RECHNER SENSORS

High Lights

Catalogue

2022

Every product from the company Rechner Sensors bears the CE mark according to EU regulation 765/2008.

Devices that are RoHS compliant are devices that comply with the EU Directive 2011/65 / EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment

ATEX is the abbreviation for "ATmosphère EXplosive". ATEX certified devices are certified according to the ATEX product directive 2014/34/EU and the European standards for **explosion protection.**

Devices certified according to IECEx can be used internationally in explosive-endangered areas.

ETL Listed is a **security seal** of approval for the **North American** market. These devices are tested, certified and produced in accordance with UL / CSA safety standards and requirements.

Sensors with this logo are allowed to come into **contact with food** according to the Regulation (EC) No. 1935/2004.

The EHEDG certification is based on **hygienic construction and design,** as well as materials to guarantee the hygienic handling and processing of food and thereby supports the EC **food guidelines**.

IO-Link is the first globally standardized **IO technology** for communicating with sensors and actuators. IO-Link is the evolutionary further development of the previous, tried and tested connection technology for sensors and actuators.

Within the **United Kingdom,** the **UKCA marking** is **mandatory** for technical products. The marking must be checked by the **manufacture**r and/ or a **named body** based in the UK for complicance with the relevant regulations. After testing, a **declaration of conformity** is issued.

The **China Compulsory Certificate** (CCC) is a **certification system** for the **standardisation** of product quality for equipment placed on the market in **China**. Certification by Chinese certifiers is mandatory for equipment in potentially **explosive atmospheres.**

The **Water Resources Protection Act** (WHG) regulates the **protection** and **use** of **groundwater** and **surface waters**, e.g. rivers, lakes, seas, etc. It is a **german national law.**

Rechner Sensors: *Why us?*

QUALITY COMES FIRST!

For 55 years our main focus has been on quality. This is reflected in the very high standard, and performance, of all Rechner sensors and probes.

Rechner Sensors promise of quality is your advantage:

COMPANY WITH HIGH QUALITY STANDARDS

Rechner Sensors is an international company and always wants to improve and develop in every area. Certifications help you choose the safest and the highest quality products. Rechner Sensors company certificates and guidelines are e.g. **ISO 9001, Code of Conduct, ISO 26000.**

MADE IN GERMANY

'Made in Germany' is our guarantee of sensors which are long-lasting and durable.

100% FINAL TEST

Every single Rechner product is tested before it is sent to you. It is through this total testing regime that Rechner Sensors ensure you only receive top quality products.

IN-HOUSE DEVELOPMENT DEPARTMENT

'**THINK OUTSIDE THE BOX**' **-** Rechner's goal, is innovative customer sensor solutions, which offer you an ideal, and mutually thought out control solution, down to the last detail.

100% TRACEABILITY

Rechner Sensors guarantees one hundred percent traceability of your sensors.

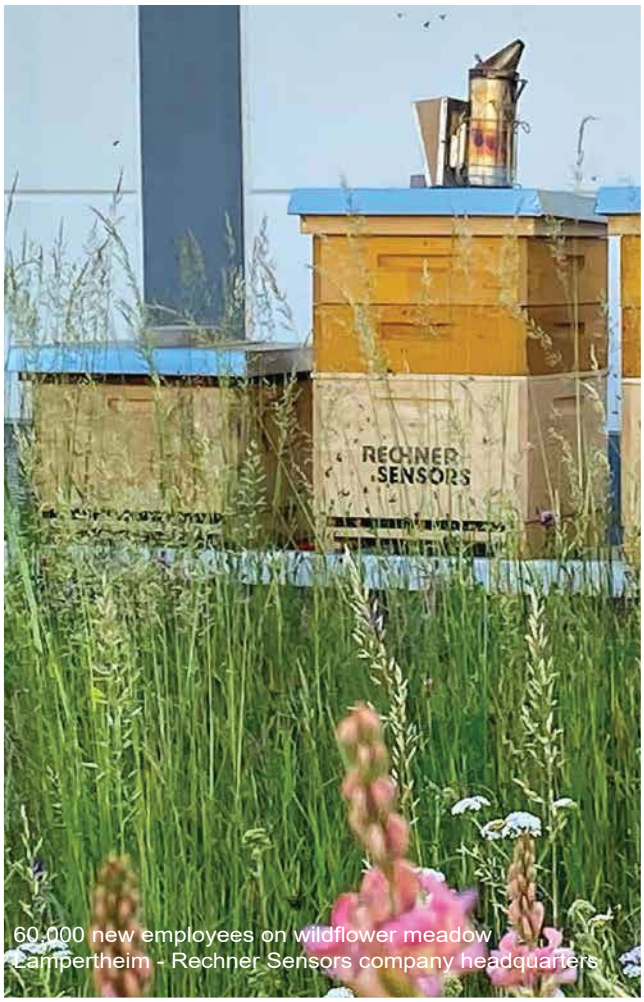
LASER MARKING

Permanently legible, chemically and thermally resistant - thanks to the **laser marking**, your sensor can be identified at any time.

Natural Rechner Sensors

Sustainability:
Bee colonies on company premises

60,000 bees

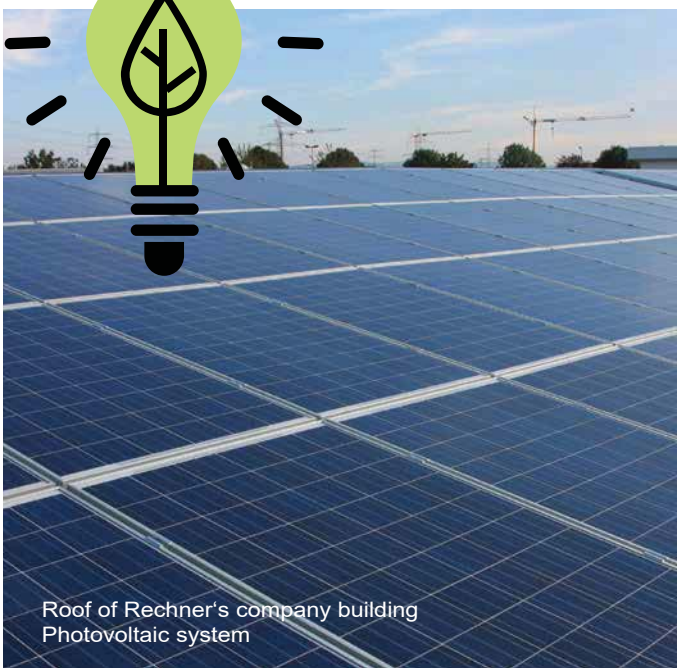


60,000 new employees on wildflower meadow
Lampertheim - Rechner Sensors company headquarters

Saving energy, increasing efficiency and protecting nature - these are fixed and actually lived components of Rechner Sensors' corporate philosophy; because quality is our holistic corporate concept.

