RECHNER SENSORS

SHORTFORM CATALOGUE

Registration No.: 1327-01

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With publication of this catalogue all former printed general catalogues about RECHNER sensors are invalid.

RECHNER Industrie-Elektronik GmbH • Gaußstraße 8-10 • D-68623 Lampertheim • Tel. (0 62 06) 50 07-0 • Fax (0 62 06) 50 07-36 • e-mail: info@rechner-sensors.de • www.rechner-sensors.com

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GENERAL INFORMATION

Dear Partner,

Thank you for your interest in our company and products. There are all kinds of sensing tasks. Solving them requires products and innovations based on many years of experience. Our sensors reliably acquire the critical data you need. They help optimise your production and automation processes and can help to ensure your competitive edge.

With this summary short form catalogue we offer you a small over-view of our wide-reaching product range. The presented selection of sensors and evaluation units are just a fraction of our product program. Though the choice of the products has been made such that with them many applications can be solved. If you wish for more detailed information please ask for our corresponding catalogue or the complete binder.

Following you will find a short description of the different product groups:

Capacitive sensors (KAS) react to metals and non-metals that exceed a specific capacitance on approaching the active surface.
The sensing distance with respect to a specific material is greater the higher the dielectric constant.

The sensors are used to detect objects, for counting functions and for all types of level monitoring applications (liquid and solid materials).

Inductive sensors (IAS) feature transistorised oscillators whose power consumption is influenced by the approach of metals and other electrically conductive materials such as carbon. This effect can also be achieved when detection is through non-conductive materials. These devices can be used as limit switches and position sensors for monitoring and positioning applica-tions in machines and installations as well as pulse generators for counter systems, distance measurements, speed control and many other applications.

Our product range comprise:

- **Capacitive Proximity Sensors**
- **Inductive Proximity Sensors**
- **Magneto-Resistive Sensors**
- **Capacitive Sensors with long Sensing Distance; *KXS-Extreme* Series**
- **Capacitive Filling Level Systems**
- **Flow Sensors**
- **Power Supplies and Isolating Switching Amplifiers**

Furthermore we have a large number of **ATEX certified products**.
For the ATEX products we provide a separate catalogue.

For applications where there are hot ambient condition, we offer inductive and capacitive sensors with integrated electronics which dependent on the model can be used for applications with ambient temperature of **+100 °C, +120 °C and even up to +160 °C.**

Moreover for extreme ambient or product temperatures up to **+250** °C we have **high temperature sensors** with remote electronics.

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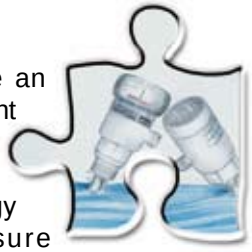
The **magneto resistive sensors (MRS)** detect the movement of ferromagnetic materials, by means of the change of the magnetic flow. They are available with (Series 350) or without (series 300) detection of direction of rotation. They are suitable for rotary speed sensing, for detection of gearwheels and for standstill control. Areas of use can be heavy construction engines, rail vehicles, large diesel engines and -turbines. Rotary speed sensing is possible with gear wheels from module 1, with a max. switching frequency of 15 kHz.

The **SW-600 series** is a range of **flow sensors** based on the calorimetric measuring principle. This principle is based on the physical effect that flowing medium absorbs heat energy. The cooling of the sensor tip by the flowing medium is registered and electronically evaluated.



Flow sensors are an essential component of processing- and operation plants in systems technology in order to ensure operational safety. They are used for detection of liquid media and for coolant supply as well as for operation control at pumps.

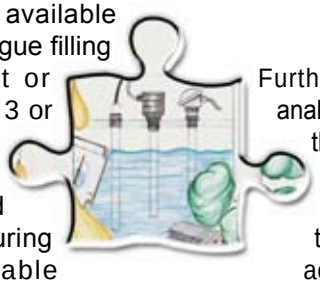
The EG...-130-... series control units contain a DC-side short-circuit protected power pack, voltage stabiliser and output relay.
These control units can be actuated by all 2, 3 and 4-wire sensors with PNP, NPN, NO, NC or antivalent functions, i. e. our series IAS-10..., IAS-20..., IAS-60..., KAS-70..., KAS-80..., KAS-90..., and SW-600.

The **capacitive sensors** with extreme long sensing distance (**KXS.../ KXA....**) are based on the three-electrode measuring principle. This measuring principle allows much larger sensing distances compared to the two-electrode principle of common capacitive sensors (KAS), up to 10-times the norm. Although one achieves essentially larger switching distances with these capacitive systems, the size of the sensors is small.

KXS Systems are used for applications where the sensing distances of standard sensors are not sufficient.

A further feature is the Duplex- or Triplex-operation. With the corresponding evaluation unit it is possible to adjust 1, 2 or 3 switching points with only one sensor.

The **Capacitive Filling Level Systems (KFS.../KFA.../KFX...)** operate according to the three-electrode principle. With this principle the container or an additional electrode serve as a counter-electrode to the probe electrodes. For this reason it is necessary with this system that the container is of a conductive material or a „substitute electrode“ is fixed to the container wall, e.g. copper foil. These systems are available with probes for analogue filling level measurement or for detection of 1, 2, 3 or 4 measuring points. The position of the switching points and the analogue measuring area is user-definable within the possible effective range and therefore it can be determined for optimal matching of each application. Level measurements of bulk material, liquids or pastes are possible with a dielectric constant as of ε_r 1,1.



For the selection of the right type along with the technical specifications the following parameters are important:

There are two different types of capacitive and inductive sensors. Sensors for flush mounting or models for non-flush mounting where the sensor has an exposed head.

Flush mountable sensors are particularly suitable for detecting solid objects without direct contact and for sensing liquid or solid levels through non-metals partitions.

The ***non-flush*** mountable sensors are designed for applications, in which the medium to be monitored comes in direct contact with the sensor. In such level monitoring systems, the sensor head is completely immersed in the powder, granulate or liquid.

The switching function of the sensors are mentioned in the type code:

„S“ = normally open
„Ö“ = normally closed
„A“ = antivalent (normally open / normally closed)

Furthermore we have sensors with analogue output. These sensors have the description „IL“ in the type code and supply a proportional output signal corresponding to the distance of an object to the active surface in the form of a 4 and 20 mA current output. As an object approaches, this current decreases to a minimum of 2.5 mA. The analogue sensors are particularly suitable for measurement and control engineering applications and are PLC-compatible.

APPLICATION EXAMPLES

Capacitive Sensors detect all kind of materials, liquids, bulk material, or objects.

For level control non-flush mountable Sensors are recommended.

For detection at a distance the flush mountable sensors are the right choice.

Filling level detection with capacitive sensors (KAS)

non-flush mountable KAS

flush mountable KAS

Detection of the content of a cardboard package e.g. tins with capacitive sensors (KAS)

Content control of tablets in blister packages with capacitive sensors (KAS)

Counting of objects with capacitive sensors (KAS) e.g. jars of mustard

Analogue measurements in the automobile industry with capacitive sensors (KAS)
e.g. position of the indicator

Inductive sensors (IAS) and magneto resistive Sensors (MRS) detect metal objects in machines, plants and vehicles.

They serve as pulse generator for speed controls, position controls, distance and counting measurements.

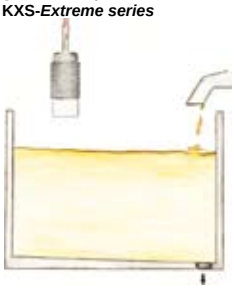
Detection of a gear wheel or cam wheel with inductive sensors (IAS) or magneto resistive sensors (MRS)

Position control of transported tins with inductive sensors (IAS)

Capacitive sensors of the KXS-Extreme-series operate on the basis of the three-electrode principle. With this measuring principle, one electrode is removed to the outside. The protective conductor-potential PE - i. e. the machine and system potential - is now also used as a measurement electrode. The evaluation takes place with remote electronics.

KXS sensors can be used for level monitoring of liquids, pastes or bulk material, including measurement through non-metal partitions. Furthermore as limit switches, contactless position switches for monitoring and positioning, as a pulse generator for counting tasks and for many other applications.

Level control in a container with glue with capacitive sensors of the KXS-*Extreme series*



Overflow protection of casts, for example for plastic lenses for glasses with capacitive sensors of the KXS-*Extreme series.*

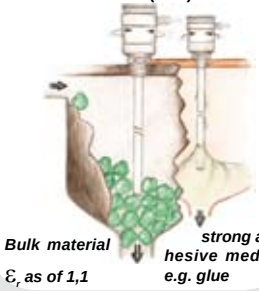
Detection of accummulations during the production of small parts with capacitive sensors of the KXS-*Extreme series*

The capacitive filling level measuring systems (KFS/KFA; KFX) operate according to the three-electrode principle. Here the container or an additional electrode serves as a counter-electrode to the probe electrodes. For this reason it is essential with this system that the container is of a conductive material or a „substitute electrode“ is fixed to the container wall, e.g. copper foil.

Filling level measurements in containers or tubes up to 5 m in diameter are possible. Maximum length of the probes 2 m

TRUE- or *PER* Level rod probe (KFS) for detection of granules

Level control of different media with *TRUE-* or *PER* Level rod probes with connection head (KFX)



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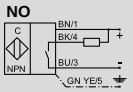
CONNECTION DIAGRAMS

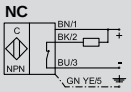
Capacitive sensors KAS-...

DC

NO



NC



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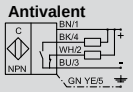

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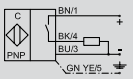
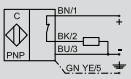


NC



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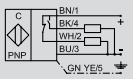
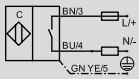
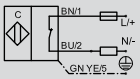


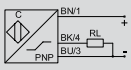
AC/DC



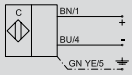


Protective earth-terminal for metal version only

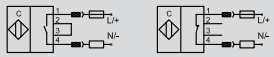
Analogue



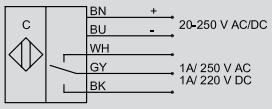
Namur



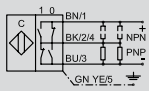
KAS-90-uC



KAS-95



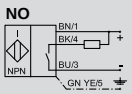
KAS-2000



Inductive sensors IAS-...

DC

NO



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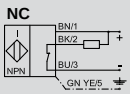

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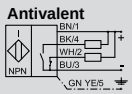

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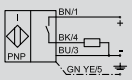

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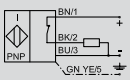

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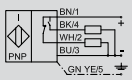

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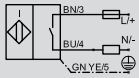
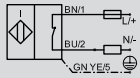
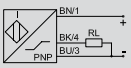


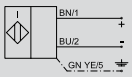


Protective earth-terminal for metal version only

Analogue

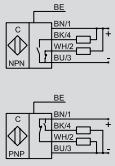


Namur



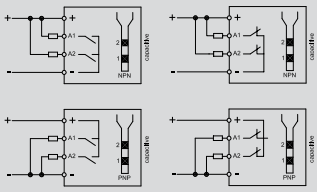
PERFECT LEVEL

KFA-5-1-...Evaluation unit
Antivalent



KFX-...Compact filling level probe

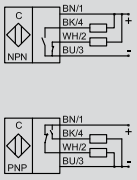
NO



NC

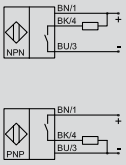
KXA-...Evaluation unit

Antivalent

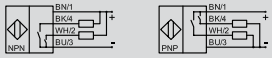


MRS-...

