA			
ID		0301473	0301577	0301565			

IN 40 main view



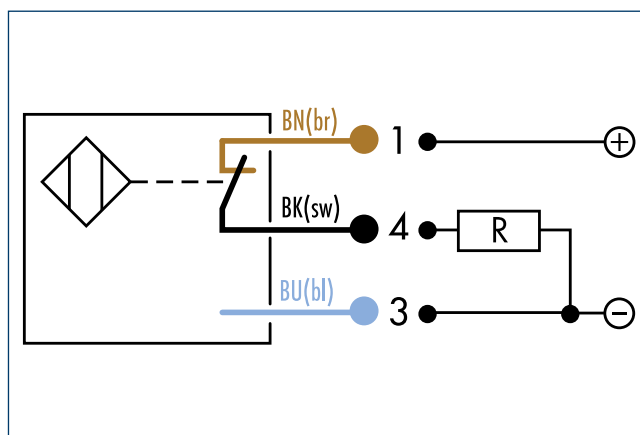
65 Cable diameter

75 Cable length

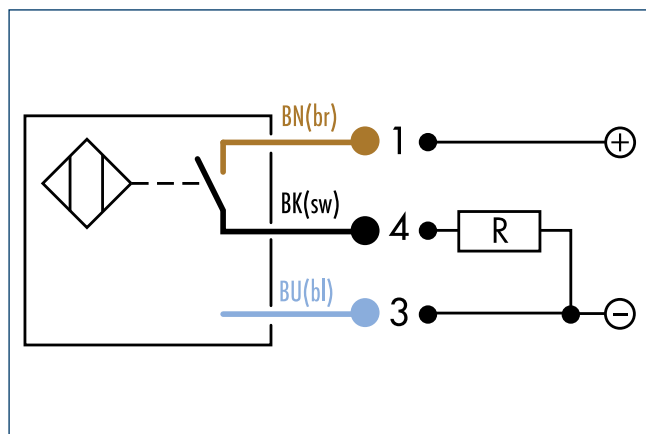
72 Active sensor surface

76 LED

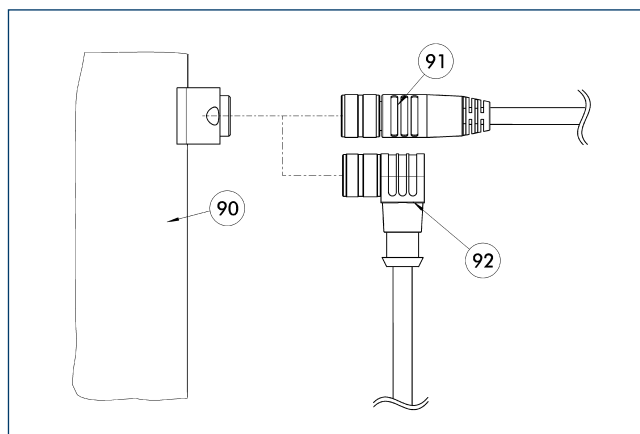
Wiring diagram opener PNP



Circuit diagram of PNP closer



Cable connector / cable extension



90 Connecting point for component

91 Cable with straight connection

92 Cable with angular connection

Description	ID	Length	Connection electric cabinet sided	often combined
Connection cables				
KA BG08-L 3P-0300-PNP	0301622	3 m	open wires	●
KA BG08-L 3P-0500-PNP	0301623	5 m	open wires	
KA BG12-L 3P-0500-PNP	30016369	5 m	open wires	
KA BW08-L 3P-0300-PNP	0301594	3 m	open wires	
KA BW08-L 3P-0500-PNP	0301502	5 m	open wires	
KA BW12-L 3P-0300-PNP	0301503	3 m	open wires	
KA BW12-L 3P-0500-PNP	0301507	5 m	open wires	
Cable extensions				
KV BG12-SG12 3P-0030-PNP	0301999	0.3 m	Connector	
KV BG12-SG12 3P-0060-PNP	0301998	0.6 m	Connector	
KV BW08-SG08 3P-0030-PNP	0301495	0.3 m	Connector	
KV BW08-SG08 3P-0100-PNP	0301496	1 m	Connector	
KV BW08-SG08 3P-0200-PNP	0301497	2 m	Connector	●
KV BW12-SG12 3P-0030-PNP	0301595	0.3 m	Connector	
KV BW12-SG12 3P-0100-PNP	0301596	1 m	Connector	
KV BW12-SG12 3P-0200-PNP	0301597	2 m	Connector	

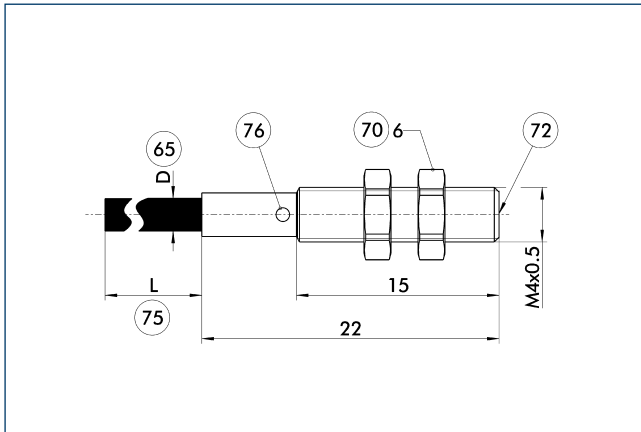
① BG stands for a connection cable with a straight female connector and BW for an angled female connector.



Technical data

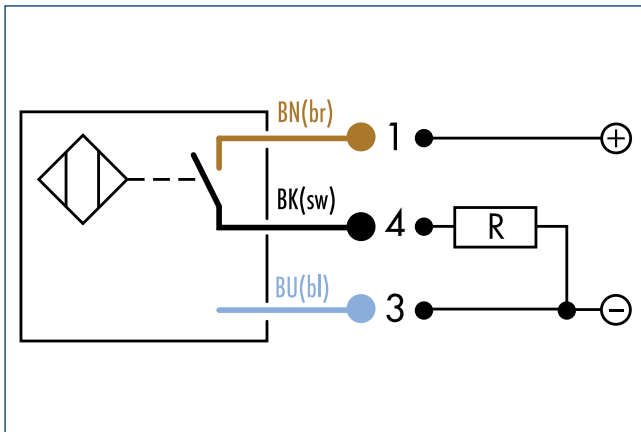
Description		IN 41-S-M8
ID		9941216
Switching hysteresis from the nominal switching distance		< 15%
max. switching frequency	[Hz]	3000
min. / max. ambient temperature	[°C]	-25/70
IP class (sensor)		67
IP class (sensor connected)		67
LED display in sensor		no
Type of voltage		DC
Nominal voltage	[V]	24
min. voltage	[V]	10
max. voltage	[V]	30
Voltage drop	[V]	1.5
max. switching current	[A]	0.2
Cable diameter D	[mm]	3.5
min. bending radius (dynamically)	[mm]	35
min. bending radius (statically)	[mm]	17.5
Number of wires		3
Wire cross section	[mm²]	0.14