Since spring 2021 the company grounds have been home to two bee colonies in the wildflower meadows planted alongside numerous fruit trees and vines. - Rechners sustainability concept!

The 60,000 new, hard-working employees rewarded 'us' with 20 kg of honey.



Roof of Rechner's company building
Photovoltaic system

Rechner Sensors has been using solar power for over a decade! This has positive implications for all of us:

60 %

Rechners annual electricity requirement consists of 60 % of its own solar power

=

25 private households

Power generation equivalent to 25 private households

Avoidance of:

661 tons CO_2

234 tons hard coal

228 tons heating oil

To remove the same amount of CO_2, over 10 years from the atmosphere, we would have to plant 52,902 trees.

'Trees for Lampertheim' project was inaugurated in 2021.

Rechner Sensors electric car

Using the sun when it shines, we 'fill-up' Rechner Sensors' company-owned electric cars, with self-generated electricity, to soak up the sunshine.

Every single person, within the Rechner Sensors' team, helps to ensure that the resources are all used sparingly, from paperless working, to digital processes.

All sensors and level systems are produced, climate neutrally, in our production facility in Germany.

Rechner Sensors: *Your* Partner

Capacitive sensors and level probes from Rechner are the perfect feedback devices for your level control.

Decades of customer focussed, senor design experience, is why Rechner's sensor range is so diverse.

CLASSIC CAPACITIVE SENSORS

The capacitive sensors generate a capacitive field in the area of the active surface. Every medium, i.e. liquid or bulk material with a dielectric constant $\varepsilon_r \geq 1.1$, is recorded. Depending on the model used, the value is output as a switching signal or as an analog signal. The level can be regulated via the connected control system

- **Binary measurement**
  Normally Open, Normally Closed, Antivalent
- **Analog measurement**
  4...20 mA or 0...10 V
  20...4 mA or 10...0 V

Good to know

Sensors and probes for your areas:

- ATEX Dust EX zone 20, 21 and 22
- ATEX Gas EX Zone 0, 1 and 2
- Food contact
  Food Grade EC 1935/2004
- Chemical contact
- High temperature ranges up to 250°C

Capacitive sensors and level probes detect all types of products:

- **Liquids**
- **Bulk goods**
- **Pastes**

ATEX APPROVAL *AND* FOOD SUITABILITY?
Of course!

Level control by contact with the media or level measurement through the container wall
- you will find the right product here.

High Performance

Devices from Rechner Sensors, have a longer in-service life, include quadruple electronic protection, which delivers the highest reliability, reducing production stoppages and improving your profitability.

Capacitive Sensors with ATEX-Certification

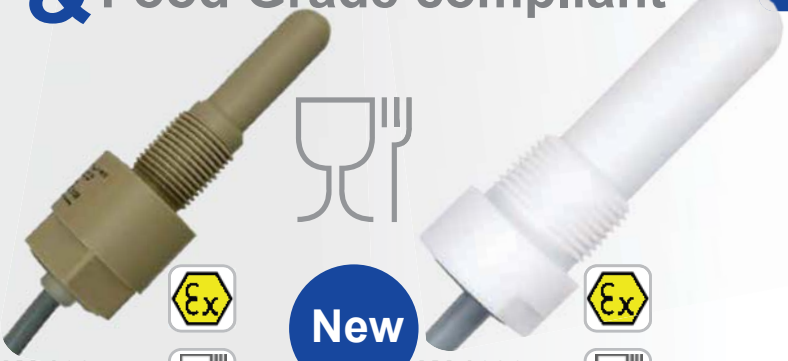
For level control
in potentially explosive areas:

EX Zone 20, 21 and 22 / dust
Zone 0, 1 and 2 / gas

ATEX Sensors for all ATEX zones

New

ATEX with ETW & Food Grade compliant



KA1685
All in One

New

KA1686
All in One

ETW
= Easy Teach by Wire
simple adjustment

ATEX with ETW

M 8

KA1606
All in One

M 32

KA1166
All in One

All in One
= **no** Ex barrier needed!

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ATEX Mini
M 8

KA1431
NAMUR

Ø 6,5 mm

IA0344
NAMUR

16 mm

Application example:
Level control of
explosive liquids and pastes

Data Sheets
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Leak sensor with holder

RECHNER SENSORS

Leakage monitoring

KA9037

NAMUR

Application example:
Leak monitoring in collecting trays

safety first

Ex Barrier

Bestseller

N00017

Protect yourself, your employees and your company from any explosion risk – instal Rechner ATEX sensors.

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Sensors with CCC approval

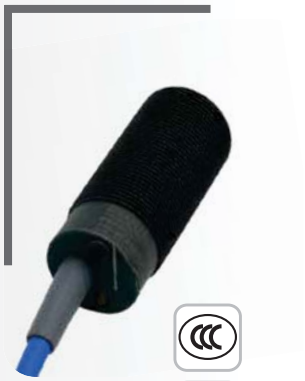
The new CCC certification!
(=China Compulsory Certification)

CCC is a mandatory marking for devices and machines which are to be delivered to China.

CCC certification
- is a must in China for potentially explosive areas.

Capacitive

KA0433
All in One



KA0231
NAMUR

Rechner Sensors products with CCC certification
e.g. all inductive and capacitive StEx sensors.
Certified for all Ex zones.