NO



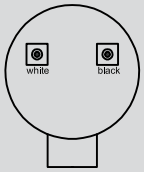
NO
with detection of direction of rotation



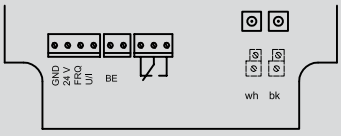
BK = Speed control
WH = detection of direction of rotation

TRUE LEVEL

KFS-1-... with connection head

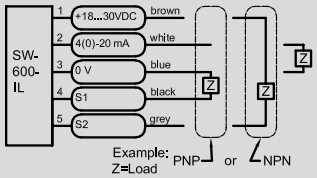


KFA-1-... Evaluation unit



SW-...

Analogue



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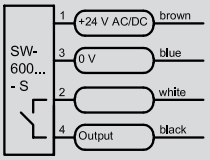
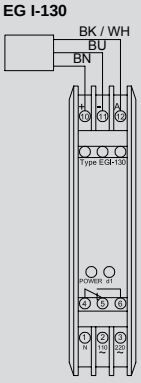
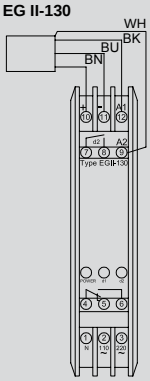


EG...

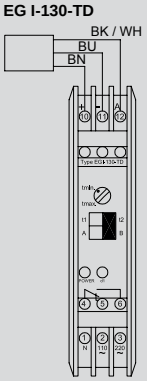
EG I-130



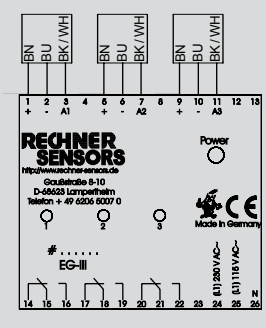
EG II-130



EG I-130-TD



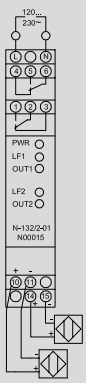
EG III-130



N-132...

N-132/1-01

N-132/2-01



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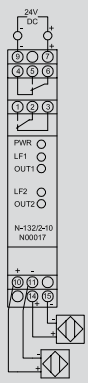


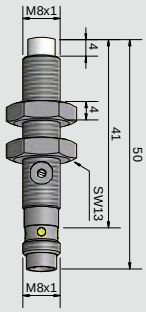
N-132/2-E-10

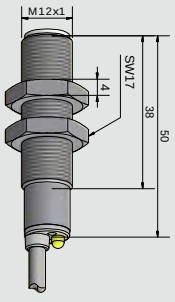
CAPACITIVE SENSORS KAS

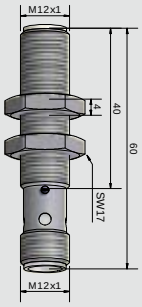
Housing	M 8 x 1	M 12 x 1	M 12 x 1	M 12 x 1
				
Technical data	Non-flush mountable	Flush mountable	Flush mountable	Non-flush mountable
Sensing distance Sn	2 mm	2 mm	2 mm	4 mm
Sensing distance min./max. adjustable	0...4 mm	0...6 mm	0...6 mm	0,5...10 mm
Type NPN normally open (NO)				
Type NPN normally closed (NC)				
Type NPN antivalent (NO + NC)		KAS-70-A12-A	KAS-70-A12-A-Y5	
Type PNP normally open (NO)	KAS-80-A21-S-Y7	KAS-80-A12-S		
Type PNP normally closed (NC)				
Type PNP antivalent (NO + NC)		KAS-80-A12-A	KAS-80-A12-A-Y5	KAS-80-A22-A-Y5
Type NPN/PNP NO/NC switchable				
Type AC/DC normally open				
Type AC/DC normally closed				
Operating voltage (U_B)	10...35 V DC	10...35 V DC	10...35 V DC	10...35 V DC
Output current (I_e)	150 mA	250 mA / 2 x 250 mA	2 x 250 mA	2 x 250 mA
No load current (I_o)	Typ. 10 mA	Typ. 10 mA	Typ. 10 mA	Typ. 10 mA
Frequency of operating cycles max.	50 Hz	500 Hz	500 Hz	50 Hz
Permitted ambient temperature	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
LED display	Yes	Yes	Yes	Yes
Protective circuit	Yes	Yes	Yes	Yes
Norm	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
Degree of protection IEC 60529*	IP 67	IP 67	IP 67	IP 67
Connection	Flange connector M 8 x 1	2 m Cable	Flange connector M 12 x 1	Flange connector M 12 x 1
Housing material	VA No. 1.4305	VA No. 1.4305	VA No. 1.4305	VA No. 1.4305
Active surface	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)
Lid	-	PA / PPO	-	-
Certifications	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA

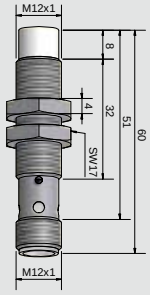
*with sealed potentiometer screw

Dimensions:



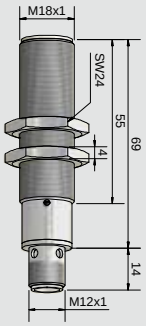
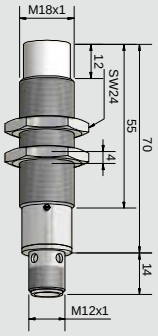
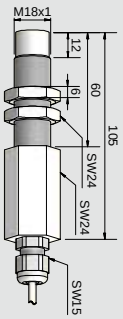
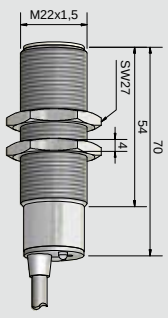






Connection diagram see page 7
Female connector M 12 see page 17

CAPACITIVE SENSORS KAS

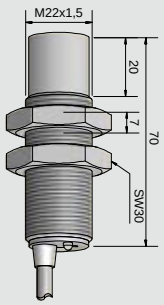
M 18 x 1	M 18 x 1	M 18 x 1	Ø 22 mm	M 22 x 1,5	
					
Flush mountable	Non-flush mountable	Non-flush mountable	Flush mountable	Flush mountable	
5 mm	8 mm	8 mm	8 mm	8 mm	
0,5...10 mm	0,5...15 mm	0,5...15 mm	0,5...15 mm	0,5...15 mm	
KAS-70-A13-A-Y5	KAS-70-A23-A-Y5		KAS-70-20-A	KAS-70-20-A-M22	
		KAS-80-A23-S-K-PTFE-IP68	KAS-80-20-S		
KAS-80-A13-A-Y5	KAS-80-A23-A-Y5		KAS-80-20-A	KAS-80-20-A-M22	
10...35 V DC	10...35 V DC	10...35 V DC	10...35 V DC	10...35 V DC	
2 x 250 mA	2 x 250 mA	250 mA	250 mA / 2 x 250 mA	2 x 250 mA	
Typ. 10 mA	Typ. 10 mA	Typ. 10 mA	Typ. 10 mA	Typ. 10 mA	
300 Hz	50 Hz	50 Hz	300 Hz	300 Hz	
-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C	
Yes	Yes	Yes	Yes	Yes	
Yes	Yes	Yes	Yes	Yes	
EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	
IP 67	IP 67	IP 68	IP 67	IP 67	
Flange connector M 12 x 1	Flange connector M 12 x 1	2 m PTFE-Cable and protection set	2 m Cable	2 m Cable	
Brass	Brass	PTFE (FDA 21 CFR 177.1550)	Brass	Brass	
PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)	
-	-	PTFE / PVDF	PA / PPO	PA / PPO	
CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	
					

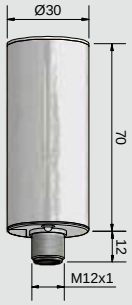
CAPACITIVE SENSORS KAS

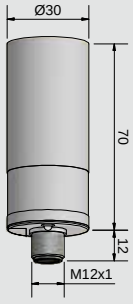
Housing	M 22 x 1,5	Ø 30 mm	Ø 30 mm	M 30 x 1,5
				
Technical Data	Non-flush mountable	Flush mountable	Non-flush mountable	Flush mountable
Operating distance Sn	12 mm	20 mm	25 mm	10 mm
Operating distance min./max. adjustable	5...20 mm	0,5...30 mm	1...40 mm	0,5...25 mm
Type NPN NO	KAS-70-23-S-M22			
Type NPN NC				
Type NPN antivalent (NO + NC)	KAS-70-23-A-M22	KAS-70-30-A-Y5	KAS-70-35-A-Y5	KAS-70-A14-A
Type PNP NO	KAS-80-23-S-M22			KAS-80-A14-S
Type PNP NC				
Type PNP antivalent (NO + NC)	KAS-80-23-A-M22	KAS-80-30-A-Y5	KAS-80-35-A-Y5	KAS-80-A14-A
Type AC/DC - S/Ö switchable				
Type AC/DC NO				
TYPE AC/DC NC				
Operating voltage (U_B)	10...35 V DC	10...35 V DC	10...35 V DC	10...35 V DC
Output current max. (I_e)	250 mA / 2 x 250 mA	2 x 250 mA	2 x 250 mA	250 mA / 2 x 250 mA
No-load current (I_o)	Typ. 10 mA	Typ. 10 mA	Typ. 10 mA	Typ. 10 mA
Frequency of operating cycles max.	50 Hz	200 Hz	50 Hz	200 Hz
Permitted ambient temperature	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
LED-display	Yes	Yes	Yes	Yes
Protective circuit	Yes	Yes	Yes	Yes
Norm	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
Degree of protection IEC 60529*	IP 67	IP 67	IP 67	IP 67
Connection	2 m Cable	Flange connector M 12 x 1	Flange connector M 12 x 1	2 m Cable
Housing material	PA / PPO	Brass	PA / PPO	Brass
Active surface	PA / PPO	PTFE (FDA 21 CFR 177.1550)	PA / PPO	PTFE (FDA 21 CFR 177.1550)
Lid	PA / PPO	PA / PPO	PA / PPO	PA / PPO
Certification	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA

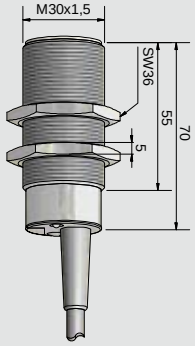
*with sealed potentiometer screw

Dimensions:



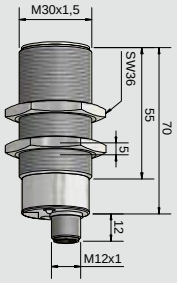
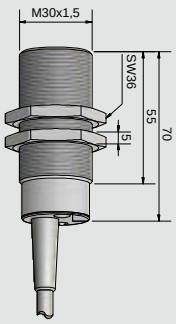
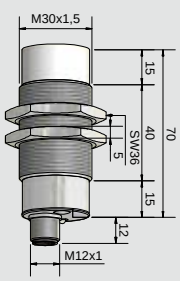
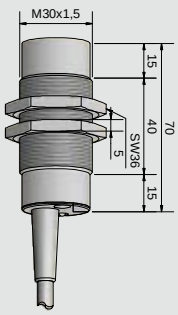
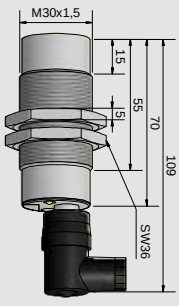






