



**Capacitive Sensors**  
**Series 70 - NPN**  
**Series 80 - PNP**

**Housing M30 x 1.5**

- Housing material: brass
- Flush mountable
- Sensing distance 0.5...25 mm adjustable

Certificate:

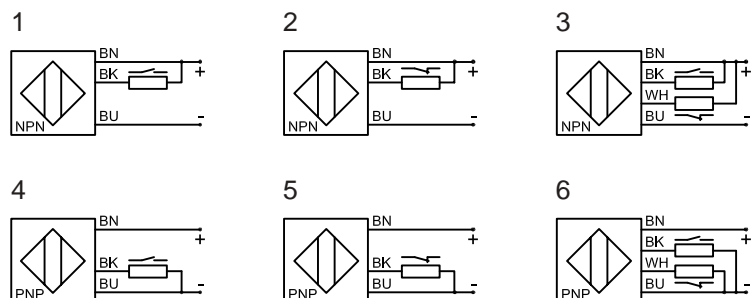
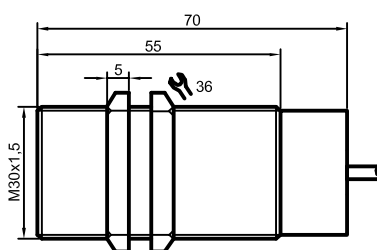


**Technical data**

Operating distance $S_n$ [mm], flush mounting	10, yes	10, yes
Operating distance min./max. [mm] adjustable	0.5...25	0.5...25
Electrical version	3-wire DC	4-wire DC
Output	NO	antivalent
<b>Type NPN</b>		<b>KAS-70-A14-A</b>
<b>Art.-No.</b>		<b>705 200</b>
<b>Connection diagram No.</b>		<b>3</b>

<b>Type PNP</b>	<b>KAS-80-A14-S</b>	<b>KAS-80-A14-A</b>
<b>Art.-No.</b>	<b>806 000</b>	<b>805 200</b>
<b>Connection diagram No.</b>	<b>4</b>	<b>6</b>
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. ( $U_d$ )	$\leq 2.0$ V	$\leq 2.0$ V
Permitted residual ripple max.	10 %	10 %
No-load current ( $I_o$ )	typ. 15 mA	typ. 15 mA
Frequency of operating cycles max.	200 Hz	200 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 0.75 mm <sup>2</sup>	2 m 4 x 0.5 mm <sup>2</sup>
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 M30 x 1.5

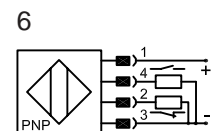
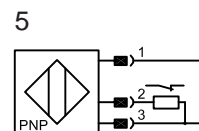
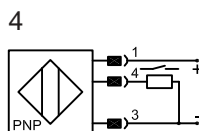
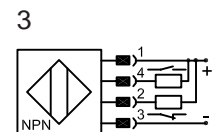
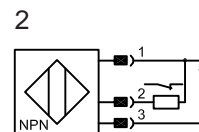
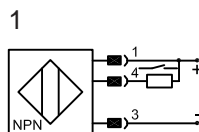
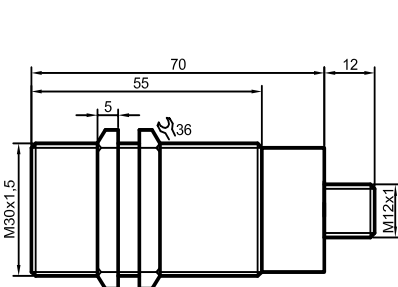
- Housing material: brass
- Flush mountable
- Sensing distance 0.5..25 mm adjustable
- With metal flange connector M12 x 1

Certificate:



#### Technical data

Operating distance $S_n$ [mm], flush mounting	10, yes
Operating distance min./max. [mm] adjustable	0.5...25
Electrical version	4-pin DC
Output	antivalent
<b>Type NPN</b>	<b>KAS-70-A14-A-Y5</b>
<b>Art.-No.</b>	<b>705 400</b>
<b>Connection diagram No.</b>	<b>3</b>
<b>Type PNP</b>	<b>KAS-80-A14-A-Y5</b>
<b>Art.-No.</b>	<b>805 400</b>
<b>Connection diagram No.</b>	<b>6</b>
Operating voltage ( $U_B$ )	10...35 V DC
Output current max. ( $I_o$ )	2 x 250 mA
Load current min.	-
Voltage drop max. ( $U_d$ )	$\leq 2.0$ V
Permitted residual ripple max.	10 %
No-load current ( $I_o$ )	typ. 15 mA
Frequency of operating cycles max.	200 Hz
Permitted ambient temperature	-25...+70°C
LED-display	green/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	PA