Inductive

IA0183
All in One

IA0191

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Evaluation Amplifier

New

RECHNER SENSORS

ETW & ETM

Simply choose the setting yourself

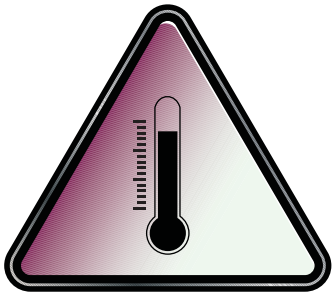
= Easy Teach by Wire
AND
= Easy Teach by Magnet

XA0066
XA0067

New

XA0066 for KXS Sensors of the type
M18, M30, M32

XA0067 for KXS Sensors of the type
M5, M8, M12



Highlights

- Setting either via ETM or ETW function
- ETW function enables the sensors to be set via HMI (Human Interface) of the system
- Two switching points:
  The 2-channel evaluator is more space-saving and economical than a 2x 1 channel evaluator

eXtreme Range

EXTREMELY LARGE SWITCHING DISTANCE
Even at hot temperatures of up to + 250 ° C

Data sheets
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Food industry
Food grade compliant sensors

Sensors are delivered with food grade **certificates**

KA1385

KA1693

KA1688

KA1689

For Food

Date Sheets
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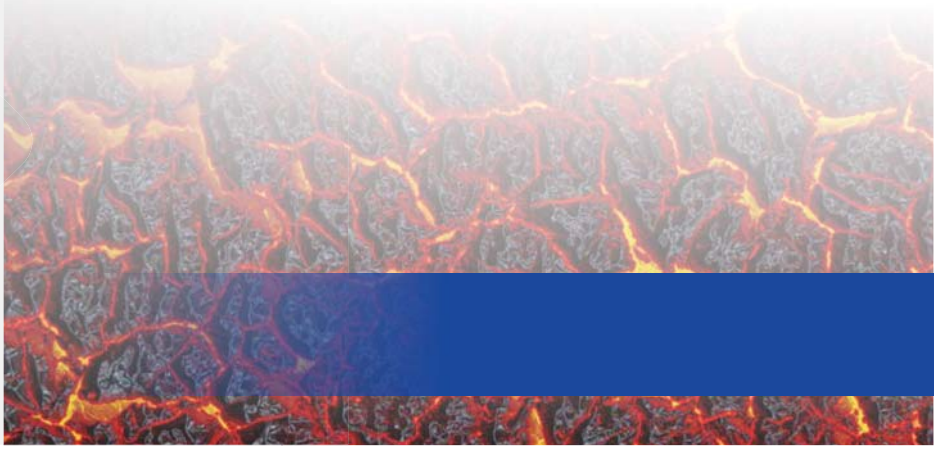
KA1529

250°C

KX0110



Food & Pharma
hygenic

KA1244

High Performance

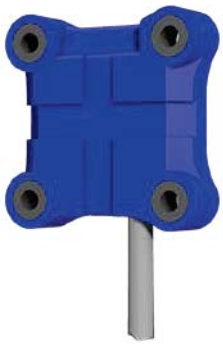
= extremely high protection
+ highest protection against electrical interference and peaks
+ **NO** production downtimes thanks to surge protection
+ long lifetime

WHG certified sensors
Overfill protection

Z-65.13-572
Z-65.40-573

The Water Resources Act (WHG) prescribes overfill protection for containers with liquids that are hazardous to water.

New **KA1684**



New **KA1675**

Sensors with certificates

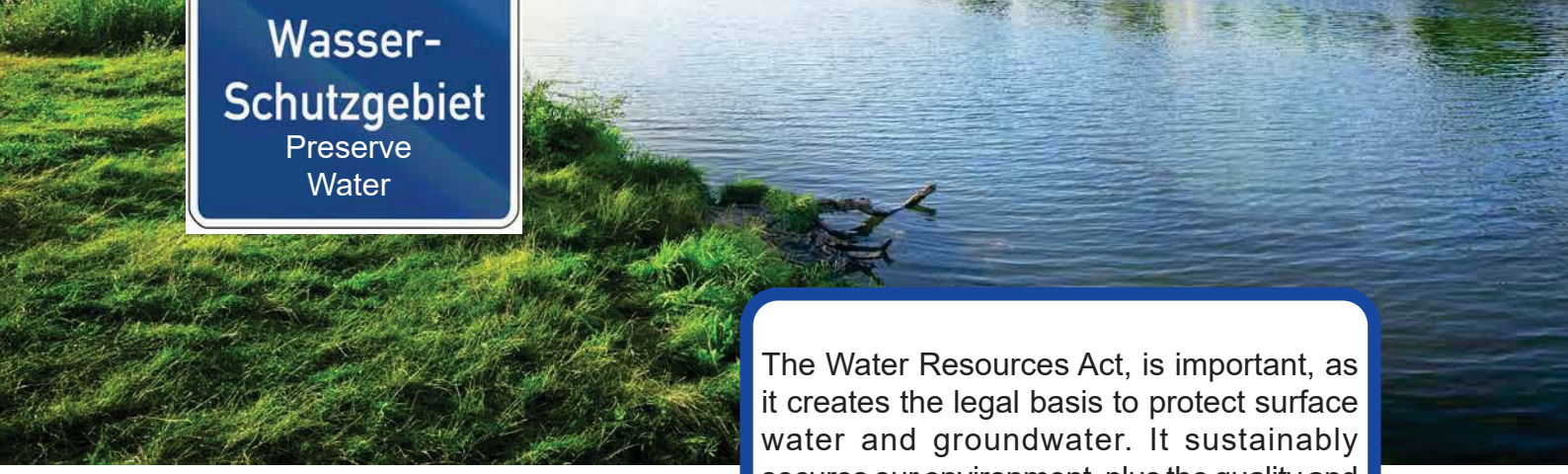
KA0799

KA1674

KA1268

KA1673

NAMUR



The Water Resources Act, is important, as it creates the legal basis to protect surface water and groundwater. It sustainably secures our environment, plus the quality and availability of water, for human consumption, but also for vital flora and fauna. The application of, and the compliance to this law, is monitored by the civil authorities.