IN 41 main view

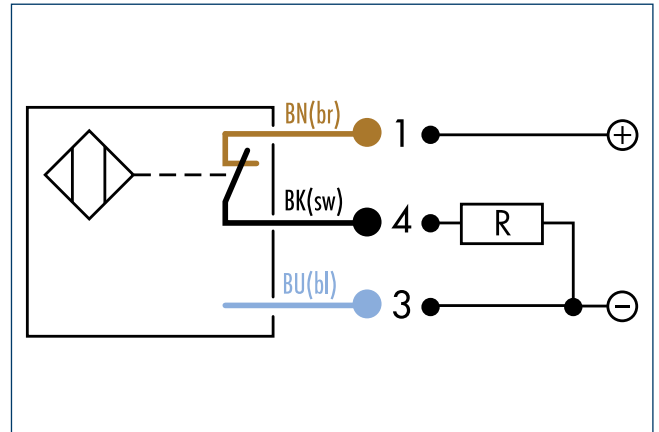


- 65 Cable diameter
 70 Wrench size
 72 Active sensor surface
 75 Cable length
 76 LED

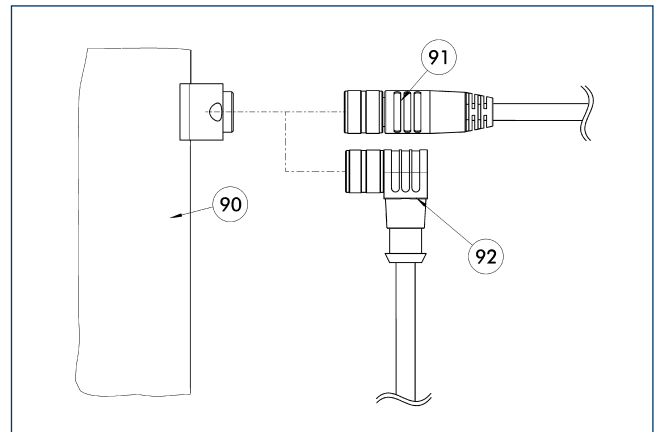
Circuit diagram of PNP closer



Wiring diagram opener PNP



Cable connector / cable extension



- 90 Connecting point for component
 91 Cable with straight connection
 92 Cable with angular connection

Description	ID	Length	Connection electric cabinet sided	often combined
Connection cables				
KA BG08-L 3P-0300-PNP	0301622	3 m	open wires	●
KA BG08-L 3P-0500-PNP	0301623	5 m	open wires	
KA BW08-L 3P-0300-PNP	0301594	3 m	open wires	
KA BW08-L 3P-0500-PNP	0301502	5 m	open wires	
Cable extensions				
KV BW08-SG08 3P-0030-PNP	0301495	0.3 m	Connector	
KV BW08-SG08 3P-0100-PNP	0301496	1 m	Connector	
KV BW08-SG08 3P-0200-PNP	0301497	2 m	Connector	●

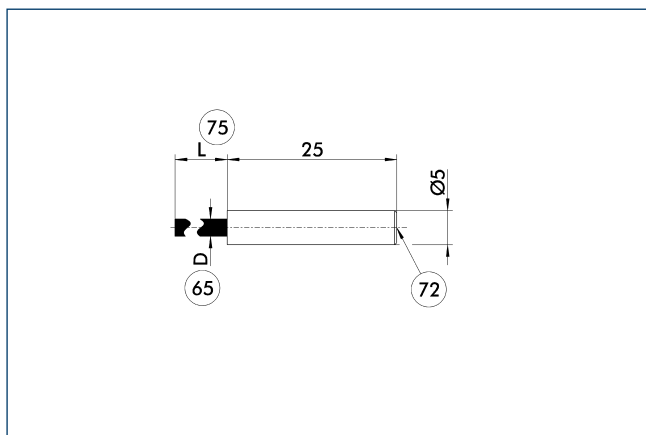
- ① BG stands for a connection cable with a straight female connector and BW for an angled female connector.



Technical data

Description		IN 50-S-M8	IN 50-S-M12	INK 50-S
ID		0301568	0301575	0301560
Switching function		Closer	Closer	Closer
Type of switching		PNP	PNP	PNP
Switching distance	[mm]	1	1	1
Switching hysteresis from the nominal switching distance		< 5%	< 5%	< 5%
max. switching frequency	[Hz]	3000	3000	3000
Product weight	[kg]	0.07	0.07	0.01
min. / max. ambient temperature	[°C]	-25/70	-25/70	-25/70
IP class (sensor)		67	67	67
IP class (sensor connected)		67	67	67
LED display in sensor		yes	yes	no
Type of voltage		DC	DC	DC
Nominal voltage	[V]	24	24	24
min. voltage	[V]	10	10	10
max. voltage	[V]	30	30	30
Voltage drop	[V]	2	2	2
max. switching current	[A]	0.2	0.2	0.2
Cable diameter D	[mm]	3.5	3.5	3.5
min. bending radius (dynamically)	[mm]	35	35	35
min. bending radius (statically)	[mm]	17.5	17.5	17.5
Number of wires		3	3	3
Wire cross section	[mm²]	0.14	0.14	0.14
Cable length L	[cm]	30	30	200
Cable connector / cable end		M8	M12	open wires