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



## Capacitive Sensors

### Series 80 - IL - Analogue Output

#### Housing M30 x 1.5

- Housing material: brass
- Flush mountable
- Operating range 0...20 mm

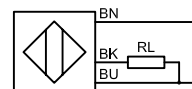
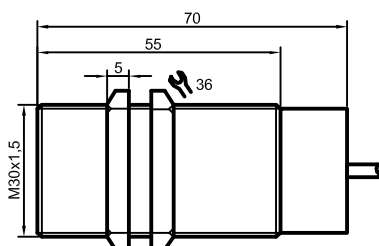
Certificate:



#### Technical data

Operating range [mm], flush mounting	0...20, yes
Linear range [mm]	0..14
Electrical version	3-wire DC
Output function	analogue
<b>Type Analog</b>	<b>KAS-80-A14-IL</b>
<b>Art.-No.</b>	<b>806 400</b>
<b>Connection diagram No.</b>	<b>see below</b>
Operating voltage ( $U_B$ )	15...30 V DC
Output current max. ( $I_e$ )	$\geq 20\text{mA} \dots \leq 4\text{mA}$
Permitted residual ripple max.	5 %
No-load current ( $I_0$ )	$\leq 40\text{ mA}$
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 0.75 mm <sup>2</sup>
Housing material	brass
Active surface	PTFE
Lid	PA

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## Capacitive Sensors

### Series 80 - IL - Analogue Output

Housing  $\varnothing = M30 \times 1.5$

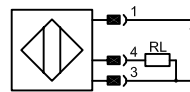
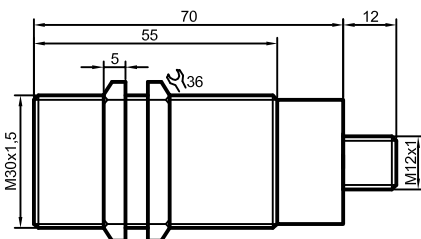
- Housing material: brass
- Flush mountable
- Sensing distance 0...20 mm adjustable
- With metal flange connector M12 x 1

Certificate:



#### Technical data

Operating range [mm], flush mounting	0...20, yes
Linear range [mm]	0...14
Electrical version	3-pin DC
Output function	analogue
<b>Type Analog</b>	<b>KAS-80-A14-IL-Y5</b>
<b>Art.-No.</b>	<b>806 500</b>
<b>Connection diagram No.</b>	<b>see below</b>
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	metal flange conector M12 x 1
Housing material	brass
Active surface	PTFE
Lid	PA



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**Capacitive Sensors  
Series 2000 - quattro<sup>3</sup>**

**Housing M30 x 1.5**

- Housing material: brass
- Flush mountable
- Sensing distance 2...20 mm adjustable
- Multifunction sensor: NPN / PNP;  
NO- / NC function switchable

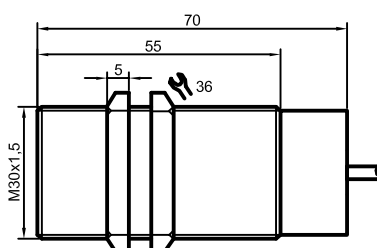
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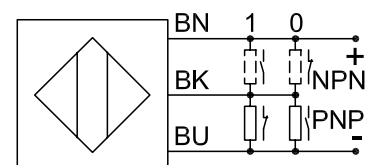
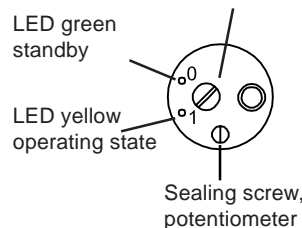
**Technical data**

Operating distance $S_n$ [mm], flush mounting	10, yes
Operating distance min./max. [mm] adjustable	2...20
Electrical version	3-wire DC
Output	NO/NC switchable
<b>Type NPN/PNP switchable</b>	<b>KAS-2000-A14</b>
<b>Art.-No.</b>	<b>770 100</b>
<b>Connection diagram No.</b>	<b>see below</b>
Operating voltage ( $U_B$ )	10...35 V DC
Output current max. ( $I_e$ )	400 mA
Load current min.	-
Voltage drop max. ( $U_d$ )	$\leq 2.0$ 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 and yellow
Protective circuit	built-in
Degree of protection IEC 529	IP 67
Connection cable	2 m 3 x 0.75 mm <sup>2</sup>
Housing material	brass
Active surface	PTFE
Lid	PA

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Sealing screw, change-over switch





## Capacitive Sensors Series 70 - NPN Series 80 - PNP



### Housing M30 x 1.5

- Housing material: PA
- Flush mountable
- Sensing distance 0.5...25 mm adjustable