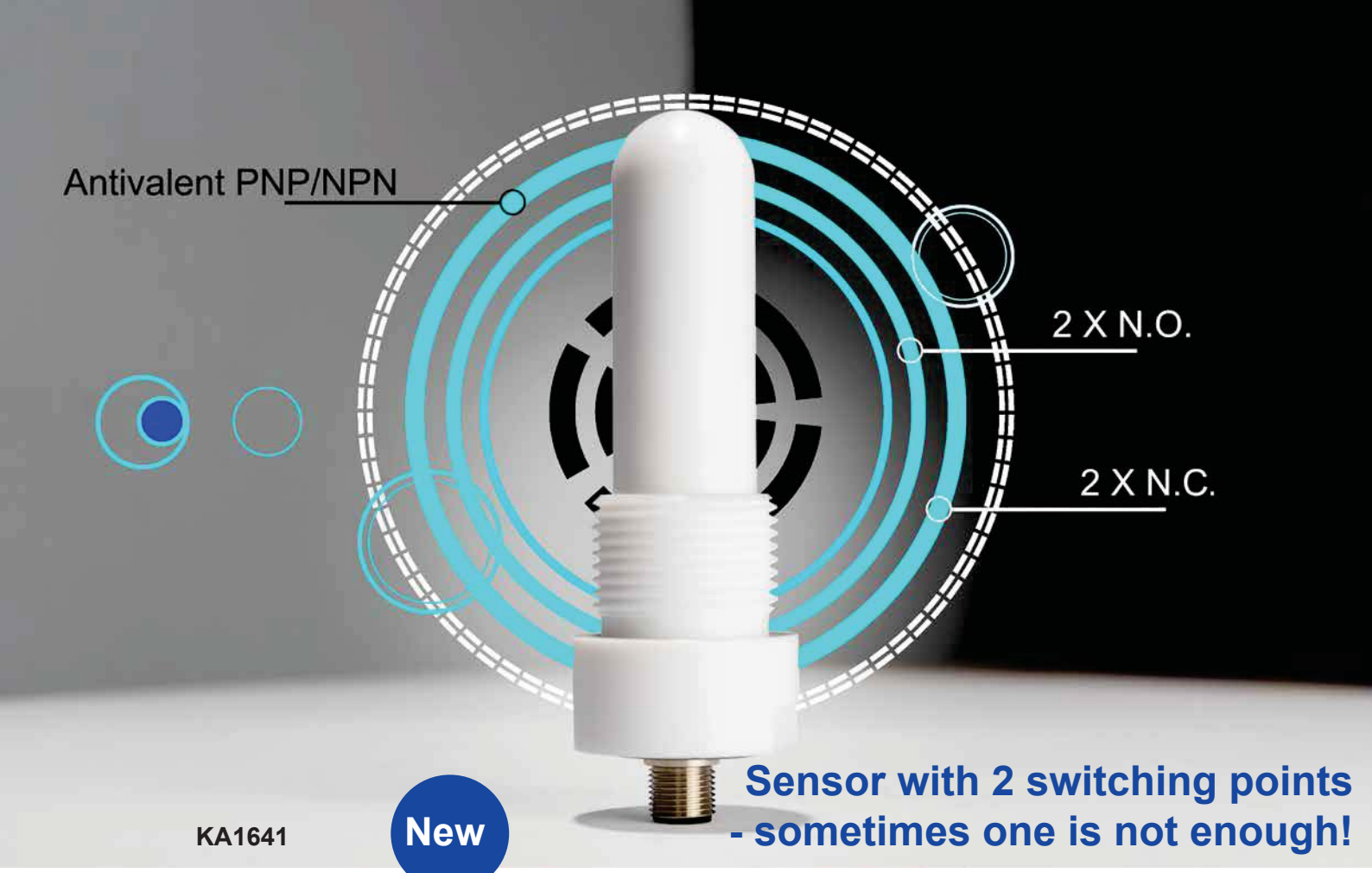
KA0247

KA0571

KA0179

KA0161

Advantages:
The capacitive overfill protection reports the fill level. They trigger an alarm in good time before the maximum permissible filling level is reached in the container. For you this means:
The capacitive overfill protection controls the fill level and offer operational safety.



KA1641

New

Sensor with 2 switching points - sometimes one is not enough!

Capacitive Sensors P3
3 output modes

P3

Detect the fill levels of changing products with one single sensor set-up. Also check ‘container present’ and ‘level detection’ with one sensor device.
Easy to program, optimum sensing adjustment, simple set-up
=

EasyTeach

KA8981

EasyMount = The clue is in the name.

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Dielectric constant Compensation

RECHNER SENSORS

Probes recognize medium with a dielectric constant ε_r > 1,2

Material	ε_r
Glue	2,0
Sawdust	1,3
Cellulose	1,2
Flour	2,5
Sugar	1,8

KF0642

KF0295

KF0602

KF0644

Highlight

Easy:
Setting in the empty container

Changing products?
These are reliably measured without recalibrating

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RECHNER SENSORS

Customized solutions

'**THINK OUTSIDE THE BOX**' - Rechner's goal, is innovative customer sensor solutions, which offer you an ideal, and mutually thought out control solution, down to the last detail.

That is why our IN-HOUSE DEVELOPMENT DEPARTMENT develop your sensors, individually with you, and for you.