IN 50 main view

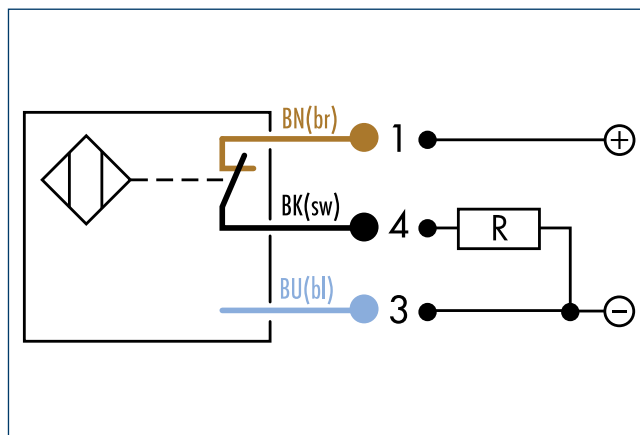


65 Cable diameter

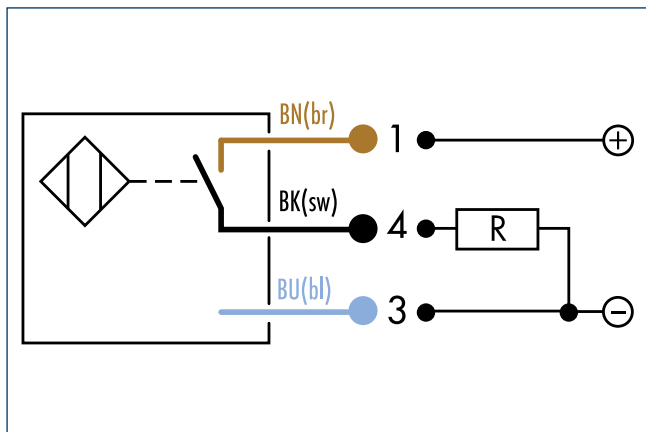
75 Cable length

72 Active sensor surface

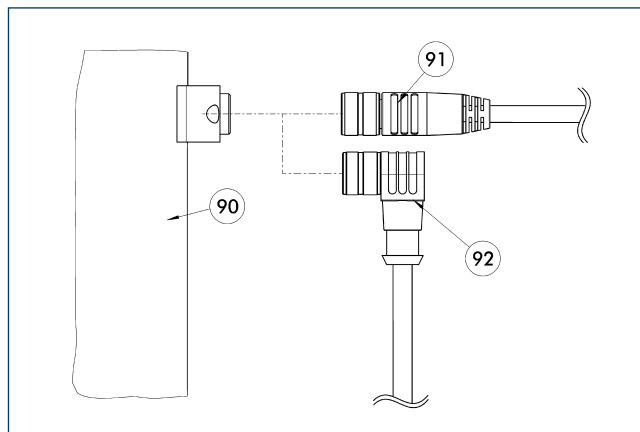
Wiring diagram opener PNP



Circuit diagram of PNP closer



Cable connector / cable extension



90 Connecting point for component

91 Cable with straight connection

92 Cable with angular connection

Description	ID	Length	Connection electric cabinet sided	often combined
Connection cables				
KA BG08-L 3P-0300-PNP	0301622	3 m	open wires	●
KA BG08-L 3P-0500-PNP	0301623	5 m	open wires	
KA BG12-L 3P-0500-PNP	30016369	5 m	open wires	
KA BW08-L 3P-0300-PNP	0301594	3 m	open wires	
KA BW08-L 3P-0500-PNP	0301502	5 m	open wires	
KA BW12-L 3P-0300-PNP	0301503	3 m	open wires	
KA BW12-L 3P-0500-PNP	0301507	5 m	open wires	
Cable extensions				
KV BG12-SG12 3P-0030-PNP	0301999	0.3 m	Connector	
KV BG12-SG12 3P-0060-PNP	0301998	0.6 m	Connector	
KV BW08-SG08 3P-0030-PNP	0301495	0.3 m	Connector	
KV BW08-SG08 3P-0100-PNP	0301496	1 m	Connector	
KV BW08-SG08 3P-0200-PNP	0301497	2 m	Connector	●
KV BW12-SG12 3P-0030-PNP	0301595	0.3 m	Connector	
KV BW12-SG12 3P-0100-PNP	0301596	1 m	Connector	
KV BW12-SG12 3P-0200-PNP	0301597	2 m	Connector	

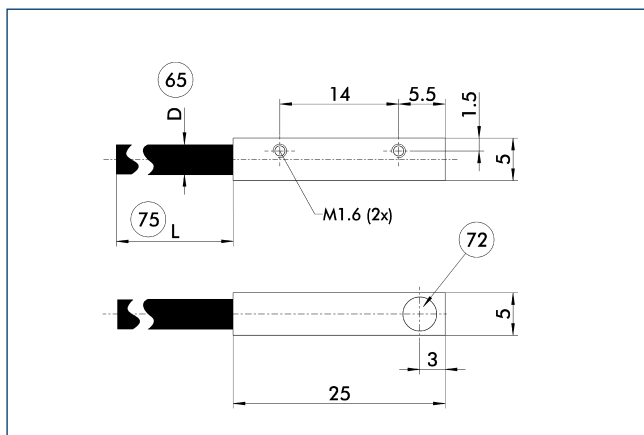
① BG stands for a connection cable with a straight female connector and BW for an angled female connector.



Technical data

Description		IN 55-S-M12
ID		0301570
Switching function		Closer
Type of switching		PNP
Switching hysteresis from the nominal switching distance		< 15%
max. switching frequency	[Hz]	3000
Product weight	[kg]	0.01
min. / max. ambient temperature	[°C]	-25/70
IP class (sensor)		67
IP class (sensor connected)		67
LED display in sensor		yes
Type of voltage		DC
Nominal voltage	[V]	24
min. voltage	[V]	10
max. voltage	[V]	30
Voltage drop	[V]	1.5
max. switching current	[A]	0.2
Cable diameter D	[mm]	3.5
min. bending radius (dynamically)	[mm]	35
min. bending radius (statically)	[mm]	17.5
Number of wires		3
Wire cross section	[mm²]	0.14
Cable length L	[cm]	30
Cable connector / cable end		M12