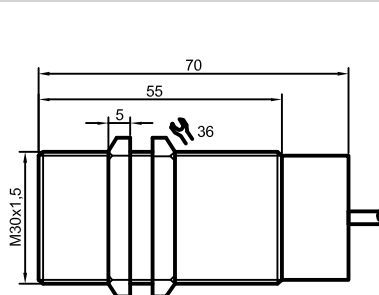
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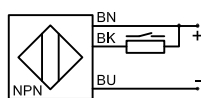
#### Technical data

Operating distance $S_n$ [mm], flush mounting	10, yes	10, yes
Operating distance min./max. [mm] adjustable	0.5...25	0.5...25
Electrical version	3-wire DC	4-wire DC
Output	NO	antivalent
<b>Type NPN</b>		<b>KAS-70-A14-A-K</b>
<b>Art.-No.</b>		<b>705 600</b>
<b>Connection diagram No.</b>		<b>3</b>

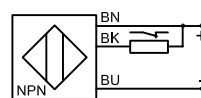
Type PNP	KAS-80-A14-S-K	KAS-80-A14-A-K
<b>Art.-No.</b>	<b>807 200</b>	<b>805 600</b>
<b>Connection diagram No.</b>	<b>4</b>	<b>6</b>
Operating voltage ( $U_B$ )	10...35 V DC	10...35 V DC
Output current max. ( $I_o$ )	400 mA	2 x 250 mA
Load current min.	-	-
Voltage drop max. ( $U_d$ )	$\leq 2.0$ V	$\leq 2.0$ V
Permitted residual ripple max.	10 %	10 %
No-load current ( $I_o$ )	typ. 15 mA	typ. 15 mA
Frequency of operating cycles max.	200 Hz	200 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 0.75 mm <sup>2</sup>	2 m, 4 x 0.5 mm <sup>2</sup>
Housing material	PA	PA
Active surface	PA	PA
Lid	PA	PA



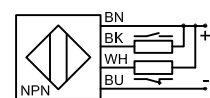
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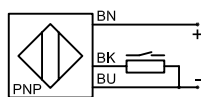
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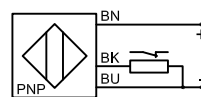
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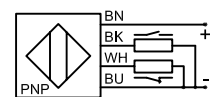
4



5



6



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



## Capacitive Sensors Series - 70 NPN

### Housing M30 x 1.5

- Housing material: PA
- Flush mountable
- Sensing distance 0.5...25 mm adjustable
- With metal flange connector M12 x 1

Certificate:



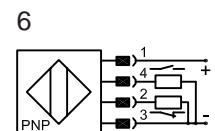
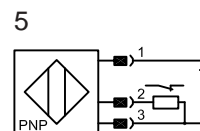
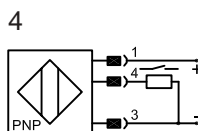
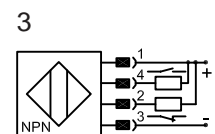
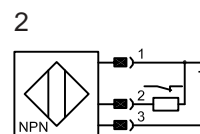
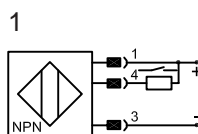
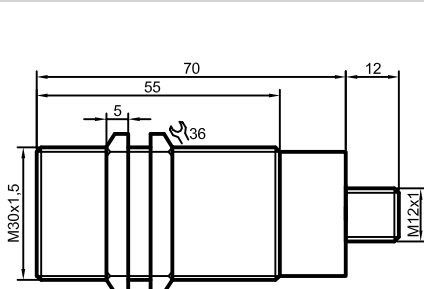
#### Technical data

Operating distance $S_n$ [mm], flush mounting	10, yes
Operating distance min./max. [mm] adjustable	0.5...25
Electrical version	4-pin DC
Output	antivalent
<b>Type NPN</b>	<b>KAS-70-A14-A-K-Y5</b>
<b>Art.-No.</b>	<b>705 800</b>
<b>Connection diagram No.</b>	<b>3</b>

#### Type PNP

<b>Art.-No.</b>	
<b>Connection diagram No.</b>	
Operating voltage ( $U_B$ )	10...35 V DC
Output current max. ( $I_o$ )	2 x 250 mA
Load current min.	-
Voltage drop max. ( $U_d$ )	$\leq 2.0$ V
Permitted residual ripple max.	10 %
No-load current ( $I_o$ )	typ. 15 mA
Frequency of operating cycles max.	200 Hz
Permitted ambient temperature	-25...+70°C
LED-display	green/yellow
Protective circuit	built-in
Degree of protection IEC 529	IP 67
Connection	metal flange connector M12 x 1
Housing material	PA
Active surface	PA
Lid	PA