Connection diagram see page 7
Female connector M12 see page 17

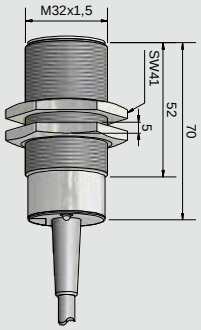
CAPACITIVE SENSORS KAS

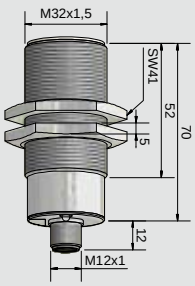
M 30 x 1,5	M 30 x 1,5	M 30 x 1,5	M 30 x 1,5	M 30 x 1,5	
					NL
Flush mountable	Flush mountable	Non-flush mountable	Non-flush mountable	Non-flush mountable	
10 mm	10 mm	15 mm	15 mm	15 mm	
0,5...25 mm	0,5...25 mm	1...30 mm	1...30 mm	2...20 mm	
KAS-70-A14-A-Y5	KAS-70-A14-A-K	KAS-70-A24-A-Y5	KAS-70-A24-A-K		
	KAS-80-A14-S-K		KAS-80-A24-S-K		
KAS-80-A14-A-Y5	KAS-80-A14-A-K	KAS-80-A24-A-Y5	KAS-80-A24-A-K		
				KAS-90-A24-uC-S/Ö-NL-Y1	
10...35 V DC	10...35 V DC	10...35 V DC	10...35 V DC	20...250 V AC / DC	
2 x 250 mA	250 mA / 2 x 250 mA	2 x 250 mA	250 mA / 2 x 250 mA	330 mA (ETL = 250 mA)	
Typ. 10 mA	Typ. 10 mA	Typ. 10 mA	Typ. 10 mA	< 2,5 mA	
200 Hz	200 Hz	50 Hz	50 Hz	25 Hz	
-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C (ETL = +60 °C)	
Yes	Yes	Yes	Yes	Yes	
Yes	Yes	Yes	Yes	Yes	
EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	
IP 67	IP 67	IP 67	IP 67	IP 67	
Flange connector M 12 x 1	2 m Cable	Flange connector M 12 x 1	2 m Cable	Flange connector M 12 x 1	
Brass	PA / PPO	Brass	PA / PPO	PA / PPO	
PTFE (FDA 21 CFR 177.1550)	PA / PPO	PTFE (FDA 21 CFR 177.1550)	PA / PPO	PA / PPO	
PA / PPO	PA / PPO	PA / PPO	PA / PPO	PA / PPO	
CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	
					

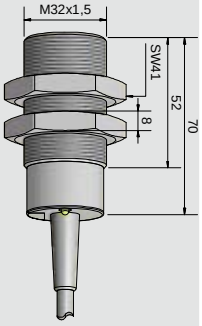
CAPACITIVE SENSORS KAS

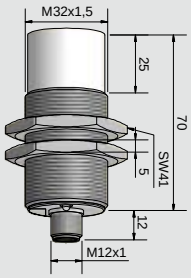
Housing	M 32 x 1,5	M 32 x 1,5	M 32 x 1,5	M 32 x 1,5
				
Technical Data	Flush mountable	Flush mountable	Flush mountable	Non-flush mountable
Operating distance Sn	20 mm	20 mm	15 mm	25 mm
Operating distance min./max. adjustable	0,5...30 mm	0,5...30 mm	2...20 mm	1...40 mm
Type NPN NO	KAS-70-30-S-M32			
Type NPN NC				
Type NPN antivalent (NO + NC)	KAS-70-30-A-M32	KAS-70-30-A-M32-Y5		KAS-70-34-A-M32-PTFE/V2A-Y5
Type PNP NO	KAS-80-30-S-M32			
Type PNP NC				
Type PNP antivalent (NO + NC)	KAS-80-30-A-M32	KAS-80-30-A-M32-Y5		KAS-80-34-A-M32-PTFE/V2A-Y5
Type NPN/PNP-NO/NC switchable				
Type AC/DC NO			KAS-90-30-S-M32	
TYPE AC/DC NC			KAS-90-30-Ö-M32	
Operating voltage (U_B)	10...35 V DC	10...35 V DC	20...250 V AC/DC	10...35 V DC
Output current max. (I_e)	250 mA / 2 x 250 mA	2 x 250 mA	330 mA (ETL = 250 mA)	2 x 250 mA
No-load current (I_o)	Typ. 10 mA	Typ. 10 mA	Typ. 2,5 mA	Typ. 10 mA
Frequency of operating cycles max.	200 Hz	200 Hz	25 Hz	50 Hz
Permitted ambient temperature	-25...+70 °C	-25...+70 °C	-25...+70 °C (ETL = +60 °C)	-25...+70 °C
LED-display	Yes	Yes	Yes	Yes
Protective circuit	Yes	Yes	Yes	Yes
Norm	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
Degree of protection IEC 60529*	IP 67	IP 67	IP 67	IP 67
Connection	2 m Cable	Flange connector M 12 x 1	2 m Cable	Flange connector M 12 x 1
Housing material	Brass	Brass	PA / PPO	VA No. 1.4305
Active surface	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)	PA / PPO	PTFE (FDA 21 CFR 177.1550)
Lid	PA / PPO	PA / PPO	PA / PPO	PA / PPO
Certification	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA
*with sealed potentiometer screw				

Dimensions:



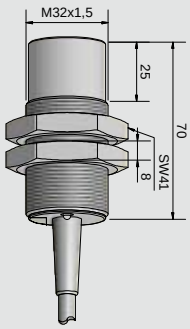
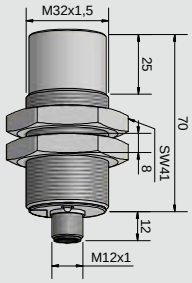
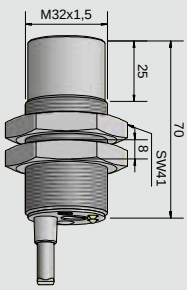
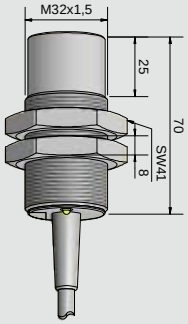
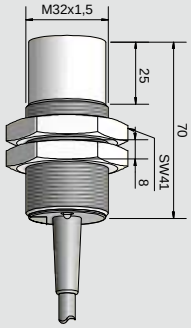






Connection diagram see page 7
Female connector M12 see page 17

CAPACITIVE SENSORS KAS

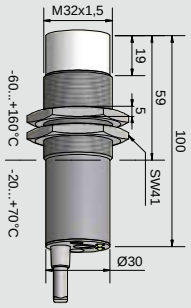
M 32 x 1,5	M 32 x 1,5	M 32 x 1,5	M 32 x 1,5	M 32 x 1,5	
					
Non-flush mountable	Non-flush mountable	Non-flush mountable	Non-flush mountable	Non-flush mountable	
25 mm	25 mm	25 mm	20 mm	25 mm	
1...40 mm	1...40 mm	3...30 mm	3...25 mm	1...40 mm	
KAS-70-35-S-M32					
KAS-70-35-A-M32	KAS-70-35-A-M32-Y5			KAS-70-35-A-M32-PTFE-100°C	
KAS-80-35-S-M32					
KAS-80-35-A-M32	KAS-80-35-A-M32-Y5			KAS-80-35-A-M32-PTFE-100°C	
		KAS-2000-35-M32			
			KAS-90-32-S-M32		
			KAS-90-32-Ö-M32		
10...35 V DC	10...35 V DC	10...35 V DC	20...250 V AC/DC	10...35 V DC	
250 m A / 2 x 250 mA	2 x 250 mA	400 mA	330 mA (ETL = 250 mA)	2 x 250 mA	
Typ. 10 mA	Typ. 10 mA	Typ. 15 mA	Typ. 2,5 mA	Typ. 10 mA	
50 Hz	50 Hz	50 Hz	25 Hz	50 Hz	
-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C (ETL = +60 °C)	-25...+100 °C	
Yes	Yes	Yes	Yes	Yes	
Yes	Yes	Yes	Yes	Yes	
EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	
IP 67	IP 67	IP 67	IP 67	IP 67	
2 m Cable	Flange connector M 12 x 1	2 m Cable	2 m Cable	2 m Cable	
PA / PPO	PA / PPO	PA / PPO	PA / PPO	PTFE (FDA 21 CFR 177.1550)	
PA / PPO	PA / PPO	PA / PPO	PA / PPO	PTFE (FDA 21 CFR 177.1550)	
PA / PPO	PA / PPO	PA / PPO	PA / PPO	PA / PPO	
CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	
					

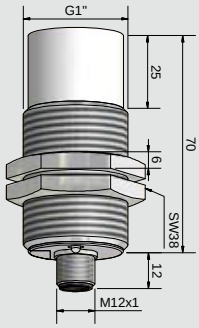
CAPACITIVE SENSORS KAS

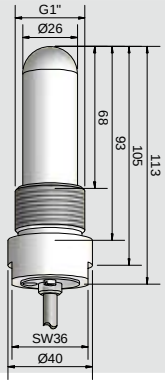
Housing	M 32 x 1,5	1 “	Ø 26 mm / 1“	Ø 50 mm
				
Technical Data	Non-flush mountable	Non-flush mountable	Non-flush mountable	Flush mountable
Operating distance Sn	15 mm	25 mm	5 mm	30 mm
Operating distance min./max. adjustable	2...20 mm	1...40 mm	0...20 mm	1..50 mm
Type NPN NO				
Type NPN NC				
Type NPN antivalent (NO + NC)			KAS-70-26-A-PTFE-1“-100°C	KAS-70-50-A-Y5
Type PNP NO				
Type PNP NC				
Type PNP antivalent (NO + NC)		KAS-80-34-A-1“-PTFE/Ms-Y5	KAS-80-26-A-PTFE-1“-100°C	KAS-80-50-A-Y5
Type NPN/PNP-NO/NC switchable	KAS-2000-34-M32-PTFE/V2A-160°C			
Type AC/DC NO				
TYPE AC/DC NC				
Operating voltage (U_B)	10...35 V DC	10...35 V DC	10...35 V DC	10...35 V DC
Output current max. (I_e)	400 mA	2 x 250 mA	2 x 250 mA	2 x 250 mA
No-load current (I_o)	Typ. 15 mA	Typ. 10 mA	< 15 mA	Typ. 10 mA
Frequency of operating cycles max.	50 Hz	50 Hz	50 Hz	100 Hz
Permitted ambient temperature	See below	-25...+70 °C	-25...+100 °C	-25...+70 °C
LED-display	Yes	Yes	Yes	Yes
Protective circuit	Yes	Yes	Yes	Yes
Norm	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
Degree of protection IEC 60529*	IP 67	IP 67	IP 67	IP 67
Connection	2 m Cable	Flange connector M 12 x 1	2 m Cable	Flange connector M 12 x 1
Housing material	VA No. 1.4305	Brass	PTFE (FDA 21 CFR 177.1550)	PA / PPO
Active surface	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)	PA / PPO
Lid	PA / PPO	PA / PPO	PA / PPO	PA / PPO
Certification	CE, RoHS	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA

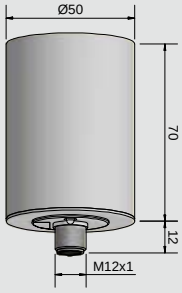
*with sealed potentiometer screw

Dimensions:



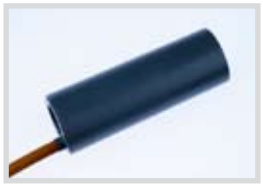






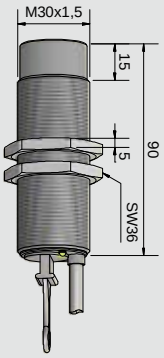
Connection diagram see page 7
Female connector M 12 see page 17

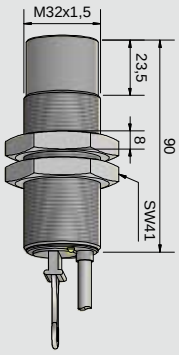
CAPACITIVE SENSORS KAS WITH RELAY OUTPUT SERIES 95

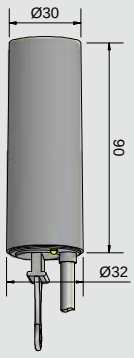
Housing	M 30 x 1,5	M 32 x 1,5	Ø 32 mm
			
Technical data	Non-flush mountable	Non-flush mountable	Non-flush mountable
Sensing distance Sn	15 mm	20 mm	20 mm
Sensing distance min./max. adjustable	2...20 mm	2...25 mm	2...25 mm
Type	KAS-95-A24-1CO-K-PBT-TD	KAS-95-32-1CO-K-M32-PBT-TD	KAS-95-32-1CO-K-PBT-TD
Electrical version	5 wire AC / DC	5 wire AC / DC	5 wire AC / DC
Output function	Relay 1 CO	Relay 1 CO	Relay 1 CO
Certificates	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA
Operating voltage (U_B)	20...250 V AC / DC	20...250 V AC / DC	20...250 V AC / DC
Time delay	Adjustable 1 sec ...10 min.	Adjustable 1 sec ...10 min.	Adjustable 1 sec ...10 min.
On-delay	Switchable	Switchable	Switchable
Off-delay	Switchable	Switchable	Switchable
Load max. AC (I, U)	1 A, 250 V	1 A, 250 V	1 A, 250 V
Load max. DC (I, U, P)	1 A, 220 V, 60 W	1 A, 220 V, 60 W	1 A, 220 V, 60 W
Power consumption (I_o)	2,1 mA	2,1 mA	2,1 mA
Switching frequency max.	2 Hz	2 Hz	2 Hz
Permitted ambient temperature	-25...+70 °C (ETL = +60 °C)	-25...+70 °C (ETL = +60 °C)	-25...+70 °C (ETL = +60 °C)
LED display	Yellow	Yellow	Yellow
Protective circuit	Built-in	Built-in	Built-in
Degree of protection IEC 60529*	IP 67*	IP 67*	IP 67*
Norm	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
Connection	2 m Cable, PVC, 5 x 0,34 mm²	2 m Cable, PVC, 5 x 0,34 mm²	2 m Cable, PVC, 5 x 0,34 mm²
Housing material	PBT	PBT	PBT
Active surface	PBT	PBT	PBT
Lid	PBT	PBT	PBT

*With sealed potentiometer screw

Dimensions:





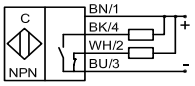


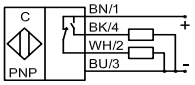
CAPACITIVE SENSORS KAS SERIES 26

EasyTeach

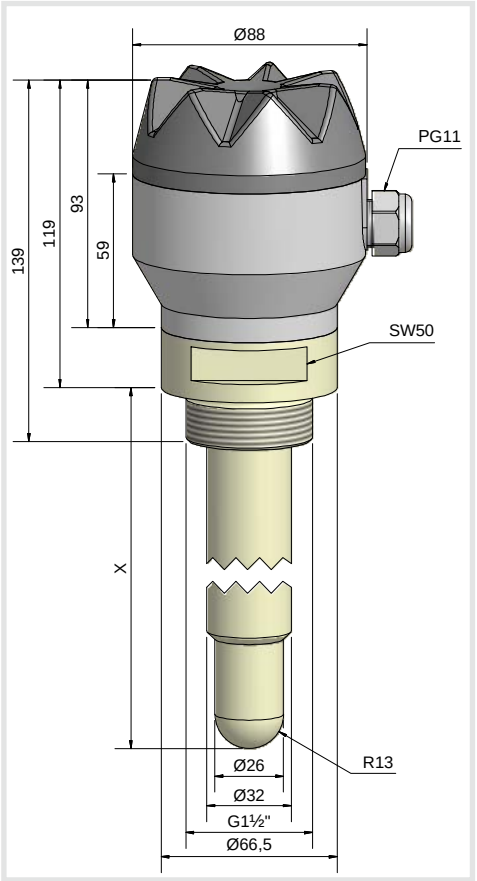
Capacitive Sensors - Series 26
Series 70 - NPN
Series 80 - PNP

Housing Ø = 26 mm / 1½“
- Housing material: PP / PBT
- Level sensor with EasyTeach function
- Clear text display
- Suitable for food and pharmaceutical applications
  Plastic part (PP) which will be in contact with the product to be detected is FDA conforme (Code of Federal Regulation, title 21, chapter 1, part 177.1520
- SIP / CIP 121° C
- Sensor length max. 2000 mm.





Sensor length „X“ (mm)	Type NPN	Art-No.		Type PNP	Art.-No.
200	KAS-70-26-A-200-PP-1½ “-PH-ET	KA0781		KAS-80-26-A-200-PP-1½ “-PH-ET	KA0780
280	KAS-70-26-A-280-PP-1½ “-PH-ET	KA0776		KAS-80-26-A-280-PP-1½ “-PH-ET	KA0758
400	KAS-70-26-A-400-PP-1½ “-PH-ET	KA0783		KAS-80-26-A-400-PP-1½ “-PH-ET	KA0782
800	KAS-70-26-A-800-PP-1½ “-PH-ET	KA0785		KAS-80-26-A-800-PP-1½ “-PH-ET	KA0784
1200	KAS-70-26-A-1200-PP-1½ “-PH-ET	KA0787		KAS-80-26-A-1200-PP-1½ “-PH-ET	KA0786



Certificate:

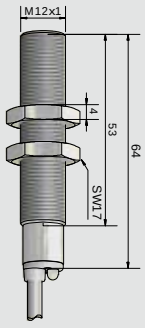
Technical data	Non-flush mountable
Operating distance Sn	5 mm
Operating distance min./max. adjustable	0...20 mm
Electrical version	4-pin DC
Output	Antivalent (NO + NC)
Operating voltage (U_B)	10...35 V DC
Output current max. (I_e)	2 x 250 mA
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10%
No-load current (I_o)	Typ. 10 mA
Frequency of operating cycles max.	2 Hz
Permitted ambient temperature	0...+70° C/ Sensor CIP 121° C (zero-current)
LCD-display	Reflective
Protective circuit	Built-in
Degree of protection IEC 60529 - Sensor	IP 68
Degree of protection IEC 60529 - Connection head	IP 65
Norm	EN 60947-5-2
Connection	Screw terminals 1,5 mm²
Housing material	PP (FDA 21 CFR 177.1520)
Active surface	PP (FDA 21 CFR 177.1520)
Connection head	PBT glasfibre reinforced

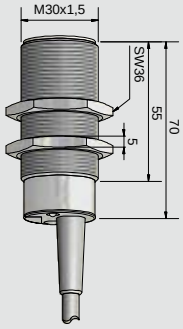
CAPACITIVE SENSORS KAS WITH ANALOGUE OUTPUT

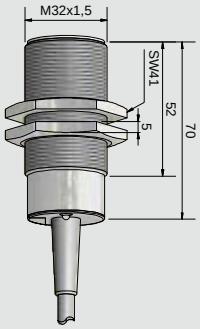
Housing	M 12 x 1	M 30 x 1,5	M 32 x 1,5	Female Connector M12
				
Technical Data	Flush mountable	Flush mountable	Flush mountable	
Operating range	0...5 mm	0...20 mm	0...30 mm	
Linear range adjustable	0...3,5 mm	0...14 mm	0...20 mm	
Type analogue 3-wire	KAS-80-A12-IL	KAS-80-A14-IL	KAS-80-30-IL-M32	
				Female Connector No. 57a
				4-pins for
				Flange connector M 12 x 1
				Y3 or Y5 NPN / PNP
Operating voltage (U_B)	15...30 V DC	15...30 V DC	15...30 V DC	
Output current (I_e)	2,5...> 20 mA	2,5...> 20 mA	2,5...> 20 mA	
No-load current (I_o)	Typ. 40 mA	Typ. 40 mA	Typ. 40 mA	
Load resistor	R_L = 0...300 Ohm	R_L = 0...300 Ohm	R_L = 0...300 Ohm	
Permitted ambient temperature	0...+60 °C	0...+60 °C	0...+60 °C	
LED-display	Yes	Yes	Yes	
Protective circuit	Yes	Yes	Yes	
Norm	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	
Degree of protection IEC 60529*	IP 67	IP 67	IP 67	
Connection	2 m Cable	2 m Cable	2 m Cable	5 m Cable
Housing material	Brass	Brass	Brass	
Active surface	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)	
Lid	PA / PPO	PA / PPO	PA / PPO	
Certification	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE

*with sealed potentiometer screw

Dimensions:







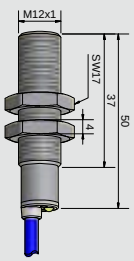
Connection diagram see page 7

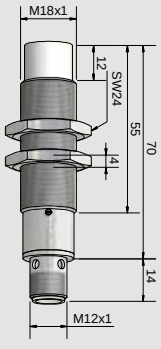
CAPACITIVE SENSORS KAS - NAMUR - ATEX

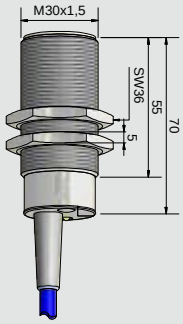
Sensors for use in areas with the risk of explosion, ATEX zone 1

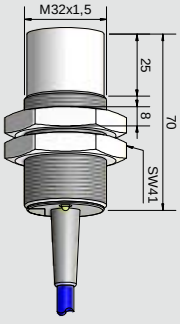
Housing	M 12 x 1	M 18 x 1	M 30 x 1,5	M 32 x 1,5
				