IN 55 main view

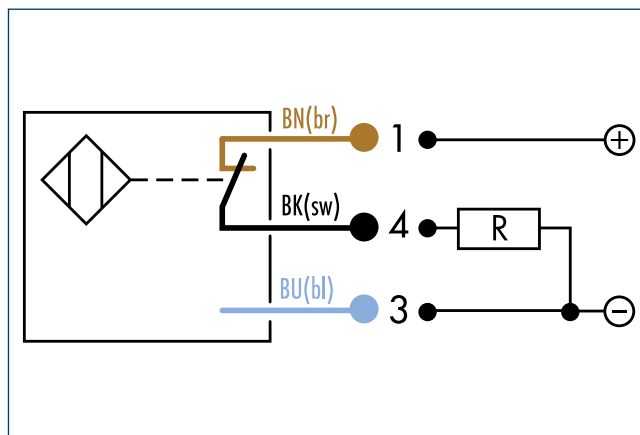


⑥⑤ Cable diameter

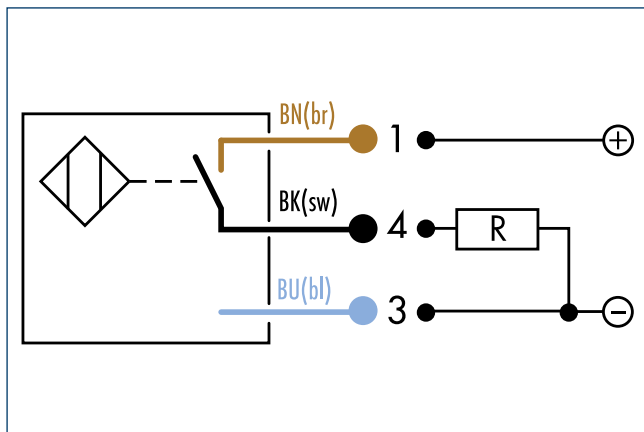
⑦⑤ Cable length

⑦② Active sensor surface

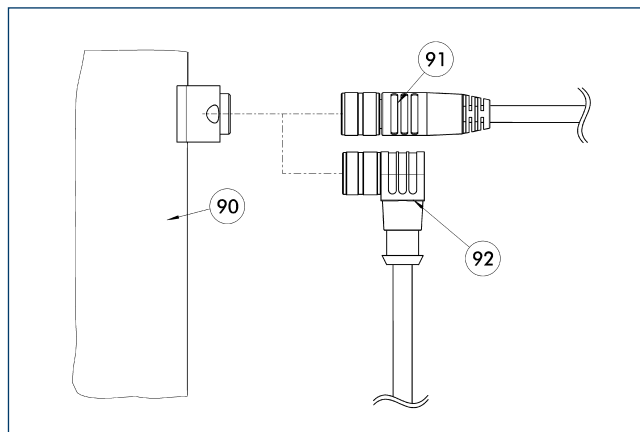
Wiring diagram opener PNP



Circuit diagram of PNP closer



Cable connector / cable extension



⑨① Connecting point for component

⑨① Cable with straight connection

⑨② Cable with angular connection

Description	ID	Length	Connection electric cabinet sided
Connection cables			
KA BG12-L 3P-0500-PNP	30016369	5 m	open wires
KA BW12-L 3P-0300-PNP	0301503	3 m	open wires
KA BW12-L 3P-0500-PNP	0301507	5 m	open wires
Cable extensions			
KV BG12-SG12 3P-0030-PNP	0301999	0.3 m	Connector
KV BG12-SG12 3P-0060-PNP	0301998	0.6 m	Connector
KV BW12-SG12 3P-0030-PNP	0301595	0.3 m	Connector
KV BW12-SG12 3P-0100-PNP	0301596	1 m	Connector
KV BW12-SG12 3P-0200-PNP	0301597	2 m	Connector

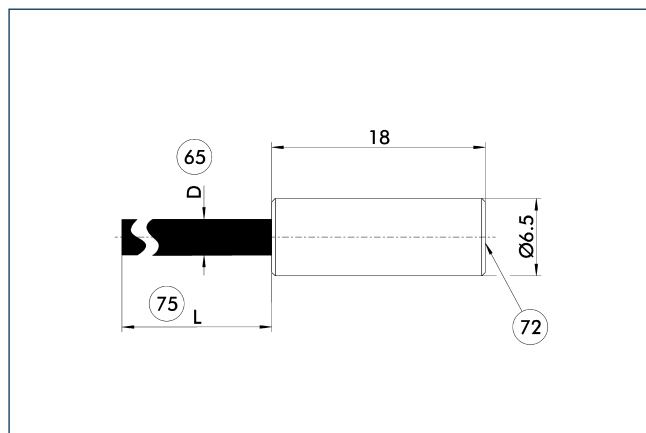
① BG stands for a connection cable with a straight female connector and BW for an angled female connector.



Technical data

Description		IN 60-S-M8	IN 60-S-M12	INK 60-S
ID		0301485	0301585	0301553
Switching function		Closer	Closer	Closer
Type of switching		PNP	PNP	PNP
Switching distance	[mm]	1.5	1.5	1.5
Switching hysteresis from the nominal switching distance		< 10%	< 10%	< 10%
max. switching frequency	[Hz]	3000	3000	3000
Product weight	[kg]	0.05	0.05	0.06
min. / max. ambient temperature	[°C]	-25/70	-25/70	-25/70
IP class (sensor)		67	67	67
IP class (sensor connected)		67	67	67
LED-Anzeige am Sensor		no	no	no
Type of voltage		DC	DC	DC
Nominal voltage	[V]	24	24	24
min. voltage	[V]	10	10	10
max. voltage	[V]	30	30	30
Voltage drop	[V]	1.5	1.5	1.5
max. switching current	[A]	0.2	0.2	0.2
Cable diameter D	[mm]	3.5	3.5	3.5
min. bending radius (dynamically)	[mm]	35	35	35
min. bending radius (statically)	[mm]	17.5	17.5	17.5
Number of wires		3	3	3
Wire cross section	[mm²]	0.14	0.14	0.14
Cable length L	[cm]	30	30	200
Cable connector / cable end		M8	M12	open wires