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





## Capacitive Sensors Series 90 - AC/DC

Housing M30 x 1.5

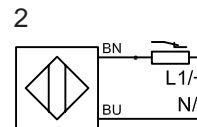
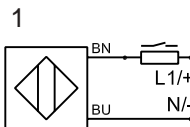
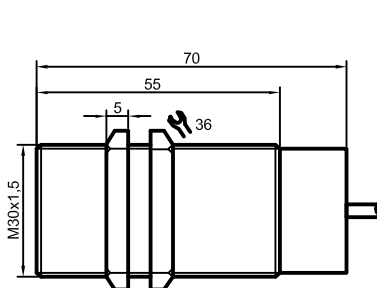
- Housing material: PA
- Flush mountable
- Sensing distance 2...15 mm adjustable



Zulassungen:

### Technical data

Operating distance $S_n$ [mm], flush mounting	10, yes	10, yes
Operating distance min./max. [mm] adjustable	2...15	2...15
Electrical version	2-wire AC/DC	2-wire AC/DC
Output	NO	NC
<b>Type</b>	<b>KAS-90-A14-S</b>	<b>KAS-90-A14-Ö</b>
<b>Art.-No.</b>	<b>900 500</b>	<b>900 600</b>
<b>Connection diagram No.</b>	<b>1</b>	<b>2</b>
Operating voltage ( $U_b$ )	20...250 V AC/DC	20...250 V AC/DC
Output current max. ( $I_o$ )	330 mA	330 mA
Load current min.	5 mA	5 mA
Voltage drop max. ( $U_d$ )	$\leq 6$ V	$\leq 6$ V
Permitted residual ripple max.	-	-
No-load current ( $I_o$ )	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 0.75 mm <sup>2</sup>	2 m 2 x 0.75 mm <sup>2</sup>
Housing material	PA	PA
Active surface	PA	PA
Lid	PA	PA



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





**Capacitive Sensors**  
**Series 1000 - AC/DC - duo<sup>2</sup>**

**Housing M30 x 1.5**

- Housing material: PA
- Flush mountable
- Sensing distance 2...15 mm adjustable
- NO / NC function switchable

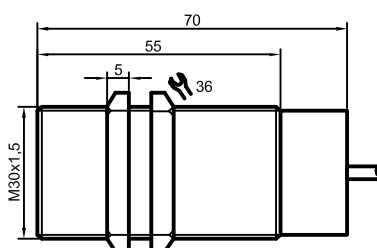
Zulassungen:



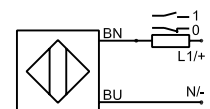
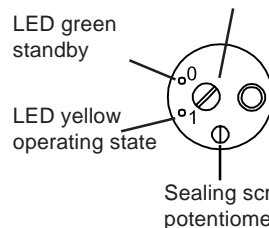
**Technical data**

Operating distance $S_n$ [mm], flush mounting	10, yes
Operating distance min./max. [mm] adjustable	2...15
Electrical version	2-wire AC/DC
Output	NO/NC switchable
<b>Type</b>	<b>KAS-1000-A14-K</b>
<b>Art.-No.</b>	<b>945 000</b>
<b>Connection diagram No.</b>	<b>see below</b>
Operating voltage ( $U_B$ )	20...250 V AC/DC
Output current max. ( $I_e$ )	330 mA
Load current min.	5 mA
Voltage drop max. ( $U_d$ )	≤ 6 V
Permitted residual ripple max.	-
No-load current ( $I_0$ )	typ. 2 mA
Frequency of operating cycles max.	25 Hz
Permitted ambient temperature	-25...+70°C
LED-display	green and yellow
Protective circuit	built-in
Degree of protection IEC 529	IP 67
Connection cable	2 m 2 x 0.75 mm <sup>2</sup>
Housing material	PA
Active surface	PA
Lid	PA

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



Sealing screw, change-over switch





## Capacitive Sensors



### Series 80 - PNP

#### Housing M30 x 1.5

- Housing material: PTFE
- Ideal for detection of chemically aggressive media
- Also suitable for food applications
- Flush mountable
- Sensing distance 0.5...25 mm adjustable
- Option: Total chemical resistance is given when ordering the sensor with PTFE cable and PTFE- protection set Art.-Nr. 196302

