



Capacitive Sensors
Series 70 - NPN
Series 80 - PNP

Housing M18 x 1

- **Housing material: brass**
- **Flush mountable**
- **Sensing distance 0.5...10 mm adjustable**

Certificate:

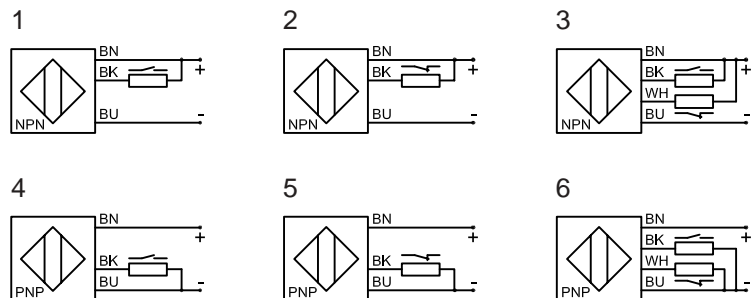
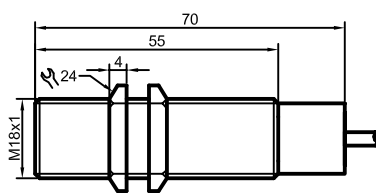


Technical data

Operating distance S_n [mm], flush mounting	5, yes	5, yes
Operating distance min./max. [mm] adjustable	0.5...10	0.5...10
Electrical version	3-wire DC	4-wire DC
Output	NO	antivalent
Type NPN		KAS-70-A13-A
Art.-No.		700 800
Connection diagram No.		3

Type PNP	KAS-80-A13-S	KAS-80-A13-A
Art.-No.	801 200	800 800
Connection diagram No.	4	6
Operating voltage (U_B)	10...35 V DC	10...35 V DC
Output current max. (I_o)	400 mA	2 x 250 mA
Load current min.	-	-
Voltage drop max. (U_d)	≤ 2.0 V	≤ 2.0 V
Permitted residual ripple max.	10 %	10 %
No-load current (I_o)	typ. 15 mA	typ. 15 mA
Frequency of operating cycles max.	300 Hz	300 Hz
Permitted ambient temperature	-25...+70°C	-25...+70°C
LED-display	yellow	green/yellow
Protective circuit	built-in	built-in
Degree of protection IEC 529	IP 67	IP 67
Connection cable	2 m 3 x 0.34 mm ²	2 m 4 x 0.34mm ²
Housing material	brass	brass
Active surface	PTFE	PTFE
Lid	PA	PA

All specifications are subject to change without notice. (05/2004)





Capacitive Sensors Series 70 - NPN Series 80 - PNP



Housing M18 x 1

- Housing material: brass
- Flush mountable
- Sensing distance 0.5...10 mm adjustable
- With metal flange connector M 12 x 1

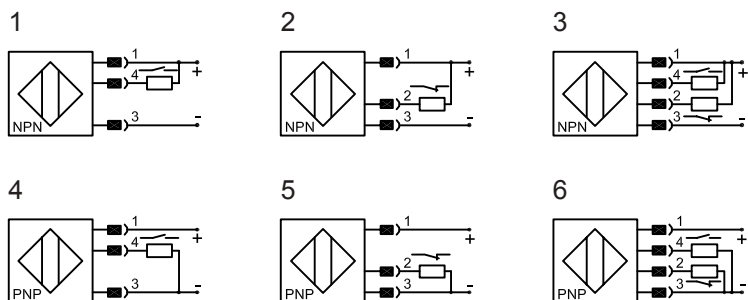
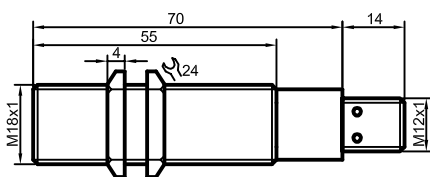
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Technical data

Operating distance S_n [mm], flush Mounting	5, yes
Operating distance min./max. [mm] adjustable	0.5...10
Electrical version	4-pin DC
Output	antivalent
Type NPN	KAS-70-A13-A-Y5
Art.-No.	701 981
Connection diagram No.	3

Type PNP	KAS-80-A13-A-Y5
Art.-No.	801 981
Connection diagram No.	6
Operating voltage (U_B)	10...35 V DC
Output current max. (I_o)	2 x 250 mA
Load current min.	-
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
No-load current (I_o)	typ. 15 mA
Frequency of operating cycles max.	300 Hz
Permitted ambient temperature	-25...+70°C
LED-display	yellow
Protective circuit	built-in
Degree of protection IEC 529	IP 67
Connection	metal flange connector M12 x 1
Housing material	Ms
Active surface	PA
Lid	-