IN 60 main view

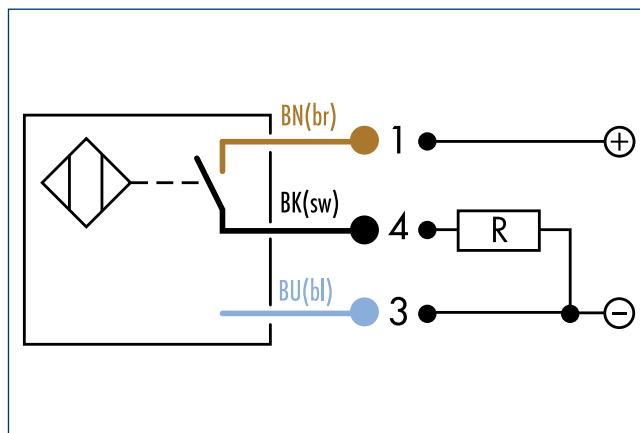


65 Cable diameter

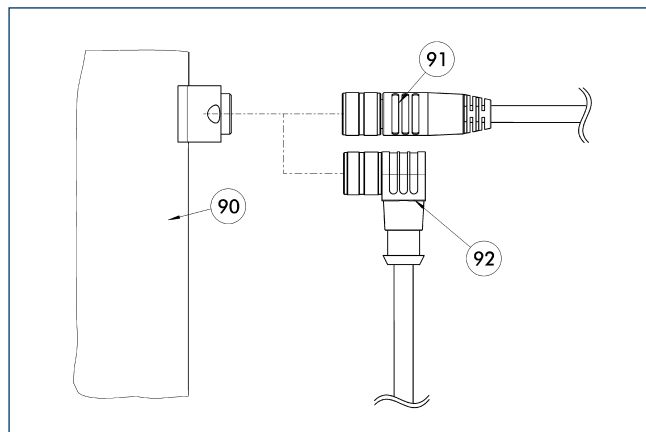
75 Cable length

72 Active sensor surface

Circuit diagram of PNP closer



Cable connector / cable extension



90 Connecting point for component

91 Cable with straight connection

92 Cable with angular connection

Description	ID	Length	Connection electric cabinet sided	often combined
Connection cables				
KA BG08-L 3P-0300-PNP	0301622	3 m	open wires	●
KA BG08-L 3P-0500-PNP	0301623	5 m	open wires	
KA BG12-L 3P-0500-PNP	30016369	5 m	open wires	
KA BW08-L 3P-0300-PNP	0301594	3 m	open wires	
KA BW08-L 3P-0500-PNP	0301502	5 m	open wires	
KA BW12-L 3P-0300-PNP	0301503	3 m	open wires	
KA BW12-L 3P-0500-PNP	0301507	5 m	open wires	
Cable extensions				
KV BG12-SG12 3P-0030-PNP	0301999	0.3 m	Connector	
KV BG12-SG12 3P-0060-PNP	0301998	0.6 m	Connector	
KV BW08-SG08 3P-0030-PNP	0301495	0.3 m	Connector	
KV BW08-SG08 3P-0100-PNP	0301496	1 m	Connector	
KV BW08-SG08 3P-0200-PNP	0301497	2 m	Connector	●
KV BW12-SG12 3P-0030-PNP	0301595	0.3 m	Connector	
KV BW12-SG12 3P-0100-PNP	0301596	1 m	Connector	
KV BW12-SG12 3P-0200-PNP	0301597	2 m	Connector	

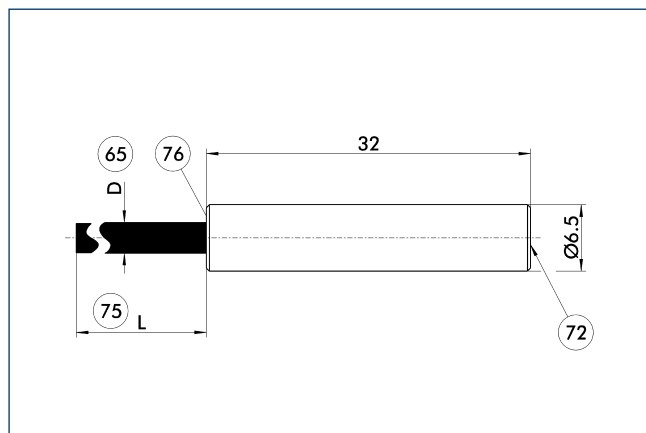
① BG stands for a connection cable with a straight female connector and BW for an angled female connector.



Technical data

Description		IN 65-S-M8	IN 65-S-M12	INK 65-S
ID		0301476	0301576	0301554
Switching function		Closer	Closer	Closer
Type of switching		PNP	PNP	PNP
Switching distance	[mm]	1.5	1.5	1.5
Switching hysteresis from the nominal switching distance		< 10%	< 10%	< 10%
max. switching frequency	[Hz]	3000	3000	3000
Product weight	[kg]	0.05	0.07	0.05
min. / max. ambient temperature	[°C]	-25/70	-25/70	-25/70
IP class (sensor)		67	67	67
IP class (sensor connected)		67	67	67
LED-Anzeige am Sensor		yes	yes	no
Type of voltage		DC	DC	DC
Nominal voltage	[V]	24	24	24
min. voltage	[V]	10	10	10
max. voltage	[V]	30	30	30
Voltage drop	[V]	1.5	1.5	1.5
max. switching current	[A]	0.2	0.2	0.2
Cable diameter D	[mm]	3.5	3.5	3.5
min. bending radius (dynamically)	[mm]	35	35	35
min. bending radius (statically)	[mm]	17.5	17.5	17.5
Number of wires		3	3	3
Wire cross section	[mm²]	0.14	0.14	0.14
Cable length L	[cm]	30	30	200
Cable connector / cable end		M8	M12	open wires