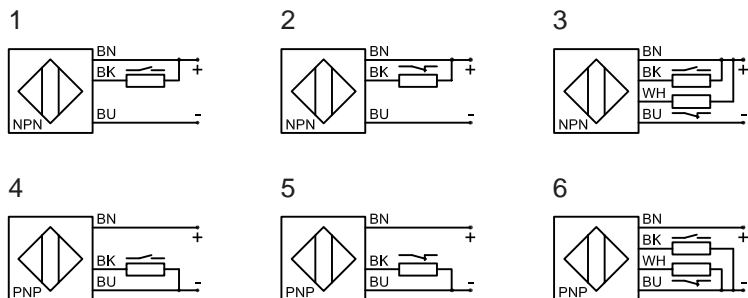
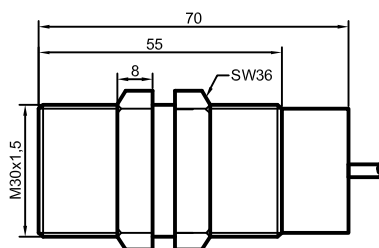
Zulassungen:



#### Technical data

Operating distance $S_n$ [mm], flush mounting	10, yes
Operating distance min./max. [mm] adjustable	0.5...25
Electrical version	4-wire DC
Output	antivalent
<b>Type NPN</b>	
<b>Art.-No.</b>	
<b>Connection diagram No.</b>	

<b>Type PNP</b>	<b>KAS-80-A14-A-K-PTFE</b>
<b>Art.-No.</b>	<b>805 620</b>
<b>Connection diagram No.</b>	<b>6</b>
Operating voltage ( $U_B$ )	10...35 V DC
Output current max. ( $I_o$ )	2 x 250 mA
Load current min.	-
Voltage drop max. ( $U_d$ )	$\leq 2.0$ V
Permitted residual ripple max.	10 %
No-load current ( $I_o$ )	typ. 15 mA
Frequency of operating cycles max.	200 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 0.5 mm <sup>2</sup>
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 M30 x 1.5

- Housing material: brass
- Non-flush mountable
- Sensing distance 1...30 mm adjustable

Certificate:

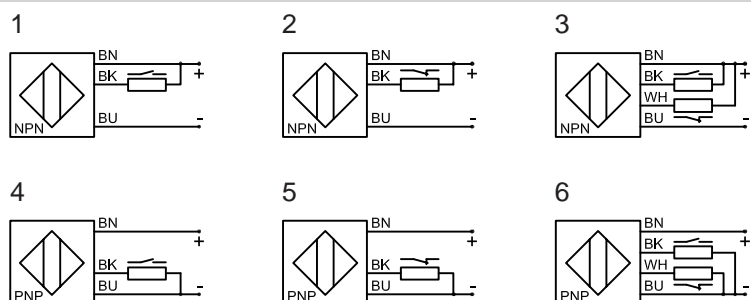
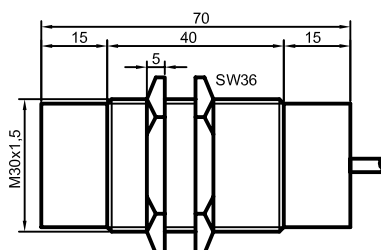


#### Technical data

Operating distance $S_n$ [mm], flush mounting	15, no	15, no
Operating distance min./max. [mm] adjustable	1...30	1...30
Electrical version	3-wire DC	4-wire DC
Output	NO	antivalent
<b>Type NPN</b>		<b>KAS-70-A24-A</b>
<b>Art.-No.</b>		<b>708 000</b>
<b>Connection diagram No.</b>		<b>3</b>

Type PNP	KAS-80-A24-S	KAS-80-A24-A
<b>Art.-No.</b>	<b>808 800</b>	<b>808 000</b>
<b>Connection diagram No.</b>	<b>4</b>	<b>6</b>
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. ( $U_d$ )	$\leq 2.0$ V	$\leq 2.0$ 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 0.75 mm <sup>2</sup>	2 m, 4 x 0.5 mm <sup>2</sup>
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 M30 x 1.5

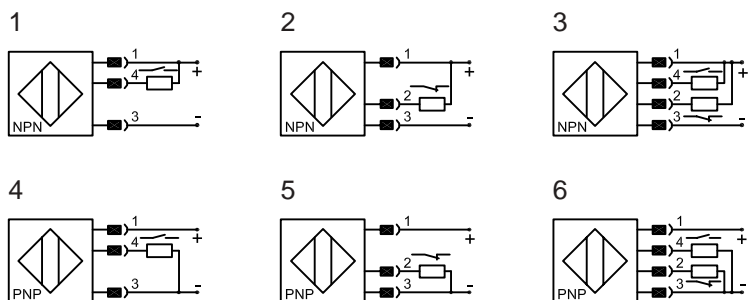
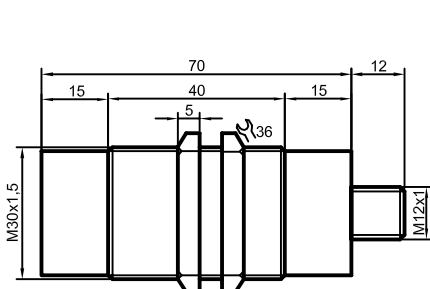
- Housing material: brass
- Non-flush mountable
- Sensing distance 1...30 mm adjustable
- With metal flange connector M12 x 1