Technical data	Flush mountable	Non-flush mountable	Flush mountable	Non-flush mountable
Sensing distance Sn	2 mm	8 mm	10 mm	18 mm
Sensing distance min./max. adjustable	1...5 mm	2...10 mm	2...15 mm	3...20 mm
Type NAMUR	KAS-40-A12-N	KAS-40-A23-N-Y5	KAS-40-A14-N	KAS-40-35-N-M32-PTFE
Art.-No.	400 200	KA 0560	400 400	402 300
Certification	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA
ATEX Certification No.	DMT 03 ATEX E 048	DMT 03 ATEX E 048	DMT 03 ATEX E 048	DMT 03 ATEX E 048
ATEX	Ex II 2G EEx ia IIC T1-T6	Ex II 2G EEx ia IIC T1-T6	Ex II 2G EEx ia IIC T1-T6	Ex II 2G EEx ia IIC T1-T6
IECEx Certification No.	IECEx BVS 07.0031	IECEx BVS 07.0031	IECEx BVS 07.0031	IECEx BVS 07.0031
IECEx	Ex ia IIC T1-T6	Ex ia IIC T1-T6	Ex ia IIC T1-T6	Ex ia IIC T1-T6
Operating voltage (U_B)	U_i= 15 V DC	U_i= 15 V DC	U_i= 15 V DC	U_i= 15 V DC
Output current active surface free	> typ. 1,5 mA	> typ. 1,5 mA	> typ. 1,5 mA	> typ. 1,5 mA
Output current active surface covered	< typ. 2,5 mA	< typ. 2,5 mA	< typ. 2,5 mA	< typ. 2,5 mA
Selfinductance (L)	0,2 mH	0,2 mH	0,2 mH	0,2 mH
LED display	No	Yes	Yes	No
Norm	EN 60947-5-6	EN 60947-5-6	EN 60947-5-6	EN 60947-5-6
Connection	2 m Cable, 2 x 0,14 mm²	Flange connector M 12 x 1	2 m Cable, 2 x 0,75 mm²	2 m Cable, 2 x 0,75 mm²
Housing material	VA No. 1.4305	Brass	Brass	PTFE (FDA 21 CFR 177.1550)
Active surface	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)
Lid	PA / PPO	-	PA / PPO	PA / PPO
*With sealed potentiometer screw				

Dimensions:









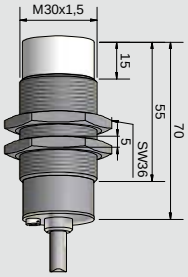
CAPACITIVE SENSORS KAS - ATEX - ZONE 20

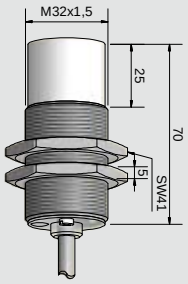
Sensors for use in areas with risk of explosion, ATEX zone 20

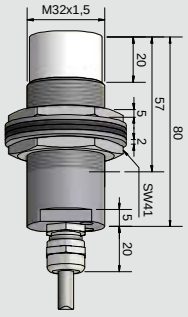
Housing	M 30 x 1,5	M 32 x 1,5	M 32 x 1,5	Tri-Clamp
				
Technical data	Non-flush mountable	Non-flush mountable	Non-flush mountable	Non-flush mountable
Sensing distance Sn	15 mm	20 mm	20 mm	20 mm
Sensing distance min./max. adjustable	3...25 mm	3...30 mm	3...30 mm	3...30 mm
Type NPN antivalent (NO + NC)	KAS-70-A24-A-StEx-N	KAS-70-34-A-M32-StEx-N		
Type PNP antivalent (NO + NC)	KAS-80-A24-A-StEx-N	KAS-80-34-A-M32-StEx-N	KAS-80-35-A-M32-StEx-N	KAS-80-34-35/100-A-PTFE/VA-StEX-N
Certification	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA
ATEX Certification No.	DMT 01 ATEX E 157	DMT 01 ATEX E 157	DMT 01 ATEX E 157	DMT 01 ATEX E 157
ATEX	EX II 1D IP67 T 101 °C EX II 2G EEx m II T4	EX II 1D IP67 T 101 °C EX II 2G EEx m II T4	EX II 1D IP67 T 101 °C EX II 2G EEx m II T4	EX II 1D IP67 T 101 °C EX II 2G EEx m II T4
IECEx Certification No.	IECEx BVS 07.0015	IECEx BVS 07.0015	IECEx BVS 07.0015	IECEx BVS 07.0015
IECEx	Ex tD A20/21 IP67 T 101 °C Ex mb II T4	Ex tD A20/21 IP67 T 101 °C Ex mb II T4	Ex tD A20/21 IP67 T 101 °C Ex mb II T4	Ex tD A20/21 IP67 T 101 °C Ex mb II T4
Operating voltage (U_B)	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
Output current max. (I_e)	2 x 150 mA	2 x 150 mA	2 x 150 mA	2 x 150 mA
No-load current (I_o)	Typ. 15 mA	Typ. 15 mA	Typ. 15 mA	Typ. 15 mA
Frequency of operating cycles max.	50 Hz	50 Hz	50 Hz	50 Hz
Permitted ambient temperature	-25...+70 °C	-20...+70 °C	-20...+90 °C	-20...+90 °C
LED display	Yes	Yes	Yes	Yes
Protective circuit	Yes	Yes	Yes	Yes
Norm	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
Degree of protection IEC 60529*	IP 67	IP 67	IP 67	IP 67
Connection	3 m Cable, 5 x 0,34 mm²	3 m Cable, 5 x 0,34 mm²	3 m Cable, 5 x 0,34 mm²	3 m Cable, 5 x 0,34 mm²
Housing material	VA No. 1.4305	VA No. 1.4305	VA No. 1.4305	VA No. 1.4305
Active surface	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)
Lid	PC (FDA 21 CFR 177.1580)	PC (FDA 21 CFR 177.1580)	VA No. 1.4305	PC (FDA 21 CFR 177.1580)

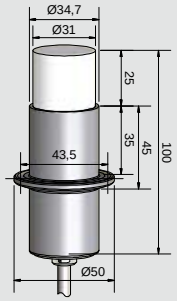
*with sealed potentiometer screw

Dimensions:

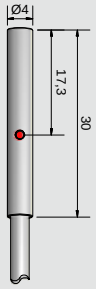
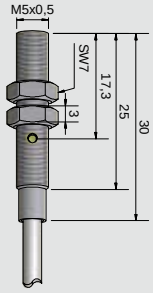
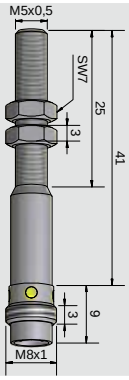
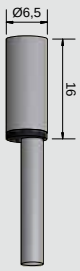






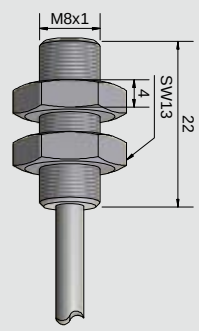
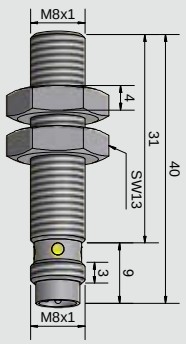
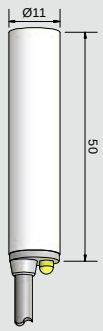
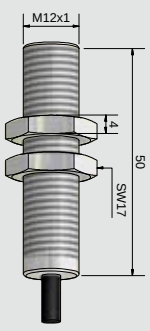
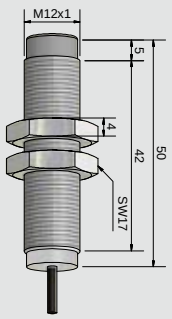


INDUCTIVE SENSORS IAS

Housing	Ø 4 mm	M 5 x 0,5	M 5 x 0,5	Ø 6,5 mm
CE RoHS COMPLIANT				
Technical Data	Flush mountable	Flush mountable	Flush mountable	Flush mountable
Operating distance Sn [mm]	0,8 mm	0,8 mm	0,8 mm	1,5 mm
Type NPN NO	IAS-20-04-S	IAS-20-M5-S		
Type NPN NC	IAS-20-04-Ö	IAS-20-M5-Ö		
Type NPN antivalent (NO + NC)				
Type PNP NO	IAS-10-04-S	IAS-10-M5-S	IAS-10-M5-S-Y7	IAS-10-6.5/15-S
Type PNP NC	IAS-10-04-Ö	IAS-10-M5-Ö	IAS-10-M5-Ö-Y7	
Type PNP antivalent (NO + NC)				
Type AC/DC NO				
Type AC/DC NC				
Operating voltage (U_B)	10...35 V DC	10...35 V DC	10...35 V DC	10...30 V DC
Output current max. (I_e)	150 mA	150 mA	150 mA	200 mA
No-load current (I_o)	Typ. 10 mA	Typ. 10 mA	Typ. 10 mA	Typ. 10 mA
Frequency of operating cycles max.	2 kHz	2 kHz	1 kHz	5 kHz
Permitted ambient temperature	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
LED-display	Yes	Yes	Yes	Yes
Protective circuit	Yes	Yes	Yes	Yes
Norm	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
Degree of protection IEC 60529*	IP 67	IP 67	IP 67	IP 67
Connection	2 m Cable 3 x 0,14 mm²	2 m Cable 3 x 0,14 mm²	Flange connector M 8 x 1	2 m Cable 3 x 0,14 mm²
Housing material	VA No. 1.4305	VA No. 1.4305	VA No. 1.4305	VA No. 1.4305
Active surface	-	PA / PPO	PA / PPO	PA
Lid	-	-	-	PUR
Certification	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS
Dimensions:				

Connection diagram see page 7

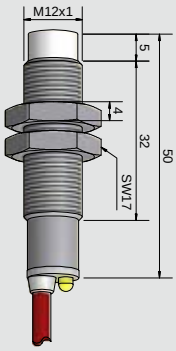
INDUCTIVE SENSORS IAS

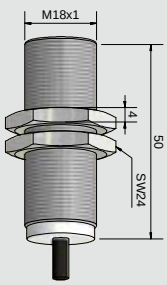
M 8 x 1	M 8 x 1	Ø 11 mm	M 12 x 1	M 12 x 1	
					
Flush mountable	Flush mountable	Non-flush mountable	Flush mountable	Non-flush mountable	
1,5 mm	1,5 mm	5 mm	2 mm	4 mm	
			IAS-20-A12-S	IAS-20-A22-S	
IAS-10-M8-S	IAS-10-M8-S-Y7	IAS-10-14-S-PTFE, 5 m	IAS-10-A12-S	IAS-10-A22-S	
IAS-10-M8-Ö	IAS-10-M8-Ö-Y7				
10...30 V DC	10...35 V DC	10...35 V DC	10...30 V DC	10...30 V DC	
200 mA	150 mA	150 mA	200 mA	200 mA	
Typ. 10 mA	Typ. 10 mA	Typ. 15 mA	Typ. 17 mA	Typ. 17 mA	
5 kHz	1 kHz	2 kHz	1,5 kHz	1,2 kHz	
-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C	
Yes	Yes	Yes	Yes	Yes	
Yes	Yes	Yes	Yes	Yes	
EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	
IP 67	IP 67	IP 67	IP 67	IP 67	
2 m Cable 3 x 0,14 mm²	Flange connector M 8 x 1	5 m Cable 3 x 0,14 mm²	3 m Cable 3 x 0,14 mm²	3 m Cable 3 x 0,14 mm²	
VA No. 1.4305	VA No. 1.4305	PTFE (FDA 21 CFR 177.1550)	Brass	Brass	
PA	PVC	PTFE (FDA 21 CFR 177.1550)	PBT	PBT	
PA	-	PA / PPO	BPT	BPT	
CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	
					