IN 65 main view



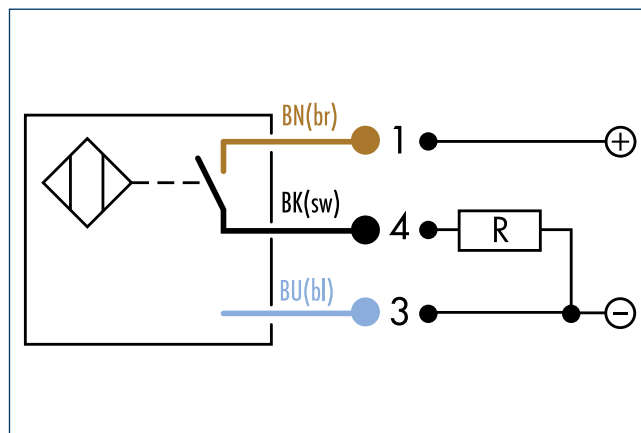
65 Cable diameter

75 Cable length

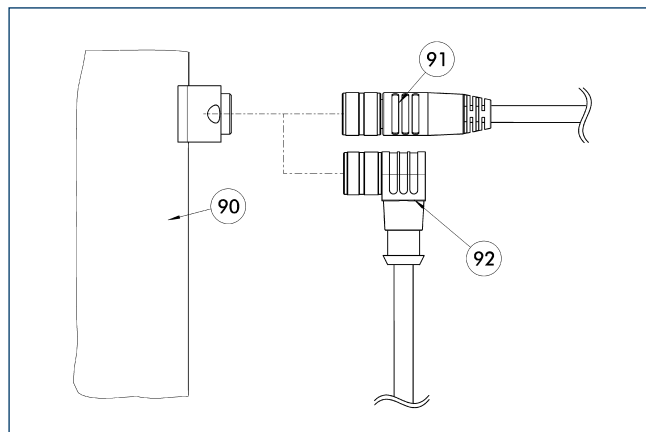
72 Active sensor surface

76 LED

Circuit diagram of PNP closer



Cable connector / cable extension



90 Connecting point for component

91 Cable with straight connection

92 Cable with angular connection

Description	ID	Length	Connection electric cabinet sided	often combined
Connection cables				
KA BG08-L 3P-0300-PNP	0301622	3 m	open wires	●
KA BG08-L 3P-0500-PNP	0301623	5 m	open wires	
KA BG12-L 3P-0500-PNP	30016369	5 m	open wires	
KA BW08-L 3P-0300-PNP	0301594	3 m	open wires	
KA BW08-L 3P-0500-PNP	0301502	5 m	open wires	
KA BW12-L 3P-0300-PNP	0301503	3 m	open wires	
KA BW12-L 3P-0500-PNP	0301507	5 m	open wires	
Cable extensions				
KV BG12-SG12 3P-0030-PNP	0301999	0.3 m	Connector	
KV BG12-SG12 3P-0060-PNP	0301998	0.6 m	Connector	
KV BW08-SG08 3P-0030-PNP	0301495	0.3 m	Connector	
KV BW08-SG08 3P-0100-PNP	0301496	1 m	Connector	
KV BW08-SG08 3P-0200-PNP	0301497	2 m	Connector	●
KV BW12-SG12 3P-0030-PNP	0301595	0.3 m	Connector	
KV BW12-SG12 3P-0100-PNP	0301596	1 m	Connector	
KV BW12-SG12 3P-0200-PNP	0301597	2 m	Connector	

① BG stands for a connection cable with a straight female connector and BW for an angled female connector.



Technical data

Description		IN 80-S-M8	IN 80-S-M12	INK 80-S	IN 80-O-M8	IN 80-O-M12	INK 80-O
ID		0301478	0301578	0301550	0301488	0301588	0301551
Switching function		Closer	Closer	Closer	Opener	Opener	Opener
Type of switching		PNP	PNP	PNP	PNP	PNP	PNP
Switching distance	[mm]	1.5	1.5	1.5	1.5	1.5	1.5
Switching hysteresis from the nominal switching distance		< 15%	< 15%	< 10%	< 15%	< 15%	< 10%
max. switching frequency	[Hz]	3000	3000	3000	3000	3000	3000
Product weight	[kg]	0.06	0.06	0.07	0.06	0.08	0.07
min. / max. ambient temperature	[°C]	-25/70	-25/70	-25/70	-25/70	-25/70	-25/70
IP class (sensor)		67	67	67	67	67	67
IP class (sensor connected)		67	67	67	67	67	67
LED display in sensor		yes	yes	yes	yes	yes	yes
Type of voltage		DC	DC	DC	DC	DC	DC
Nominal voltage	[V]	24	24	24	24	24	24
min. voltage	[V]	10	10	10	10	10	10
max. voltage	[V]	30	30	30	30	30	30
Voltage drop	[V]	1.5	1.5	1.5	1.5	1.5	1.5
max. switching current	[A]	0.2	0.2	0.2	0.2	0.2	0.2
Cable diameter D	[mm]	3.5	3.5	3.5	3.5	3.5	3.5
min. bending radius (dynamically)	[mm]	35	35	35	35	35	35
min. bending radius (statically)	[mm]	17.5	17.5	17.5	17.5	17.5	17.5
Number of wires		3	3	3	3	3	3
Wire cross section	[mm²]	0.14	0.14	0.14	0.14	0.14	0.14
Cable length L	[cm]	30	30	200	30	30	200
Cable connector / cable end		M8	M12	open wires	M8	M12	open wires
Options and their characteristics							
Version with lateral cable outlet		IN 80-S-M8-SA	IN 80-S-M12-SA	INK 80-S-SA			
ID		0301483	0301587	0301566			

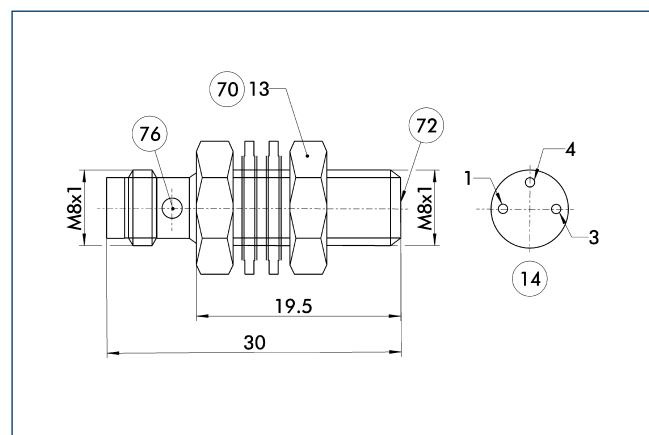
Description		IN 80-SL-M12	INK 80-SL	IN-B 80 S-M8	IN-B 80-S-M12	IN-C 80-S-M8
ID		0301529	0301579	0301477	0301479	0301475
Switching function		Closer	Closer	Closer	Closer	Closer
Type of switching		PNP	PNP	PNP	PNP	PNP
Switching distance	[mm]	3	3	1.5	1.5	1.5
Switching hysteresis from the nominal switching distance		< 10%	< 10%	< 15%	< 15%	< 15%
max. switching frequency	[Hz]	500	500	3000	3000	3000
Product weight	[kg]	0.03	0.09	0.02	0.02	0.01
min. / max. ambient temperature	[°C]	-25/70	-25/70	-25/70	-25/70	-25/70
IP class (sensor)		67	67	67	68	68
IP class (sensor connected)		67	67	67	68	68
LED display in sensor		yes	yes	yes	yes	yes
Type of voltage		DC	DC	DC	DC	DC
Nominal voltage	[V]	24	24	24	24	24
min. voltage	[V]	10	10	10	10	10
max. voltage	[V]	30	30	30	30	30
Voltage drop	[V]	1.5	1.5	1.5	1.5	1.5
max. switching current	[A]	0.2	0.2	0.2	0.2	0.1
Cable diameter D	[mm]	3.5	3.5	3.5	3.5	3.5
min. bending radius (dynamically)	[mm]	35	35	35	35	35
min. bending radius (statically)	[mm]	17.5	17.5	17.5	17.5	17.5
Number of wires		3	3	3	3	3
Wire cross section	[mm²]	0.14	0.14	0.14	0.14	0.14
Cable length L	[cm]	30	200			
Cable connector / cable end		M12	open wires	M8	M12	M8