All specifications are subject to change without notice. (08/2004)



Capacitive Sensors

Series 80 - PNP - Analogue Output

Housing M18 x 1

- Housing material: brass
- Flush mountable
- Operating range 0...8 mm adjustable

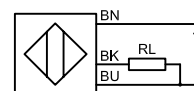
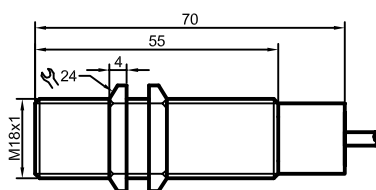
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Technical data

Operating range [mm], flush mounting	0...8, yes
Linear range [mm]	0...5
Electrical version	3-wire DC
Output function	analogue
Type Analog	KAS-80-A13-IL
Art.-No.	801 600
Connection diagram No.	see below
Operating voltage (U_B)	15...30 V DC
Output current max. (I_o)	$\geq 20\text{mA} \dots \leq 4\text{mA}$
Permitted residual ripple max.	5 %
No-load current (I_o)	$\leq 40\text{ mA}$
Output current active surface free	$\geq 20\text{ mA}$
Output current active surface covered	$\leq 20\text{mA} \dots \leq 4\text{ mA}$
Load resistor	$R_L = 0 \dots 300\text{ Ohm}$
Permitted ambient temperature	0...+60°C
LED-display	green/yellow/green
Protective circuit	built-in
Degree of protection IEC 529	IP 67
Connection cable	2 m 3 x 0.34 mm ²
Housing material	brass
Active surface	PTFE
Lid	PA

All specifications are subject to change without notice. (05/2004)





Capacitive Sensors Series 70 - NPN Series 80 - PNP



Housing M18 x 1

- Housing material: PA
- Flush mountable
- Sensing distance 0.5...10 mm adjustable

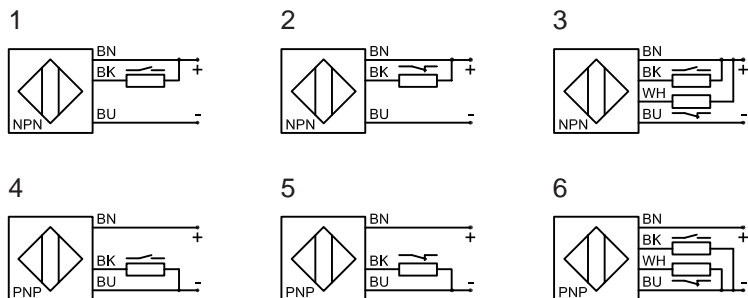
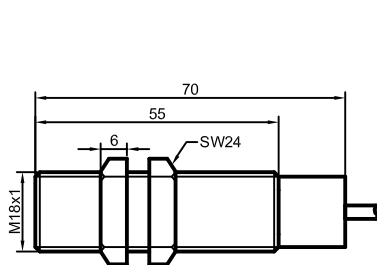
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Technical data

Operating distance S_n [mm], flush mounting	5, yes	5, yes
Operating distance min./max. [mm] adjustable	0.5...10	0.5...10
Electrical version	3-wire DC	4-wire DC
Output	NO	antivalent
Type NPN		KAS-70-A13-A-K
Art.-No.		701 000
Connection diagram No.		3

Type PNP	KAS-80-A13-S-K	KAS-80-A13-A-K
Art.-No.	802 400	801 000
Connection diagram No.	4	6
Operating voltage (U_B)	10...35 V DC	10...35 V DC
Output current max. (I_o)	400 mA	2 x 250 mA
Load current min.	-	-
Voltage drop max. (U_d)	≤ 2.0 V	≤ 2.0 V
Permitted residual ripple max.	10 %	10 %
No-load current (I_o)	typ. 15 mA	typ. 15 mA
Frequency of operating cycles max.	300 Hz	300 Hz
Permitted ambient temperature	-25...+70°C	-25...+70°C
LED-display	yellow	green/yellow
Protective circuit	built-in	built-in
Degree of protection IEC 529	IP 67	IP 67
Connection cable	2 m 3 x 0.34 mm ²	2 m 4 x 0.34 mm ²
Housing material	PA	PA
Active surface	PA	PA
Lid	PA	PA