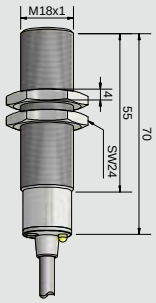
INDUCTIVE SENSORS IAS

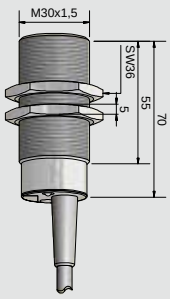
Housing	M 12 x 1	M 18 x 1	M 18 x 1	M 30 x 1,5
CE RoHS COMPLIANT				
Technical Data	Non-flush mountable	Flush mountable	Flush mountable	Flush mountable
Operating distance Sn [mm]	4 mm	5 mm	5 mm	10 mm
Type NPN NO		IAS-20-A13-S		IAS-20-A14-S
Type NPN NC				
Type NPN antivalent (NO + NC)				IAS-20-A14-A
Type PNP NO	IAS-10-A22-S-100°C	IAS-10-A13-S		IAS-10-A14-S
Type PNP NC				
Type PNP antivalent (NO + NC)				IAS-10-A14-A
Type AC/DC NO			IAS-60-A13-S	
TYPE AC/DC NC			IAS-60-A13-Ö	
Operating voltage (U_B)	10...35 V DC	10...30 V DC	20...250 V AC/DC	10...35 V DC
Output current max. (I_e)	150 mA	200 mA	300 mA	250 mA / 2 x 250 mA
No-load current (I_o)	Typ. 15 mA	Typ. 20 mA	Typ. 3,5 mA	Typ. 15 mA
Frequency of operating cycles max.	2 kHz	800 Hz	25 Hz	1 kHz
Permitted ambient temperature	-25...+100 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
LED-display	Yes	Yes	Yes	Yes
Protective circuit	Yes	Yes	Yes	Yes
Norm	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
Degree of protection IEC 60529*	IP 67	IP 67	IP 67	IP 67
Connection	2 m Cable 3 x 0,14 mm²	2 m Cable 3 x 0,34 mm²	2 m Cable 3 x 0,34 mm²	2 m Cable
Housing material	VA No. 1.4305	Brass	Brass	Brass
Active surface	PTFE (FDA 21 CFR 177.1550)	PBT	PA / PPO	PVC
Lid	PA / PPO	BPT	PA / PPO	PA / PPO
Certification	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS

Dimensions:









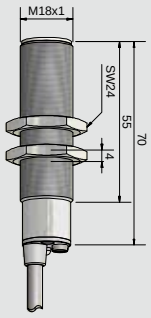
Connection diagram see page 7

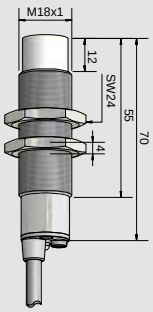
INDUCTIVE SENSORS IAS WITH ANALOGUE OUTPUT

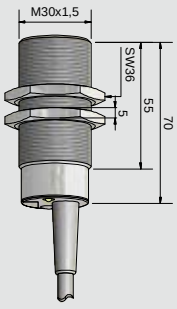
Housing	M 18 x 1	M 18 x 1	M 30 x 1,5	M 30 x 1,5
				
Technical Data	Flush mountable	Non-flush mountable	Flush mountable	Non-flush mountable
Operating range [mm]	0...5 mm	0...8 mm	0...10 mm	0...15 mm
Linear range [mm]	1,5...5 mm	3...8 mm	3...10 mm	5...15 mm
Type analogue 2-wire				
Type analogue 3-wire	IAS-10-A13-IL	IAS-10-A23-IL	IAS-10-A14-IL	IAS-10-A24-IL
Art.-No.	105 750	108 350	110 950	113 550
Operating voltage (U_B)	15...30 V DC	15...30 V DC	15...30 V DC	15...30 V DC
Output current (I_e)	2,5...>20 mA	2,5...>20 mA	2,5...>20 mA	2,5...>20 mA
No-load current (I_o)	Typ. 40 mA	Typ. 40 mA	Typ. 40 mA	Typ. 40 mA
Load resistor	R_L = 0...300 Ohm	R_L = 0...300 Ohm	R_L = 0...300 Ohm	R_L = 0...300 Ohm
Permitted ambient temperature	0...+60 °C	0...+60 °C	0...+60 °C	0...+60 °C
LED-display	Yes	Yes	Yes	Yes
Protective circuit	Yes	Yes	Yes	Yes
Norm	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
Degree of protection IEC 60529*	IP 67	IP 67	IP 67	IP 67
Connection	2 m Cable 3 x 0,34 mm²	2 m Cable 3 x 0,34 mm²	2 m Cable 3 x 0,75 mm²	2 m Cable 3 x 0,75 mm²
Housing material	Brass	Brass	Brass	Brass
Active surface	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)
Lid	PA / PPO	PA / PPO	PA / PPO	PA / PPO
Certification	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS

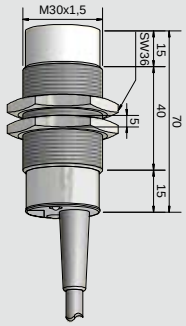
*with sealed potentiometer screw

Dimensions:









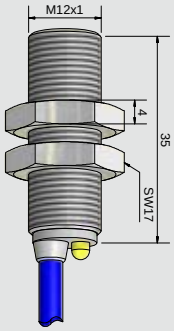
Connection diagram see page 7

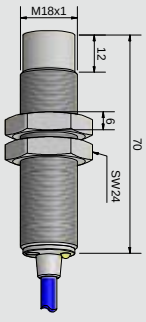
INDUKTIVE SENSOREN IAS - NAMUR - ATEX - IECEx

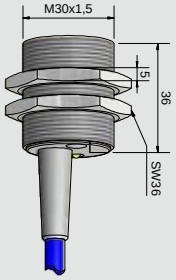
Sensors for use in areas with the risk of explosion, ATEX zone 1

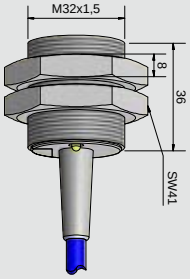
Housing	M 12 x 1	M 18 x 1	M 30 x 1,5	M 32 x 1,5
				
Technical data	Flush mountable	Non-flush mountable	Flush mountable	Non-flush mountable
Sensing distance Sn	2 mm	8 mm	10 mm	15 mm
Type NAMUR	**IAS-30-A12-N**	**IAS-30-A23-N-K**	**IAS-30-A14-N**	**IAS-30-35-N-M32**
Art.-No.	**300 100**	**IA 0258**	**300 500**	**302 800**
Certification	CE, RoHS, ATEX, IECEx	CE, RoHS, ATEX, IECEx	CE, RoHS, ATEX, IECEx	CE, RoHS, ATEX, IECEx
ATEX Certification No.	DMT 03 ATEX E 048	DMT 03 ATEX E 048	DMT 03 ATEX E 048	DMT 03 ATEX E 048
ATEX	Ex II 2G EEx ia IIC T1-T6	Ex II 2G EEx ia IIC T1-T6	Ex II 2G EEx ia IIC T1-T6	Ex II 2G EEx ia IIC T1-T6
IECEx Certification No.	IECEx BVS 07.0031	IECEx BVS 07.0031	IECEx BVS 07.0031	IECEx BVS 07.0031
IECEx	Ex ia IIC T1-T6	Ex ia IIC T1-T6	Ex ia IIC T1-T6	Ex ia IIC T1-T6
Operating voltage (U_B)	U_i= 15 V DC	U_i= 15 V DC	U_i= 15 V DC	U_i= 15 V DC
Output current active surface free	> typ. 2 mA	> typ. 2 mA	> typ. 2 mA	> typ. 2 mA
Output current active surface covered	< typ. 1,5 mA	< typ. 1,5 mA	< typ. 1,5 mA	< typ. 1,5 mA
Selfinductance (L)	2 mH	2 mH	2 mH	2 mH
Permitted ambient temperature	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
LED display	Yes	Yes	Yes	Yes
Protective circuit	Yes	Yes	Yes	Yes
Norm	EN 60947-5-6	EN 60947-5-6	EN 60947-5-6	EN 60947-5-6
Degree of protection IEC 60529*	IP 67	IP 67	IP 67	IP 67
Connection	2 m Cable, 2 x 0,14 mm²	5 m Cable, 2 x 0,34 mm²	2 m Cable, 2 x 0,75 mm²	2 m Cable, 2 x 0,75 mm²
Housing material	Brass	PA / PPO	Brass	PA / PPO
Active surface	PA / PPO	PA / PPO	PVC	PA / PPO
Lid	PA / PPO	PA / PPO	PA / PPO	PA / PPO

Dimensions:







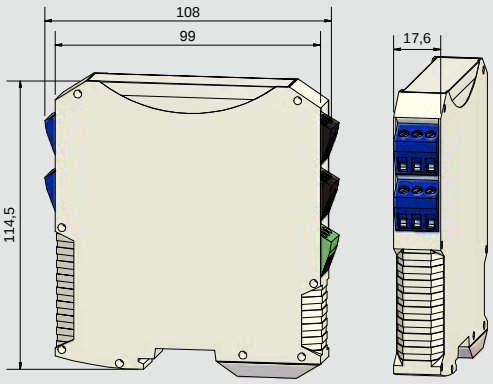


Connection diagram see page 7
Female connector M 12 see page 17

ISOLATING SWITCHING AMPLIFIER - ATEX

Housing	122 x 108 x 17,6 mm	122 x 108 x 17,6 mm	122 x 108 x 17,6 mm	122 x 108 x 17,6 mm
				
Technical Data				
Operating voltage (U_B)	120...230 V AC	120...230 V AC	18...31,2 V DC	18...31,2 V DC
Output function	1 x potential-free change-over contact	2 x potential-free change-over contact	2 x potential-free change-over contact	2 x transistor output / open collector
Contact rating each relay AC max. Contact rating each relay DC max.	250 V AC / 4 A 250 V DC / 2 A	250 V AC / 4 A 250 V DC / 2 A	250 V AC / 4 A 250 V DC / 4 A	 35 V DC / 50 mA
Type	**N-132/1-01**	**N-132/2-01**	**N-132/2-10**	**N-132/2-E-10**
Art.-No.	**N 00012**	**N 00015**	**N 00017**	**N 00018**
Certification	CE, ATEX, FM	CE, ATEX, FM	CE, ATEX, FM	CE, ATEX, FM
ATEX Certification No.	BVS 09 ATEX E 087X	BVS 09 ATEX E 087X	BVS 09 ATEX E 087X	BVS 09 ATEX E 087X
ATEX	II (1) G [Ex ia] IIC II (1) D [Ex ia] IIIB	II (1) G [Ex ia] IIC II (1) D [Ex ia] IIIB	II (1) G [Ex ia] IIC II (1) D [Ex ia] IIIB	II (1) G [Ex ia] IIC II (1) D [Ex ia] IIIB
IECEx Certification No.	IECEx BVS 10.0088X	IECEx BVS 10.0088X	IECEx BVS 10.0088X	IECEx BVS 10.0088X
IECEx	[Ex ia] IIC [Ex ia] IIIC	[Ex ia] IIC [Ex ia] IIIC	[Ex ia] IIC [Ex ia] IIIC	Ex nAc nCc [ia] IIC T4 [Ex ia] IIIC
No-load current (I_s)	Typ. 12 mA	Typ. 18 mA	Typ. 55 mA	Typ. 36 mA
No-load voltage max. (U_s)	9,6 V DC	9,6 V DC	9,6 V DC	9,6 V DC
Short circuit current max .(I_k)	10 mA	20 mA	20 mA	20 mA
Outer inductance max. (L_0)	[Exia] IIC 350 mH/ IIB 1000 mH	[Exia] IIC 90 mH/ IIB 340 mH	[Exia] IIC 90 mH/ IIB 340 mH	[Exia] IIC 90 mH/ IIB 340 mH
Outer capacitance max. (C_0)	[Exia] IIC 3,6 µF/ IIB 26 µF	[Exia] IIC 3,6 µF/ IIB 26 µF	[Exia] IIC 3,6 µF/ IIB 26 µF	[Exia] IIC 3,6 µF/ IIB 26 µF
Actuating signal	NAMUR EN 60947-5-6	NAMUR EN 60947-5-6	NAMUR EN 60947-5-6	NAMUR EN 60947-5-6
Permitted ambient temperature	-20...+70 °C	-20...+70 °C	-20...+70 °C	-20...+70 °C
Display	Red / yellow and green	Red / yellow and green	Red / yellow and green	Red / yellow and green
Norm	EN 60947-5-6	EN 60947-5-6	EN 60947-5-6	EN 60947-5-6
Degree of protection IEC 60529	Housing: IP 30 Connections: IP 20	Housing: IP 30 Connections: IP 20	Housing: IP 30 Connections: IP 20	Housing: IP 30 Connections: IP 20
Connection	Screw terminals	Screw terminals	Screw terminals	Screw terminals