1. Small container

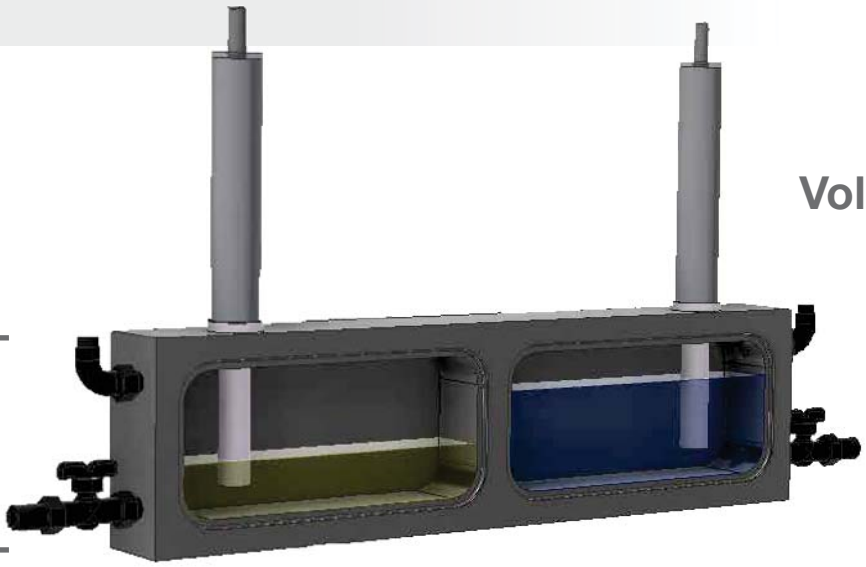
Ink

Application:
Liquids and powders
e.g. for a very precise level detection over a small range, by high sensitivity condition evaluation

KI0124 with ETW
KI0188 with ETM **New**
KI0159 with ETW

ETW
= Easy Teach by Wire
simple adjustment

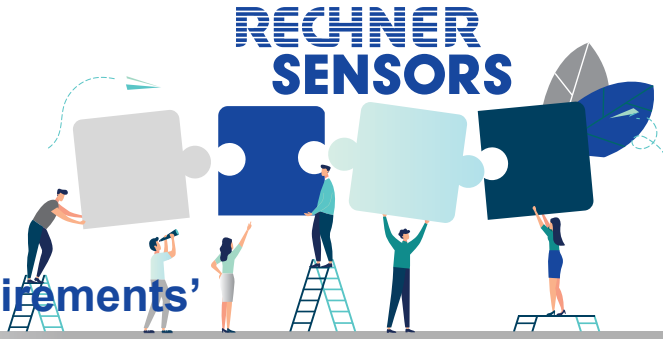
ETM
= Easy Teach by Magnet
simple adjustment



Volume comparison:
330 ml can
330 cm³

KI0046

Customized solutions
MADE FOR YOU



2. ‘Sensor adaptions to your requirements’

KA1501

Highlights:
Very robust housing

Reason: Silo with high speed media input, and bulk weight, which is why we have made this sensor, very robust, and tough

Only the tip of the sensor, protrudes into media flow, inside the silo.

Developed for customers from the Grain and Flour industry.

KA1066

Highlights:
Ceramic coating of the active sensing surface

Reason: Fully resistant to, the abrasive medium of shredded plastic and other waste materials, which have sharp edges.

Developed for customers from the Recycled material industry

KA1487

Highlights:
Made from certified materials, this long reach sensor, with a Tri-Clamp adaptor, is perfectly suitable for pharmaceutical and food production applications.

Developed for customers from the bulk powder handling industry

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Capacitive Sensors - S26
Series 80 - PNP

Process connection: G 1/2“
- Housing material: PEEK
- For use in areas with the risk of dust explosion, zone 20
- For use in areas with the risk of gas explosion, zone 1
- SIP / CIP 121 °C
- Easy Teach by wire
- Special version with flange. Sealing can be made with a gasket or PTFE-tape (not delivered with the sensor)

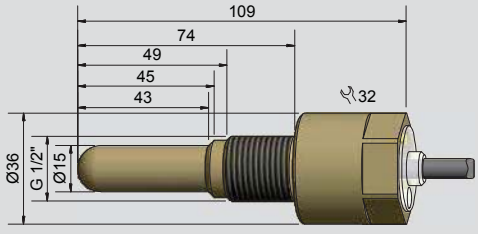
DMT 01 ATEX E 157	IECEx BVS 07.0015
Ex II 2 G Ex mb IIC T4 Gb	Ex mb IIC T4 Gb
Ex II 1/2 D Ex ta/tb IIIC T101°C Da/Db	Ex ta/tb IIIC T_{200}101°C Da/Db

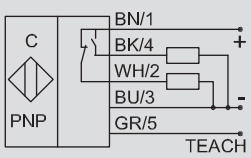
Technical data	Non-flush mountable
Level sensor, in contact with the product	Medium dependent adjustable
Operating distance min. / max. adjustable	0...10 mm
Electrical version	5-wire DC
Output function	Antivalent
Type PNP current	**KAS-80-26/105-A-G1/2-PEEK-FG-Z03-ETW-HP-2G-1/2D**
Art.-No.	**KA 1685**
Operating voltage (U_B)	10...30 V DC
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
Operating current (I_e)	2 x 0...150 mA
No-load current (I_o)	Typ. 15 mA
Frequency of operating cycles max.	15 Hz
Permitted ambient temperature	-20...+70 °C, CIP / SIP 121°C
LED-display	Green / yellow
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67*
Norm	EN 60947-5-2
Connection cable	3 m, PVC, 5 x 0.34 mm²
Housing material	PEEK (FDA 21 CFR 177.2415)
Active surface	PEEK (FDA 21 CFR 177.2415)
Lid	PC (FDA 21 CFR 177.1580)
Media optimized	Yes

Accessories (not delivered with the sensor): For varivent adapter, triclamp adapter, welding socket and matching connectors please see our selection of accessories.