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Capacitive Sensors Series 90 - AC/DC

Housing M18 x 1

- Housing material: PA
- Flush mountable
- Sensing distance 1...5 mm adjustable

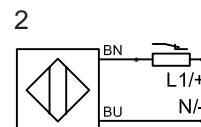
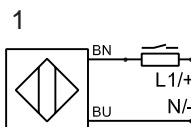
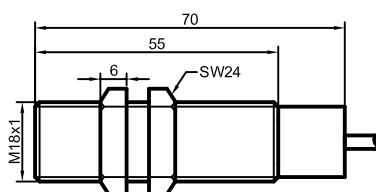
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Technical data

Operating distance S_n [mm], flush mounting	5, yes	5, yes
Operating distance min./max. [mm] adjustable	1...5	1...5
Electrical version	2-wire AC/DC	2-wire AC/DC
Output	NO	NC
Type	KAS-90-A13-S	KAS-90-A13-Ö
Art.-No.	900 100	900 200
Connection diagram No.	1	2
Operating voltage (U_B)	20...250 V AC/DC	20...250 V AC/DC
Output current max. (I_e)	330 mA	330 mA
Load current min.	5 mA	5 mA
Voltage drop max. (U_d)	≤ 6 V	≤ 6 V
Permitted residual ripple max.	-	-
No-load current (I_0)	typ. 2.5 mA	typ. 2.5 mA
Frequency of operating cycles max.	25 Hz	25 Hz
Permitted ambient temperature	-25...+70°C	-25...+70°C
LED-display	yellow	yellow
Protective circuit	built-in	built-in
Degree of protection IEC 529	IP 67	IP 67
Connection cable	2 m 2 x 0.34 mm ²	2 m 2 x 0.34 mm ²
Housing material	PA	PA
Active surface	PA	PA
Lid	PA	PA

All specifications are subject to change without notice. (05/2004)





Capacitive Sensors



Series 80 - PNP

Housing M18 x 1

- Housing material: PTFE
- Ideal for detection of chemically aggressive media
- Also suitable for food applications
- Flush mountable
- Sensing distance 0.5...10 mm adjustable
- Option: Total chemical resistance is given when ordering the sensor with PTFE cable and PTFE- protection set Art.-Nr. 196305

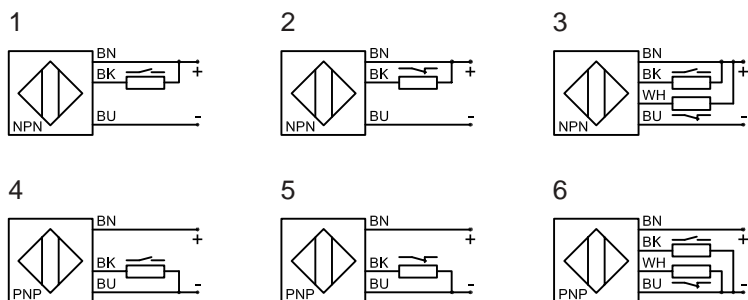
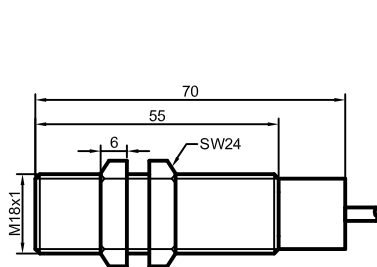
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Technical data

Operating distance S_n [mm], flush mounting	5, yes
Operating distance min./max. [mm] adjustable	0.5...10
Electrical version	4-wire DC
Output	antivalent
Type NPN	
Art.-No.	
Connection diagram No.	

Type PNP	KAS-80-A13-A-K-PTFE
Art.-No.	801 020
Connection diagram No.	6
Operating voltage (U_B)	10...35 V DC
Output current max. (I_o)	2 x 250 mA
Load current min.	-
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
No-load current (I_o)	typ. 15 mA
Frequency of operating cycles max.	300 Hz
Permitted ambient temperature	-25...+70°C
LED-display	green/yellow
Protective circuit	built-in
Degree of protection IEC 529	IP 67
Connection cable	2 m 4 x 0.34 mm ²
Housing material	PTFE
Active surface	PTFE
Lid	PA



All specifications are subject to change without notice. (05/2004)



Capacitive Sensors Series 70 - NPN Series 80 - PNP

Housing M18 x 1

- Housing material: brass
- Non-flush mountable
- Sensing distance 0.5...15 mm adjustable

Certificate:

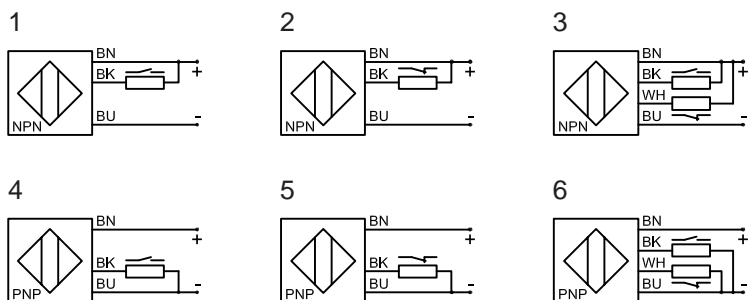
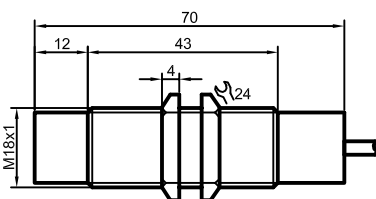


Technical data

Operating distance S_n [mm], flush mounting	8, no	8, no
Operating distance min./max. [mm] adjustable	0.5...15	0.5...15
Electrical version	3-wire DC	4-wire DC
Output	NO	antivalent
Type NPN		KAS-70-A23-A
Art.-No.		703 200
Connection diagram No.		3

Type PNP	KAS-80-A23 -S	KAS-80-A23-A
Art.-No.	803 600	803 200
Connection diagram No.	4	6
Operating voltage (U_B)	10...35 V DC	10...35 V DC
Output current max. (I_o)	400 mA	2 x 250 mA
Load current min.	-	-
Voltage drop max. (U_d)	≤ 2.0 V	≤ 2.0 V
Permitted residual ripple max.	10 %	10 %
No-load current (I_o)	typ. 15 mA	typ. 15 mA
Frequency of operating cycles max.	50 Hz	50 Hz
Permitted ambient temperature	-25...+70°C	-25...+70°C
LED-display	yellow	green/yellow
Protective circuit	built-in	built-in
Degree of protection IEC 529	IP 67	IP 67
Connection cable	2 m 3 x 0.34 mm ²	2 m 4 x 0.34 mm ²
Housing material	brass	brass
Active surface	PTFE	PTFE
Lid	PA	PA

All specifications are subject to change without notice. (05/2004)





Capacitive Sensors Series 70 - NPN Series 80 - PNP



Housing M18 x 1

- Housing material: brass
- Non-flush mountable
- Sensing distance 0.5...15 mm adjustable
- With metal flange connector M12 x 1

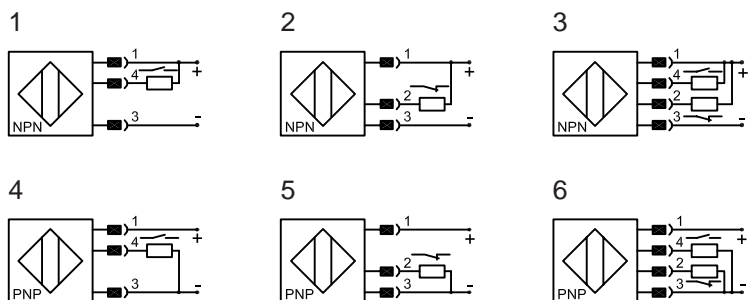
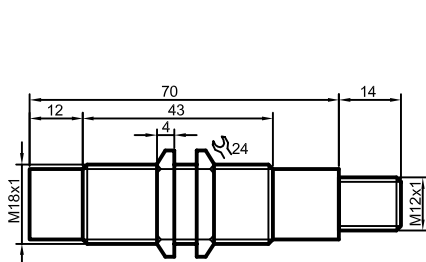
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Technical data

Operating distance S_n [mm], flush mounting	8, no
Operating distance min./max. [mm] adjustable	0.5...15
Electrical version	4-pin DC
Output	antivalent
Type NPN	KAS-70-A23-A-Y5
Art.-No.	704 091
Connection diagram No.	3

Type PNP	KAS-80-A23-A-Y5
Art.-No.	804 091
Connection diagram No.	6
Operating voltage (U_B)	10...35 V DC
Output current max. (I_o)	2 x 250 mA
Load current min.	-
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
No-load current (I_o)	typ. 15 mA
Frequency of operating cycles max.	50 Hz
Permitted ambient temperature	-25...+70°C
LED-display	yellow
Protective circuit	built-in
Degree of protection IEC 529	IP 67
Connection	metal flange connector M12 x 1
Housing material	brass
Active surface	PTFE
Lid	-