IN 80

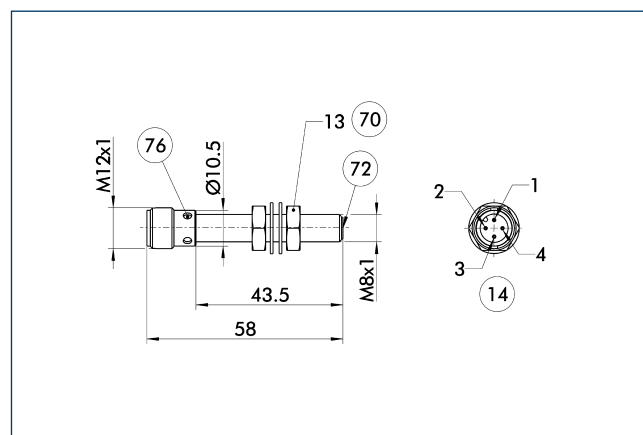
Accessories | Sensor System | Inductive Proximity Switches

IN-C 80 main view



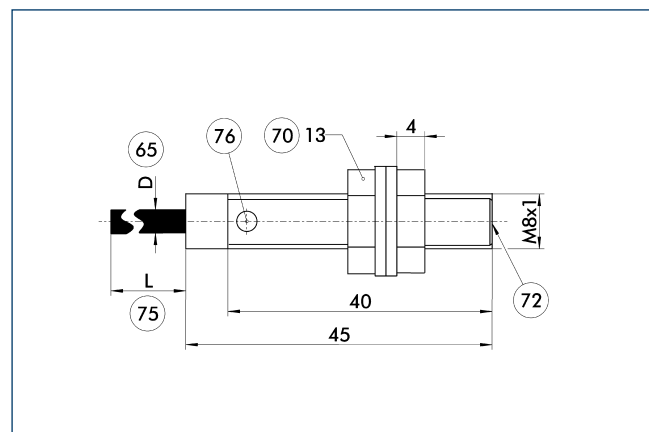
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|----|-------------|----|-----------------------|
| 14 | Connector | 72 | Active sensor surface |
| 70 | Wrench size | 76 | LED |

IN-B 80 main view



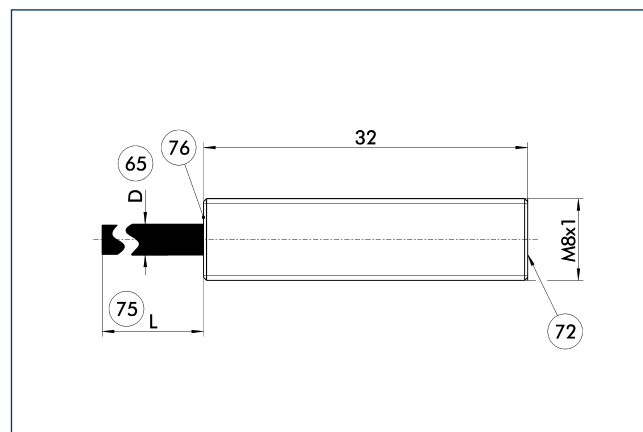
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|----|-------------|----|-----------------------|
| 14 | Connector | 72 | Active sensor surface |
| 70 | Wrench size | 76 | LED |

IN 80-SL main view



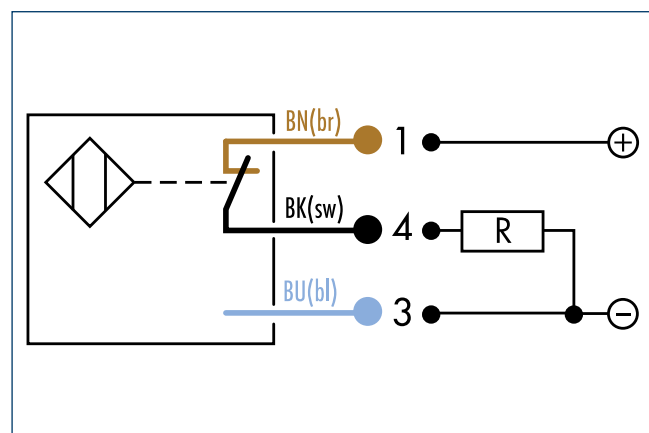
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|--------------------------|-----------------|
| 65 Cable diameter | 75 Cable length |
| 70 Wrench size | 76 LED |
| 72 Active sensor surface | |

IN 80 main view

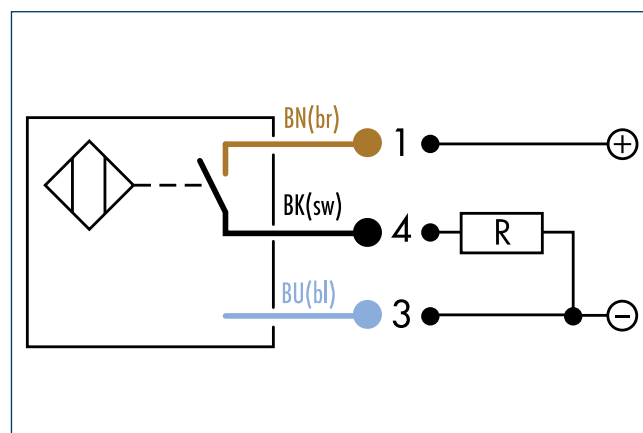


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|----|-----------------------|----|--------------|
| 65 | Cable diameter | 75 | Cable length |
| 72 | Active sensor surface | 76 | LED |