Capacitive Sensors S26 with hemispherical active surface for level control of products with a dielectric constant ε_r from 1,1. Products can be:

- Bulk material, like plastic granules, powder, cereals, etc.
- Liquids, like water, juice, wine, oil, chemicals or pharmaceutical solutions and much more.
- Pastes in the food, pharmaceutical and cosmetics industry





* With sealed potentiometer screw

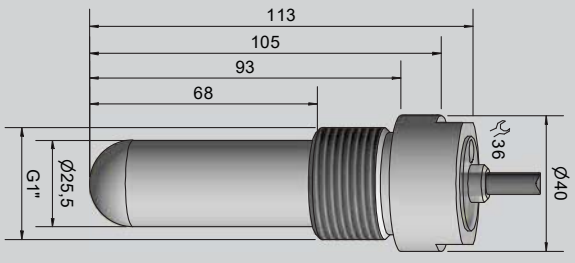
Made in Germany

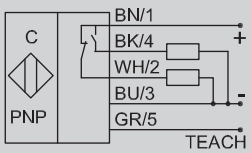
Capacitive Sensors
Series 80 - PNP
Housing Ø = 26 mm/ 1“/ 40 mm

- Housing material PTFE
- SIP / CIP 121° C
- Ideal of detection of chemically aggressive media
- Suitable for foods and parmaceutical applications
- Special version with flange. Sealing can be made with a gasket or PTFE-tape (not supplied with the sensor)

DMT 01 ATEX E 157	IECEx BVS 07.0015
Ex II 2 G Ex mb IIC T4 Gb	Ex mb IIC T4 Gb
Ex II 1/2 D Ex ta/tb IIIC T101°C Da/Db	Ex ta/tb IIIC T_{200}101°C Da/Db

Technical data	Non-flush mountable
Operating distance Sn	Product-contacting / medium-dependent adjustable
Operating distance min./max. adjustable	0...20 mm
Electrical version	4-wire DC
Output	Antivalent (NO + NC)
Type PNP	**KAS-80-26/113-A-G1-PTFE-FG-Z03-ETW-HP-2G-1/2D**
Art.-No.	**KA 1686**
Operating voltage (U_B)	10...30 V DC
Operating current (I_e)	2 x 0...150 mA
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10%
No-load current (I_o)	Typ. 15 mA
Frequency of operating cycles max.	50 Hz
Permitted ambient temperature	-20...+70 °C, CIP / SIP 121°C
LED-display	Green/yellow
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67
Norm	EN 60947-5-2
Connection cable	3 m, PVC, 5 x 0.34 mm²
Housing material	PTFE (FDA 21 CFR 177.1550)
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PC (FDA 21 CFR 177.1580)





Made in Germany

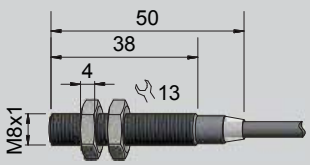
RECHNER Industrie-Elektronik GmbH • Gaußstraße 6-10 • D-68623 Lampertheim • Tel. +49 6206 5007-0 • Fax +49 6206 5007-36 • e-mail: info@rechner-sensors.de • www.rechner-sensors.com

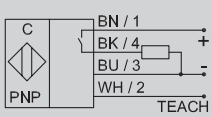
Capacitive Sensors
Series 80 - PNP

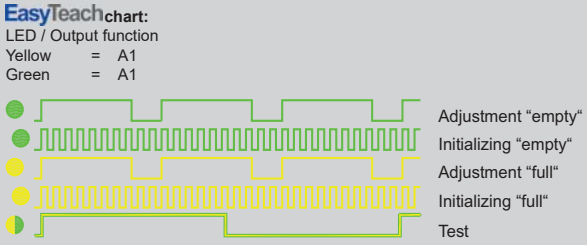
Housing M 8 x1
- Capacitive sensor for level and position control
- Housing material: Stainless steel VA No. 1.4305 (AISI 303)
- Operating distance adjustable with EasyTeach by Wire
- Optical guidance during the teach process with the aid of a 2-colour LED

With manufacturer certificate	
for use in zone 2	for use in zone 22
Ex II 3G Ex nA IIC T6 Gc X	Ex II 3D Ex mc IIIC T101°C Dc IP67 X

Technical data	Flush mountable
Operating distance S_n	1,5 mm
Operating distance min. / max. adjustable	0,1...2,5 mm
Electrical version	3 wire DC
Output function	Normally open
Type PNP	**KAS-80-A11-S-M8-PTFE/VAb-Z02-ETW-HP-3G-3D, ATEX**
Art.-No.	**KA 1606**
Operating voltage (U_B)	10...30 V DC
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
Operating current (I_e)	0...150 mA
No-load current (I_o)	Typ 15 mA
Frequency of operating cycles max.	50 Hz
Permitted ambient temperature	-20...+70°C
LED-display	Green / yellow
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67
Norm	EN 60947-5-2
Connection cable	2 m PUR, 4 x 0.14 mm²
Housing material	Stainless steel VA No. 1.4305 / AISI 303
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PC (FDA 21 CFR 177.1580)
Accessories (delivered with the sensor)	2 nuts M 8 x 1







Made in Germany

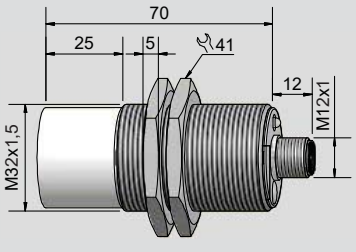
Capacitive Sensor
Series 80 - PNP

Housing M 32 x 1.5

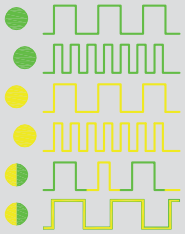
- Capacitive sensor for level and position control
- Housing material: Stainless steel VA No. 1.4305 (AISI 303)
- Sensing distance 1...40 mm adjustable
- With flange connector M 12 x 1
- Operating distance adjustable with EasyTeach by Wire
- Optical guidance during the teach process with the aid of a 2-colour LED

With manufacturer certificate
for use in zone 22
Ex II 3D Ex mc IIIC T101°C Dc IP67 X

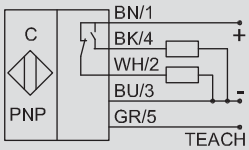
Technical data	Non-flush mountable
Operating distance S_n	25 mm
Operating distance min. / max. adjustable	1...40 mm
Electrical version	4-pin DC
Output function	Antivalent
Type PNP	**KAS-80-35-A-M32-PTFE/VAb-Y10-ETW-HP-3D**
Art.-No.	**KA 1166**
Operating voltage (U_B)	10...35 V DC
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
Operating current (I_e)	2 x 0...150 mA
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 60529	IP 67*
Norm	EN 60947-5-2
Connection	Flange connector M 12 x 1 (A-coded)
Housing material	Stainless steel VA No. 1.4305 (AISI 303)
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PA
Media optimized	Yes
Accessories (is delivered with the sensor)	2 nuts M 32 x 1.5
For matching connectors please see our selection of accessories.	