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Capacitive Sensors Series 90 - AC/DC

Housing M18 x 1

- Housing material: PA
- Non-flush mountable
- Sensing distance 2...8 mm adjustable

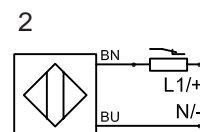
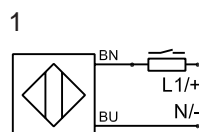
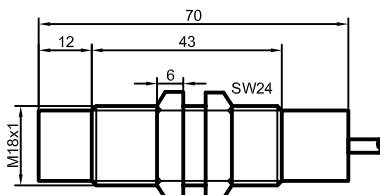
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Technical data

Operating distance S_n [mm], flush mounting	8, no	8, no
Operating distance min./max. [mm] adjustable	2...8	2...8
Electrical version	2-wire AC/DC	2-wire AC/DC
Output	NO	NC
Type	KAS-90-A23-S	KAS-90-A23-Ö
Art.-No.	900 300	900 400
Connection diagram No.	1	2
Operating voltage (U_B)	20...250 V AC/DC	20...250 V AC/DC
Output current max. (I_e)	330 mA	330 mA
Load current min.	5 mA	5 mA
Voltage drop max. (U_d)	≤ 6 V	≤ 6 V
Permitted residual ripple max.	-	-
No-load current (I_0)	typ. 2.5 mA	typ. 2.5 mA
Frequency of operating cycles max.	25 Hz	25 Hz
Permitted ambient temperature	-25...+70°C	-25...+70°C
LED-display	yellow	yellow
Protective circuit	built-in	built-in
Degree of protection IEC 529	IP 67	IP 67
Connection cable	2 m 2 x 0.34 mm ²	2 m 2 x 0.34 mm ²
Housing material	PA	PA
Active surface	PA	PA
Lid	PA	PA

All specifications are subject to change without notice. (05/2004)





Capacitive Sensors Series 70 - NPN Series 80 - PNP



Housing M18 x 1

- Housing material: PTFE
- Ideal for detection of chemically aggressive media
- Also suitable for food applications
- Non-flush mountable
- Sensing distance 0.5...15 mm adjustable
- Option: Total chemical resistance is given when ordering the sensor with PTFE cable and PTFE- protection set Art.-Nr. 196305

Certificate:

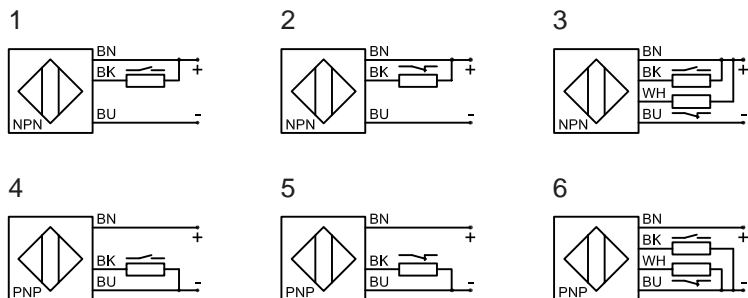
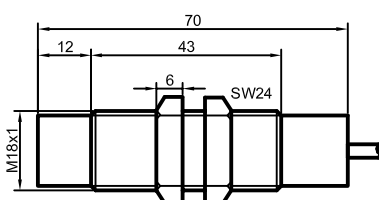


Technical data

Operating distance S_n [mm], flush mounting	8, no
Operating distance min./max. [mm] adjustable	0.5...15
Electrical version	4-wire DC
Output	antivalent
Type NPN	KAS-70-A23-A-K-PTFE
Art.-No.	703 561
Connection diagram No.	3

Type PNP	KAS-80-A23-A-K-PTFE
Art.-No.	803 561
Connection diagram No.	6

Operating voltage (U_B)	10...35 V DC
Output current max. (I_o)	2 x 250 mA
Load current min.	-
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
No-load current (I_o)	typ. 15 mA
Frequency of operating cycles max.	50 Hz
Permitted ambient temperature	-25...+70°C
LED-display	green/yellow
Protective circuit	built-in
Degree of protection IEC 529	IP 67
Connection cable	2 m 4 x 0.34 mm ²
Housing material	PTFE
Active surface	PTFE
Lid	PA



All specifications are subject to change without notice. (05/2004)