Certificate:



#### Technical data

Operating distance $S_n$ [mm], flush mounting	15, no
Operating distance min./max. [mm] adjustable	1...30
Electrical version	4-pin DC
Output	antivalent
<b>Type NPN</b>	<b>KAS-70-A24-A-Y5</b>
<b>Art.-No.</b>	<b>708 200</b>
<b>Connection diagram No.</b>	<b>3</b>
<b>Type PNP</b>	<b>KAS-80-A24-A-Y5</b>
<b>Art.-No.</b>	<b>808 200</b>
<b>Connection diagram No.</b>	<b>6</b>
Operating voltage ( $U_B$ )	10...35 V DC
Output current max. ( $I_o$ )	2 x 250 mA
Load current min.	-
Voltage drop max. ( $U_d$ )	$\leq 2.0$ 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	metal flange connector M12 x 1
Housing material	Ms
Active surface	PTFE
Lid	PA



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



**Capacitive Sensors  
Series 2000 - quattro<sup>3</sup>**

**Housing M30 x 1.5**

- Housing material: brass
- Non-flush mountable
- Sensing distance 3...25 mm adjustable
- Multifunction sensor: NPN / PNP;  
NO / NC function switchable

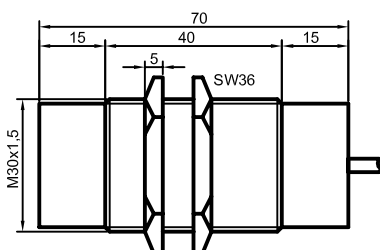
Certificate:



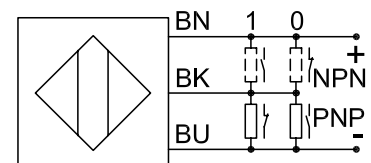
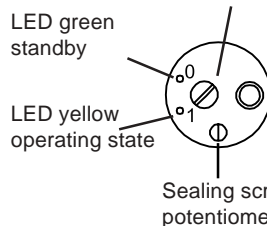
**Technical data**

Operating distance $S_n$ [mm], flush mounting	15, no
Operating distance min./max. [mm] adjustable	3...25
Electrical version	3-wire DC
Output	NO/NC switchable
<b>Type NPN/PNP switchable</b>	<b>KAS-2000-A24</b>
<b>Art.-No.</b>	<b>770 200</b>
<b>Connection diagram No.</b>	<b>see below</b>
Operating voltage ( $U_B$ )	10...35 V DC
Output current max. ( $I_e$ )	400 mA
Load current min.	-
Voltage drop max. ( $U_d$ )	$\leq 2.0$ 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 and yellow
Protective circuit	built-in
Degree of protection IEC 529	IP 67
Connection cable	2 m 3 x 0.75 mm <sup>2</sup>
Housing material	brass
Active surface	PTFE
Lid	PA

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



Sealing screw, change-over switch





## Capacitive Sensors Series 70 - NPN Series 80 - PNP



### Housing M30 x 1.5

- Housing material: PA
- Non-flush mountable
- Sensing distance 1...30 mm adjustable

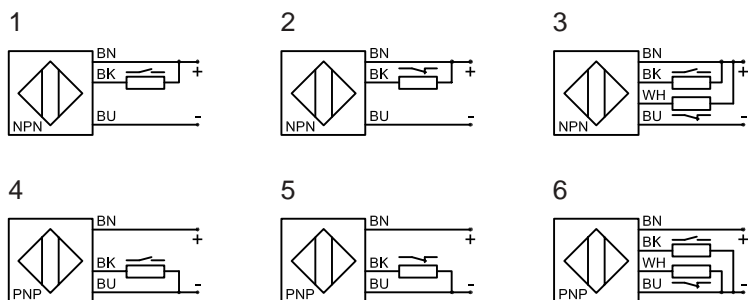
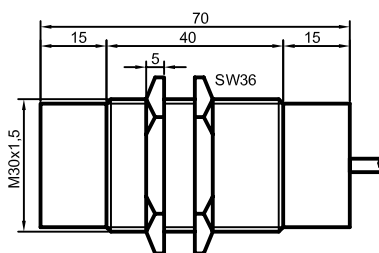
Certificate:



#### Technical data

Operating distance $S_n$ [mm], flush mounting	15, no	15, no
Operating distance min./max. [mm] adjustable	1...30	1...30
Electrical version	3-wire DC	4-wire DC
Output	NO	antivalent
<b>Type NPN</b>		<b>KAS-70-A24-A-K</b>
<b>Art.-No.</b>		<b>708 400</b>
<b>Connection diagram No.</b>		<b>3</b>