EasyTeach **chart:** LED / Output function
Yellow = A1 Green = A2



Adjustment “empty“
Initializing “empty“
Adjustment “full“
Initializing “full“
Factory reset
Test



* With sealed potentiometer screw

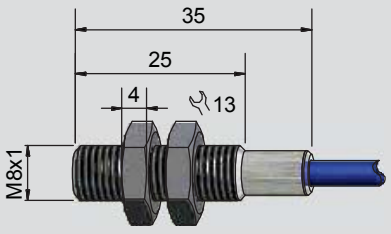
Made in Germany

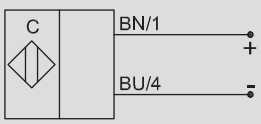
Capacitive Sensors - NAMUR EN 60947-5-6
Series 40

Housing M 8 x 1
- For use in areas with the risk of dust explosion, zone 20
- For use in areas with the risk of gas explosion, zone 0
- Housing material: Brass
- Sensing distance Sn = 0.5 mm

DMT 03 ATEX E 048	IECEx BVS 07.0031
II 1G Ex ia IIC T1-T6 Ga	Ex ia IIC T1-T6 Ga
II 1D Ex ia IIIC T101°C Da	Ex ia IIIC T101°C Da

Technical data	Flush mountable
Operating distance S_n	0.5 mm
Electrical version	2-wire DC
Output function	NAMUR EN 60947-5-6
Type	**KAS-40-A11-N-StEx**
Art. No.	**KA 1431**
Operating voltage (U_B)	5 - 15 V DC, U_i = 15 V DC
Output current active surface free	< typ. 1.5 mA
Output current active surface covered	> typ. 2.5 mA
Self-inductance (L)	0.2 mH
Self-capacitance (C)	250 nF
Permitted residual ripple max.	5 %
Frequency of operating cycles max.	50 Hz
Permitted ambient temperature	-20...+70 °C
Degree of protection IEC 60529	IP 67
Connection cable	2 m, PVC, 2 x 0.14 mm²
Housing material	Stainless steel No. 1.4305 (AISI 303)
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PC (FDA 21 CFR 177.1580)
Accessories (delivered with the unit)	2 nuts M 8 x 1





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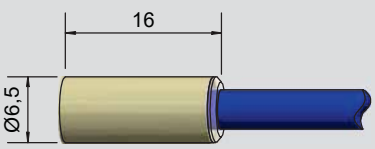
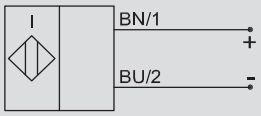
Inductive Sensors
Serie 30 - NAMUR EN 60947-5-6

Housing Ø 6.5 mm
- For use in areas with the risk of gas explosion, zone 0
- For use in areas with the risk of dust explosion, zone 20
- Housing material: PEEK
- Sensing distance Sn = 1.5 mm

DMT 03 ATEX E 048	IECEx BVS 07.0031
II 1G Ex ia IIC T1-T6 Ga	Ex ia IIC T1-T6 Ga
II 1D Ex ia IIIC T101°C Da	Ex ia IIIC T101°C Da

Technical data	Flush mountable
Operating distance S_n	1.5 mm
Electrical version	2-wire DC
Output	NAMUR EN 60947-5-6
Type current	**IAS-30-6.5/16-N-D6.5-PEEK-Z02-0-1G-1D**
Type	**IAS-30-6.5-N-K-PEEK-StEx**
Art.-No.	**IA 0344**
Operating voltage (U_B)	5 - 15 V DC, U_i = 15 V DC
Operating current active surface free	> typ. 2 mA
Operating current active surface covered	< typ. 1.5 mA
Self-inductance (L)	2 mH
Self-capacitance (C)	250 nF
Permitted residual ripple max.	5 %
Frequency of operating cycles max.	500 Hz
Permitted ambient temperature	-20...+70 °C
Degree of protection IEC 60529	IP 67
Connection cable	2 m PVC, 2 x 0.14 mm²
Housing material	PEEK (FDA 21 CFR 177.2415)
Active surface	PEEK (FDA 21 CFR 177.2415)
Lid	PC (FDA 21 CFR 177.1580)





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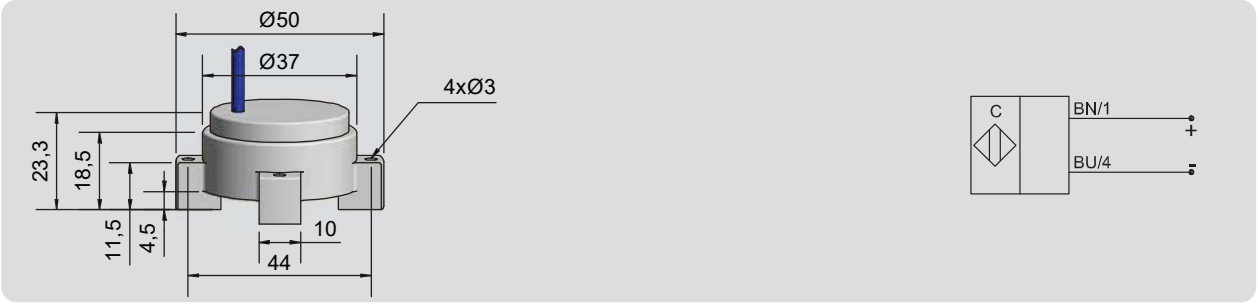
Capacitive Sensors
Series Leak - ATEX

Housing Ø 50 mm
- For use in areas with the risk of gas explosion, zone 0
- Leakage control in clean room / Alarm for containers and pipelines. Mounting in „drip trays“ of plastic, glass or metal
- Housing material: PTFE
- Semiconductor Industry, Chemical Industry

DMT 03 ATEX E 048	IECEx BVS 07.0031
Ex II 1G Ex ia IIC T1-T6 Ga	Ex ia IIC T1-T6 Ga