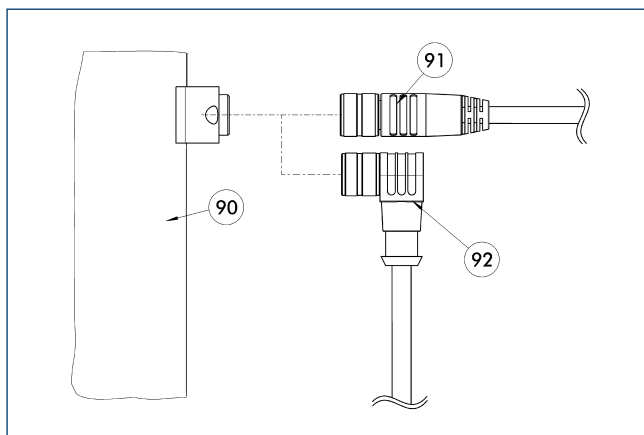
Wiring diagram opener PNP



Circuit diagram of PNP closer



Cable connector / cable extension



90 Connecting point for component

91 Cable with straight connection

92 Cable with angular connection

Description	ID	Length	Connection electric cabinet sided	often combined
Connection cables				
KA BG08-L 3P-0300-PNP	0301622	3 m	open wires	●
KA BG08-L 3P-0500-PNP	0301623	5 m	open wires	
KA BG12-L 3P-0500-PNP	30016369	5 m	open wires	
KA BW08-L 3P-0300-PNP	0301594	3 m	open wires	
KA BW08-L 3P-0500-PNP	0301502	5 m	open wires	
KA BW12-L 3P-0300-PNP	0301503	3 m	open wires	
KA BW12-L 3P-0500-PNP	0301507	5 m	open wires	
Cable extensions				
KV BG12-SG12 3P-0030-PNP	0301999	0.3 m	Connector	
KV BG12-SG12 3P-0060-PNP	0301998	0.6 m	Connector	
KV BW08-SG08 3P-0030-PNP	0301495	0.3 m	Connector	
KV BW08-SG08 3P-0100-PNP	0301496	1 m	Connector	
KV BW08-SG08 3P-0200-PNP	0301497	2 m	Connector	●
KV BW12-SG12 3P-0030-PNP	0301595	0.3 m	Connector	
KV BW12-SG12 3P-0100-PNP	0301596	1 m	Connector	
KV BW12-SG12 3P-0200-PNP	0301597	2 m	Connector	

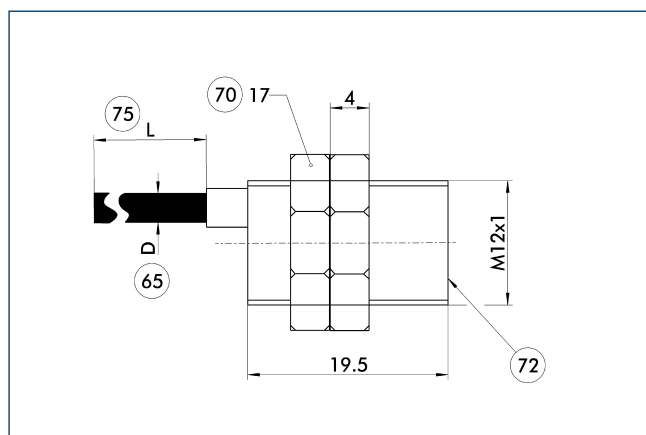
① BG stands for a connection cable with a straight female connector and BW for an angled female connector.



Technical data

Description		IN 120-S-M12	INK 120-S
ID		0301592	0301562
Switching function		Closer	Closer
Type of switching		PNP	PNP
Switching distance	[mm]	2	2
Switching hysteresis from the nominal switching distance		< 10%	< 10%
max. switching frequency	[Hz]	800	800
Product weight	[kg]	0.07	0.13
min. / max. ambient temperature	[°C]	-25/70	-25/70
IP class (sensor)		67	67
IP class (sensor connected)		67	67
LED display in sensor		no	no
Type of voltage	[V]	DC	DC
Nominal voltage	[V]	24	24
min. voltage	[V]	10	10
max. voltage	[V]	30	30
Voltage drop	[A]	1.5	1.5
max. switching current	[mm]	0.2	0.2
Cable diameter D	[mm]	3.5	3.5
min. bending radius (dynamically)	[mm]	35	35
min. bending radius (statically)		17.5	17.5
Number of wires	[mm²]	3	3
Wire cross section	[cm]	0.14	0.14
Cable length L		30	200
Cable connector / cable end		M12	open wires

IN 120 main view



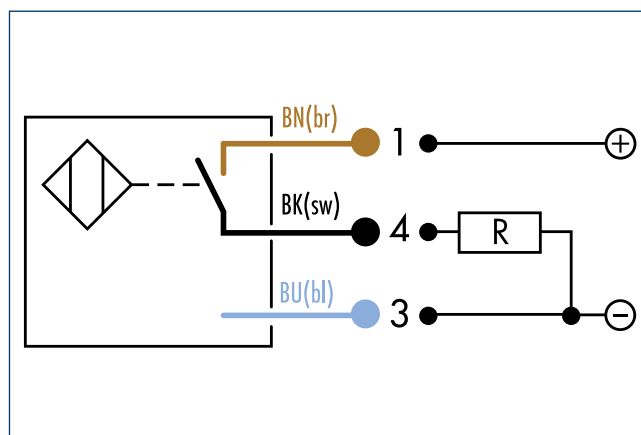
65 Cable diameter

72 Active sensor surface

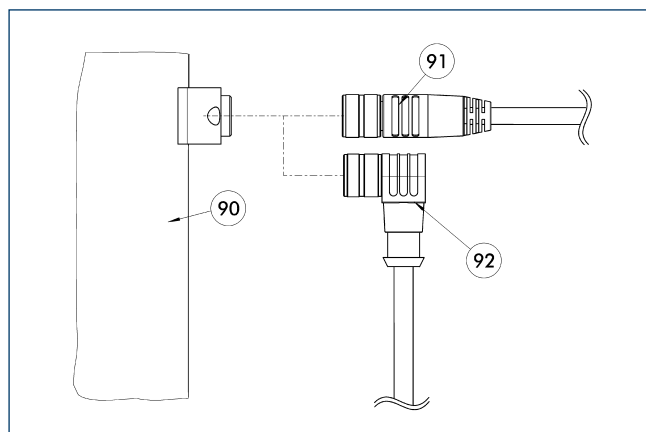
70 Wrench size

75 Cable length

Circuit diagram of PNP closer



Cable connector / cable extension



90 Connecting point for component

91 Cable with straight connection

92 Cable with angular connection

Description	ID	Length	Connection electric cabinet sided
Connection cables			
KA BG12-L 3P-0500-PNP	30016369	5 m	open wires
KA BW12-L 3P-0300-PNP	0301503	3 m	open wires
KA BW12-L 3P-0500-PNP	0301507	5 m	open wires
Cable extensions			
KV BG12-SG12 3P-0030-PNP	0301999	0.3 m	Connector
KV BG12-SG12 3P-0060-PNP	0301998	0.6 m	Connector
KV BW12-SG12 3P-0030-PNP	0301595	0.3 m	Connector
KV BW12-SG12 3P-0100-PNP	0301596	1 m	Connector
KV BW12-SG12 3P-0200-PNP	0301597	2 m	Connector

① BG stands for a connection cable with a straight female connector and BW for an angled female connector.