Type PNP	KAS-80-A24-S-K	KAS-80-A24-A-K
<b>Art.-No.</b>	<b>809 600</b>	<b>808 400</b>
<b>Connection diagram No.</b>	<b>4</b>	<b>6</b>
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. ( $U_d$ )	$\leq 2.0$ V	$\leq 2.0$ 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 0.75 mm <sup>2</sup>	2 m 4 x 0.5 mm <sup>2</sup>
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 M30 x 1.5

- Housing material: PA
- Non-flush mountable
- Sensing distance 1...30 mm adjustable
- With metal flange connector M 12 x 1



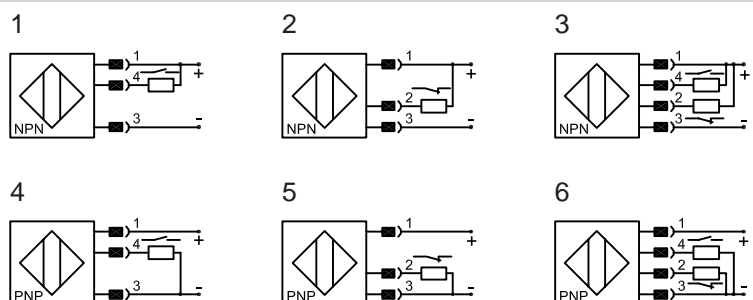
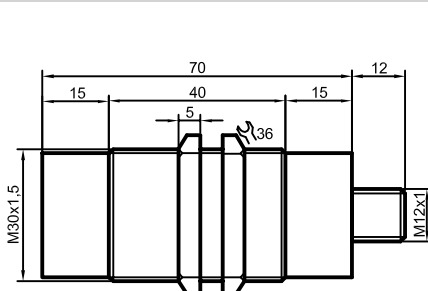
Certificate:

#### Technical data

Operating distance $S_n$ [mm], flush mounting	15, no
Operating distance min./max. [mm] adjustable	1...30
Electrical version	4-pin DC
Output	antivalent
<b>Type NPN</b>	
<b>Art.-No.</b>	
<b>Connection diagram No.</b>	

<b>Type PNP</b>	<b>KAS-80-A24-A-K-Y5</b>
<b>Art.-No.</b>	<b>808 600</b>
<b>Connection diagram No.</b>	<b>6</b>
Operating voltage ( $U_B$ )	10...35 V DC
Output current max. ( $I_o$ )	2 x 250 mA
Load current min.	-
Voltage drop max. ( $U_d$ )	$\leq 2.0$ 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	metal flange connector M12 x 1
Housing material	PA
Active surface	PA
Lid	PA

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





## Capacitive Sensors Series 2000 - **quattro**<sup>13</sup>

### Housing M30 x 1.5

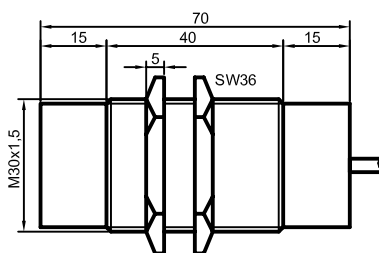
- Housing material: PA
- Non-flush mountable
- Sensing distance 3...25 mm adjustable
- Multifunction sensor: NPN / PNP;  
NO / NC function switchable

Certificate:

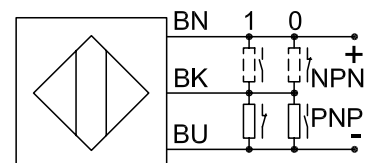
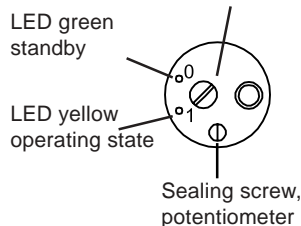


#### Technical data

Operating distance $S_n$ [mm], flush mounting	15, no
Operating distance min./max. [mm] adjustable	3...25
Electrical version	3-wire DC
Output	NO/NC switchable
<b>Type NPN/PNP switchable</b>	<b>KAS-2000-A24-K</b>
<b>Art.-No.</b>	<b>770 250</b>
<b>Connection diagram No.</b>	<b>see below</b>
Operating voltage ( $U_B$ )	10...35 V DC
Output current max. ( $I_o$ )	400 mA
Load current min.	-
Voltage drop max. ( $U_d$ )	$\leq 2.0$ 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 and yellow
Protective circuit	built-in
Degree of protection IEC 529	IP 67
Connection cable	2 m 3 x 0.50 mm <sup>2</sup>
Housing material	PA
Active surface	PA
Lid	PA