Dimensions:

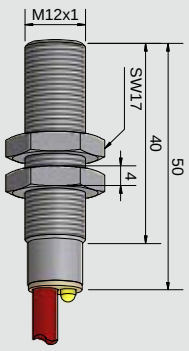


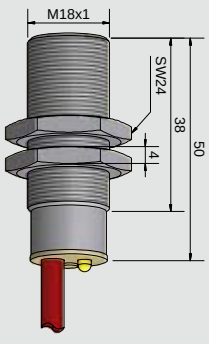
Connection diagram see page 7

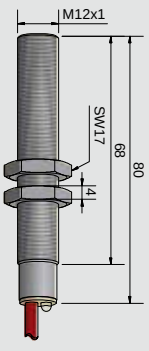
MAGNETO RESISTIVE SENSORS MRS

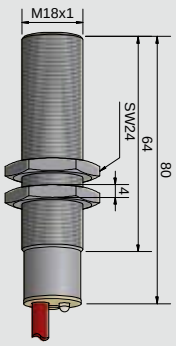
Housing	M 12 x 1	M 18 x 1	M 12 x 1	M 18 x 1
CE RoHS COMPLIANT				
Technical data	Flush mountable	Flush mountable	Flush mountable	Flush mountable
Operating distance Sn	1,5 mm	3 mm	1 mm	2,5 mm
Detection of direction of rotation	No	No	Yes	Yes
Type NPN NO	MRS-300-M12-20-S	MRS-300-M18-20-S	MRS-350-M12-20-S	MRS-350-M18-20-S
Type NPN NC				
Type PNP NO	MRS-300-M12-10-S	MRS-300-M18-10-S	MRS-350-M12-10-S	MRS-350-M18-10-S
Type PNP NC				
Operating voltage (U_B)	10...35 V DC	10...35 V DC	10...35 V DC	10...35 V DC
Output current max. (I_e)	250 mA	250 mA	2 x 250 mA	2 x 250 mA
No-load current (I_o)	Typ. 15 mA	Typ. 15 mA	Typ. 15 mA	Typ. 15 mA
Frequency of operating cycles min./max.	0,5 Hz/10 kHz	0,5 Hz/15 kHz	0,5 Hz/10 kHz	0,5 Hz/10 kHz
Permitted ambient temperature	-40...+125 °C	-40...+125 °C	-40...+125 °C	-40...+125 °C
LED-Display	Yes	Yes	Yes	Yes
Protective circuit	Yes	Yes	Yes	Yes
Norm	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
Degree of protection IEC 60529	IP 67	IP 67	IP 67	IP 67
Connection	2 m Cable 3 x 0,14 mm²	2 m Cable 3 x 0,34 mm²	2 m Cable 4 x 0,14 mm²	2 m Cable 4 x 0,34 mm²
Housing material	VA No. 1.4305	VA No. 1.4404	VA No. 1.4305	VA No. 1.4404
Active surface	VA No. 1.4305	VA No. 1.4404	VA No. 1.4305	VA No. 1.4404
Lid	PEEK (FDA 21 CFR 177.2415)	PEEK (FDA 21 CFR 177.2415)	PEEK (FDA 21 CFR 177.2415)	PEEK (FDA 21 CFR 177.2415)
Certification	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS

Dimensions:







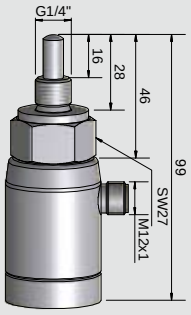


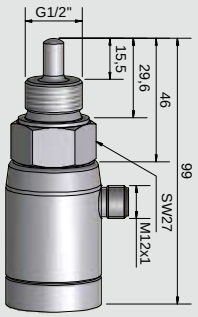
Connection diagram see page 7

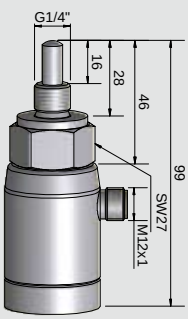
FLOW SENSORS SW

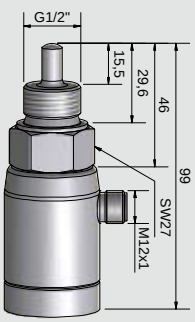
Housing	G ¼“	G ½“	G ¼“	G ½“
CE RoHS COMPLIANT				
Technical data				
Measuring range [cm/s], dependent on material	1-300 cm/s (H_2O: 150 cm/s)	1-300 cm/s (H_2O: 150 cm/s)	1-300 cm/s (H_2O: 150 cm/s)	1-300 cm/s (H_2O: 150 cm/s)
Switching point adjustable	Yes	Yes	Yes	Yes
Hysteresis adjustable	Yes	Yes	No	No
Repeat accuracy	1 %	1 %	1 %	1 %
Type analogue 4(0) - 20 mA	SW-600-G¼“/28-IL	SW-600-G½“/28-IL		
Type NO			SW-600-G¼“/28-S	SW-600-G½“/28-S
Operating voltage (U_B)	18...30 V DC	18...30 V DC	24 V AC/DC ± 10 %	24 V AC/DC ± 10 %
Switching outputs	PNP, NPN max. 300 mA in total	PNP, NPN max. 300 mA in total	Relay contact (NO) max. 200 mA	Relay contact (NO) max. 200 mA
No-load current (I_o)	Typ. 60 mA	Typ. 60 mA	Typ. 60 mA	Typ. 60 mA
Response-time	Typ. 2 s	Typ. 2 s	Typ. 2 s	Typ. 2 s
Temperature gradient	Typ. 4 K/s	Typ. 4 K/s	Typ. 4 K/s	Typ. 4 K/s
Operating pressure	100 bar	100 bar	100 bar	100 bar
Permitted ambient temperature	0...+70 °C	0...+70 °C	0...+70 °C	0...+70 °C
Display	LCD-display/LED	LCD-display/LED	Yes	Yes
Degree of protection IEC 60529	IP 67	IP 67	IP 67	IP 67
Connection	Flange connector M 12 x 1	Flange connector M 12 x 1	Flange connector M 12 x 1	Flange connector M 12 x 1
Housing material	VA No. 1.4504	VA No. 1.4504	VA No. 1.4504	VA No. 1.4504
Material in contact with medium	VA No. 1.4571	VA No. 1.4571	VA No. 1.4571	VA No. 1.4571
Lid	Mineral glass tempered	Mineral glass tempered	PA	PA
Magnet	Cobalt Samarium	Cobalt Samarium		
Certification	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS

Dimensions:







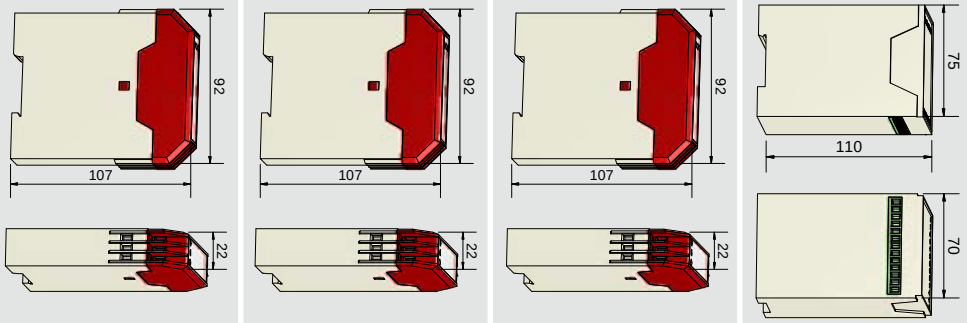


Connection diagram see page 7

POWER SUPPLIES EG...

Housing	22 x 92 x 107,5 mm	22 x 92 x 107,5 mm	22 x 92 x 107,5 mm	75 x 70 x 110 mm
CE RoHS COMPLIANT				
Technical Data				
Operating voltage (U_B)	115/230 V AC ± 15 % 40...60 Hz	115/230 V AC ± 15 % 40...60 Hz	115/230 V AC ± 15 % 40...60 Hz	115/230 V AC ± 15 % 40...60 Hz
No-load current (I_O)	Typ. 20 mA	Typ. 40 mA	Typ. 20 mA	Typ. 40 mA
Output function	1 x potential-free change-over contact	1 x potential-free change-over contact / 1 x potential-free NO	1 x potential-free change-over contact	3 x potential-free change-over contact
Contact rating each relay max.	250 V AC / 6 A	250 V AC / 6 A	250 V AC / 6 A	250 V AC / 6 A
Type	**EG I-130**	**EG II-130**	**EG I-130-TD**	**EG III-130**
Art.-No.	**522 000**	**522 300**	**522 100**	**NA 0002**
Actuating voltage (U_B)	24 V DC ± 20 %	24 V DC ± 20 %	24 V DC ± 20 %	24 V DC ± 20 %
Actuating current max. (I_S)	60 mA	60 mA	60 mA	100 mA
Residual ripple acc. to DIN 41 755 max.	2 %	2 %	2 %	2 %
Actuating signal	PNP or NPN	PNP or NPN	PNP or NPN	PNP or NPN
Permitted ambient temperature	-25...+80 °C	-25...+80 °C	-25...+80 °C	-25...+70 °C
LED-display	Yes	Yes	Yes	Yes
Energising and de-energising delay	-	-	t_1 = 0,1...5 s / t_2 = 2...60 s	-
Degree of protection IEC 60529	Housing: IP 30 Connections: IP 20	Housing: IP 30 Connections: IP 20	Housing: IP 30 Connections: IP 20	Housing: IP 30 Connections: IP 20
Connection	Screw terminal	Screw terminal	Screw terminal	Screw terminal
Certification	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS

Dimensions:

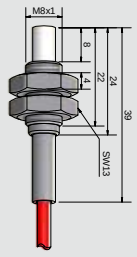


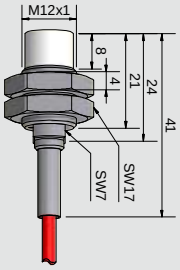
Connection diagram see page 7

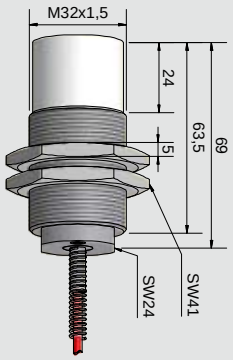
CAPACITIVE SENSORS KXS-*EXTREME*

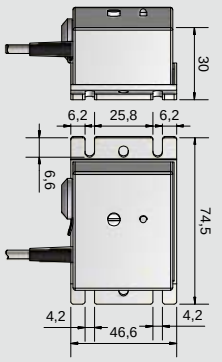
Housing	M 8 x 1	M 12 x 1	M 32 x 1,5	Evaluation unit
				
Technical Data	Flush mountable / Non-flush mountable	Flush mountable / Non-flush mountable	Flush mountable / Non-flush mountable	
Operating distance Sn [mm]	7 mm	15 mm	80 mm	-
Operating distance min./max. adjustable	0...10 mm	1...25 mm	5...120 mm	-
Mini Sensor	KXS-M8/25	KXS-M12/25		
Evaluation unit MINI Sensor NPN antivalent				KXA-5-1-N-A-MINI
Evaluation unit MINI Sensor PNP antivalent				KXA-5-1-P-A-MINI
Sensor			KXS-M32/70	
Evaluation unit NPN antivalent				KXA-5-1-N-A
Evaluation unit PNP antivalent				KXA-5-1-P-A
Operating voltage (U_B)	-	-	-	18...36 V DC
Output current max. (I_e)	-	-	-	2 x 250 mA
No-load current (I_o)	-	-	-	Typ. 50 mA
Frequency of operating cycles max.	-	-	-	50 Hz
Permitted ambient temperature	-70...+250 °C	-70...+250 °C	-70...+250 °C	-25...+55 °C
LED-display	-	-	-	Yes
Protective circuit	-	-	-	Yes
Degree of protection IEC 60529	IP 67	IP 67	IP 67	IP 54
Connection	2 m FEP, Triax	2 m FEP, Triax	2 m FEP, Triax	2 m Cable 4 x 0,14 mm²
Housing material	VA No. 1.4305	VA No. 1.4305	VA No. 1.4305	PA / PPO
Active surface	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)	PTFE (FDA 21 CFR 177.1550)	-
Certification	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA

Dimensions:





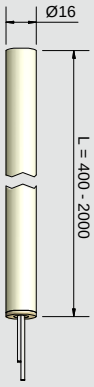
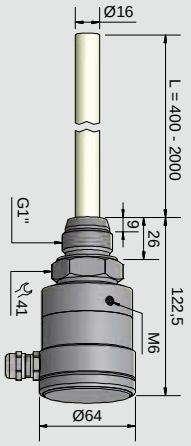
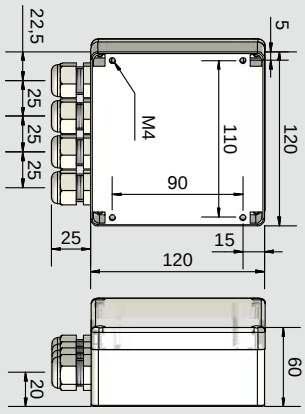




Connection diagram see page 7

CAPACITIVE LEVEL MEASURING SYSTEMS TRUE LEVEL®

- **With analogue output**

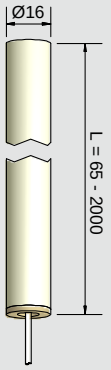
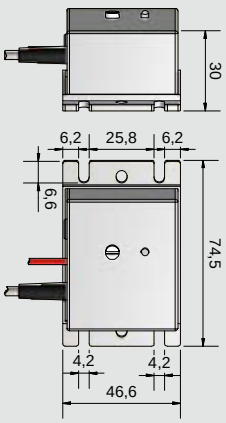
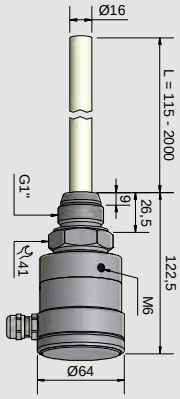
Housing	Ø 16 mm	Ø 16 mm / 1“	Evaluation unit
CE RoHS COMPLIANT ETL Intertek			
Technical Data			
Active zone [mm]	Measuring range begins from 85 mm, related to the probe tip	Measuring range begins from 85 mm, related to the probe tip	
Analogue probe	KFS-1-“L“-“M“-Y75	KFS-1-“L“-“M“-VA-1“	
With connection head	-	Yes	
Analogue evaluation unit for „M“ = 200 mm			KFA-1-200-IL4-KL-Y70
Analogue evaluation unit for „M“ = 500 mm			KFA-1-500-IL4-KL-Y70
Analogue evaluation unit for „M“ = 1000 mm			KFA-1-1000-IL4-KL-Y70
Analogue evaluation unit for „M“ = 2000 mm			KFA-1-2000-IL4-KL-Y70
Operating voltage (U_B)	-	-	18...36 V DC
Analogue output	-	-	4...20 mA
Power consumption (outputs No-load)	-	-	Typ. 3,5 W
Permitted ambient temperature	-	-25...+100 °C	-25...+55 °C
Permitted ambient temperature (for active zone)	-70...+250 °C	-70...+150 °C	-
LED-Display	-	-	Yes
Protective circuit	-	-	Yes
Degree of protection IEC 60529 (probe/housing) (screwing* cable connection)	IP 67 -	IP 67 IP 54	IP 54 -
Connecting	2 m coax-cable with SMB-connectors	SMB-sockets within the connection head	Screw terminal and SMB-sockets
Housing material	GFK	VA No. 1.4571	ABS
Active zone	GFK	GFK	-
Pressure	-	25 bar	-
Certification	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA
Dimensions:			

Connection diagram see page 7

PERLEVEL®

CAPACITIVE LEVEL MEASURING SYSTEMS

- **With limit value switching point(s)**

Housing	Ø 16 mm	Evaluation unit	Compact filling level probe
CE RoHS COMPLIANT cETLus Intertek			
Technical Data			
Active Zone [mm]	10...25 mm, related to the probe tip	-	10...25 mm, related to the probe tip + 1 x type specific X2
Probe	KFS-5-1-"L"-15-Y55	-	
Evaluation unit NPN antivalent		KFA-5-1-N-A-Y50	
Evaluation unit PNP antivalent		KFA-5-1-P-A-Y50	
Compact filling level probe NPN NO			KFX-5-2-"L"-15/X2-N-S-VA-1"
Compact filling level probe NPN NC			KFX-5-2-"L"-15/X2-N-Ö-VA-1"
Compact filling level probe PNP NO			KFX-5-2-"L"-15/X2-P-S-VA-1"
Compact filling level probe PNP NC			KFX-5-2-"L"-15/X2-P-Ö-VA-1"
Operation voltage (U_B)	-	18...36 V DC	18...36 V DC
Output current max. (I_e)	-	2 x 250 mA	2 x 250 mA
No-load current (I_o)	-	Typ. 50 mA	Typ. 50 mA
Frequency of operating cycles max.	-	4 Hz	4 Hz
Permitted ambient temperature	-	-25...+55 °C	-25...+55 °C
Permitted ambient temperature (for active zone)	-70...+250 °C	-	-25...+100 °C
LED-Display	-	Yes	Yes
Protective circuit	-	Yes	Yes
Degree of protection IEC 60529	IP 67	IP 54	IP 67
Connection	2 m coax-cable with coax-connector	2 m Cable 4 x 0,14 mm²	Clamp terminal within the connection head
Housing material	GFK	PA / PPO	VA No. 1.4571
Active zone	GFK	-	GFK
Pressure	-	-	25 bar
Certification	CE, RoHS, UL/CSA	CE, RoHS, UL/CSA	CE, RoHS
Dimensions:			

Connection diagram see page 7

PRODUCT *REPORT*

High Performance – the standard for RECHNER's capacitive proximity sensors

Rechner has proved once again, that supreme achievement is possible, when the customer's demands are merged with their innovation and long-standing experience. High Performance, just two words that accurately describe the new generation of standard sensors: Capacitive sensors with 3 times higher sensing distance than the norm, high temperature stability up to 100 °C and excellent EMC-characteristics. The sensing distance is medium optimised, so that with just one adjustment it is possible to detect a variety of products.

The series comprise capacitive sensors in cylindrical size from M 8 x 1 mm to 64 mm in diameter, with both flush and non-flush mountable models.

Also ranging among the standard are chemical resistant and food-grade sensors in PTFE or PTFE/stainless steel housings.

The Top-Team In The Ex-Area

RECHNER-Sensors have a wide reaching program of Ex-protected sensors.
The product family comprise capacitive and inductive proximity sensors in cylindrical size from 6.5 to 40 mm in diameter. NAMUR sensors and proximity sensors with NPN or PNP transistor output rank among the standard.

The capacitive filling level systems TrueLevel and PerLevel with up to 2000 mm probe length are also available with ATEX certificates
.

With the Ex-protected isolation amplifiers the product range is complete.

The ATEX-certified units are available for areas with danger of gas explosion (Zone 0,1 and 2) and for areas with danger of dust explosion (Zone 20, 21 and 22).

Being an ATEX certified firm, RECHNER can also offer sensors with a manufacturers declaration for both of these explosion danger areas.

Capacitive Sensor - an all round performance ensures everything runs well!

The 26 series from RECHNER was originally designed to cope with the problems of very adhesive products. It turns out that these sensors have excellent characteristics for general use in level control. Typically they overcome the problems caused by products sticking to the sensor and the need for continual re-adjustment.

The semiround sensor tip is a striking feature of this series. The electronics are based on RECHNER's High Performance Technology and guarantees high quality and reliability. The sensors are available with various process connections, such as Triclamp, G1" and M22.

Now this series has been extended with the new Easy Teach range. This new range has housing lengths that can reach deeper into the containers. These sensors have a G1½" process connection. Thanks to the EasyTeach function the adjustment is made with just one push button.
The clear text display assist with the adjustment. These capacitive level sensors are available up to 2000 mm in length.

Like the rest of the 26 family they are suitable for use in both wet and dry areas. They are ideal for use in industries such as the chemical industry or food processing.

Capacitive Sensors – EasyTeach – With Clear Text Display!

Versatile – Capacitive Sensors With Relay Output

RECHNER's series 95 capacitive sensors with relay output are incredibly versatile level probes. The universal supply voltage range from 20...250 V AC/DC, the simple mounting and installation and the potential-free relay output are all key benefits for the user. Further advantages are provided by the integrated intelligent micro controller technology. This allows various options, like adjustable time relay (from 1 sec. up to 10 min.) and changeable on- or off-delay. RECHNER's High Performance Technology is also incorporated into these sensors guaranteeing the best in quality and reliability.

Moreover the sensors have a low power consumption of only 2 mA. The sensors are available with body sizes of M 30 x 1.5, M 32 x 1.5 and in a slightly tapered smooth bodied sensor 32 mm in diameter. A PG36 pressure type connection is available as an accessory. The sensors can be connected to PLC's or the user can connect directly for control purposes to a max. 1 A.

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Gaußstraße 8-10 68623 Lampertheim Germany
Tel. (0 62 06) 50 07-0 Fax (0 62 06) 50 07-36 Fax Intl. +49 (0) 62 06 50 07-20
www.rechner-sensors.com e-mail: info@rechner-sensors.de