Sealing screw, change-over switch



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





## Capacitive Sensors Series - 90 AC/DC

### Housing M30 x 1.5

- Housing material: PA
- Non-flush mountable
- Sensing distance 2...20 mm adjustable

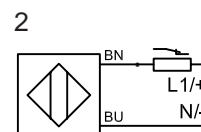
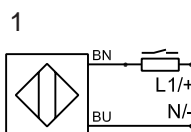
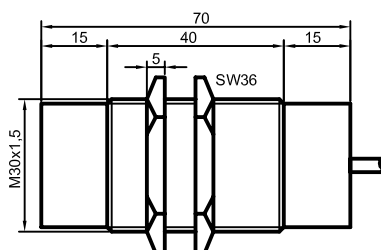
Certificate:



#### Technical data

Operating distance $S_n$ [mm], flush mounting	15, no	15, no
Operating distance min./max. [mm] adjustable	2...20	2...20
Electrical version	2-wire AC/DC	2-wire AC/DC
Output	NO	NC
<b>Type</b>	<b>KAS-90-A24-S</b>	<b>KAS-90-A24-Ö</b>
<b>Art.-No.</b>	<b>900 800</b>	<b>900 900</b>
<b>Connection diagram No.</b>	<b>1</b>	<b>2</b>
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. ( $U_d$ )	$\leq 6$ V	$\leq 6$ 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 0.75 mm <sup>2</sup>	2 m 2 x 0.75 mm <sup>2</sup>
Housing material	PA	PA
Active surface	PA	PA
Lid	PA	PA

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





## Capacitive Sensors Series 1000 - AC/DC - duo<sup>2</sup>

### Housing M30 x 1.5

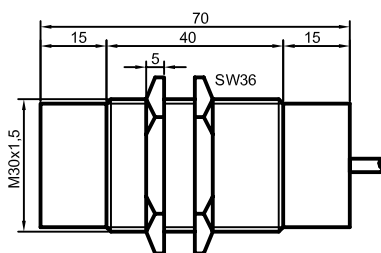
- Housing material: brass
- Non-flush mountable
- Sensing distance 3...20 mm adjustable
- NO / NC function switchable

Certificate:



#### Technical data

Operating distance $S_n$ [mm], flush mounting	15, no
Operating distance min./max. [mm] adjustable	3...20
Electrical version	2-wire AC/DC
Output	NO/NC switchable
<b>Type</b>	<b>KAS-1000-A24-K</b>
<b>Art.-No.</b>	<b>945 100</b>
<b>Connection diagram No.</b>	<b>see below</b>
Operating voltage ( $U_B$ )	20...250 V AC/DC
Output current max. ( $I_o$ )	330 mA
Load current min.	5 mA
Voltage drop max. ( $U_d$ )	≤ 6 V
Permitted residual ripple max.	-
No-load current ( $I_o$ )	typ. 2 mA
Frequency of operating cycles max.	25 Hz
Permitted ambient temperature	-25...+70°C
LED-display	green and yellow
Protective circuit	built-in
Degree of protection IEC 529	IP 67
Connection cable	2 m 2 x 0.75 mm <sup>2</sup>
Housing material	PA
Active surface	PA
Lid	PA

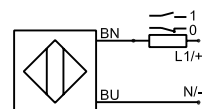


Sealing screw, change-over switch

LED green  
standby

LED yellow  
operating state

Sealing screw, potentiometer



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



## Capacitive Sensors Series 70 - NPN Series 80 - PNP

### Housing M30 x 1.5

- Housing material: PTFE
- Ideal for detection of chemically aggressive media
- Also suitable for food applications
- Non-flush mountable
- Sensing distance 1...30 mm adjustable
- Option: Total chemical resistance is given when ordering the sensor with PTFE cable and PTFE- protection set Art.-Nr. 196302

Certificate:



#### Technical data

Operating distance $S_n$ [mm], flush mounting	15, no
Operating distance min./max. [mm] adjustable	1...30
Electrical version	4-wire DC
Output	antivalent
<b>Type NPN</b>	<b>KAS-70-A24-A-K-PTFE</b>
<b>Art.-No.</b>	<b>708 401</b>
<b>Connection diagram No.</b>	<b>3</b>

<b>Type PNP</b>	<b>KAS-80-A24-A-K-PTFE</b>
<b>Art.-No.</b>	<b>808 401</b>
<b>Connection diagram No.</b>	<b>6</b>

Operating voltage ( $U_B$ )	10...35 V DC
Output current max. ( $I_o$ )	2 x 250 mA
Load current min.	-
Voltage drop max. ( $U_d$ )	$\leq 2.0$ 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 0.50 mm <sup>2</sup>
Housing material	PTFE
Active surface	PTFE
Lid	PA

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