Technical data	Flush mountable
Operating distance S_n	4.5 mm
Electrical version	2-wire DC
Output function	NAMUR DIN 60947-5-6
Type current	**KAS-40-39/23-N-D50-PTFE-Z02-1-Leak-1G**
Type	**KAS-40-LEAK-D50-PTFE-N**
Art.-No.	**KA 9037**
Operating voltage (U_B)	5 - 15 V DC, U_i = 15 V DC
Output current active surface free	< typ. 1.5 mA
Output current active surface covered	> typ. 2.5 mA
Self-inductance (L)	0.2 mH
Self-capacitance (C)	250 nF
Permitted residual ripple max.	10 %
Permitted ambient temperature	0...+60 °C
LED-display	Red
Degree of protection IEC 529	IP 67*
Connection cable	2 m, FEP, screened, 2 x 0.14 mm
Housing material	PTFE (FDA 21 CFR 177.1550)
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PTFE (FDA 21 CFR 177.1550)



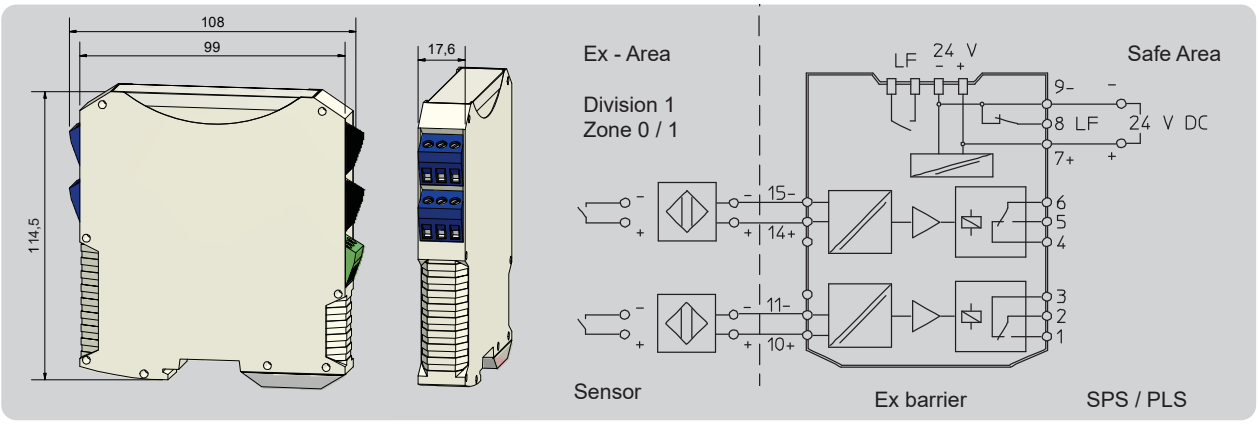
* With sealed potentiometer screw

Isolating Switching Amplifier - ATEX
N-132/2-10 24 V DC

- To connect **two NAMUR-Sensors** or potential-free mechanical contacts which are mounted in the zones 0, 1, 2 (Gas) or 20, 21, 22 (dust)
- Compact design - only 17.6 mm width
- Removable screw terminals
- Indication sensor wire-break or shortcircuit via relay contact
- For applications up to SIL 2 according to IEC 61508

BVS 09 ATEX E 087X	IECEx BVS 10.0088X	CCC 2020312316000055
Ex II (1)G [Ex ia Ga] IIC	[Ex ia Ga] IIC	[EX ia Ga] IIC
Ex II (1)D [Ex iaDa] IIIC	[Ex ia Da] IIIC	[Ex iaD]

Technical data	
Operating voltage (U_B)	18...31.2 V DC
Output function	2 x change-over contact potential-free
Contact rating each relay AC max.	250 V AC / 4 A
Contact rating each relay DC max.	250 V DC / 2 A
Type	**N-132/2-10**
Art.-No.	**N 00017**
Output voltage max. (U_o)	9.6 V DC
Output current max. (I_o)	20 mA
Outer inductance max. (L_o)	[Ex ia] IIC 90 mH / IIB 340 mH
Outer capacitance max. (C_o)	[Ex ia] IIC 3.6 µF / IIB 26 µF
Actuating signal	NAMUR EN 60547-5-6
Permitted ambient temperature	-20...+70 °C
Display	Red / yellow and green
Degree of protection IEC 60529	Housing: IP 30 Terminals: IP 20
Norm	EN 60947-5-6
Safety integrity level (IEC 61508)	SIL 2
Connection	Screw terminals



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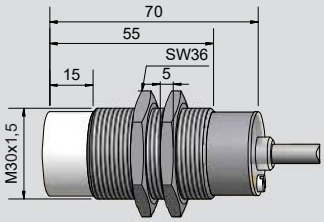
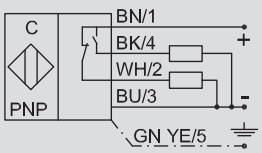
Capacitive Sensors Series 80 - PNP - StEx - ATEX

Housing M 30 x 1.5
- For use in areas with the risk of dust explosion, zone 20
- For use in areas with the risk of gas explosion, zone 1
- Sensing distance 3...25 mm adjustable

DMT 01 ATEX E 157	IECEx BVS 07.0015	CCC 2020312315000410
Ex II 2 G Ex mb IIC T4 Gb	Ex mb IIC T4 Gb	Ex mb IIC T4 Gb
Ex II 1/2 D Ex ta/tb IIIC T101°C Da/Db	Ex ta/tb IIIC T_{200}101°C Da/Db	Ex tD A21 IP67 T101°C

Technical data	Non-flush mountable
Operating distance S_n	15 mm
Operating distance min. / max. adjustable	3...25 mm
Electrical version	4-wire DC
Output function	Antivalent
Type PNP	**KAS-80-A24-A-M30-PTFE/VAb-Z10-1-2G-1/2D**
Art.-No.	**KA 0433**
Operating voltage (U_B)	10...30 V DC
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	5 %
Operating current (I_e)	2 x 0...150 mA
No-load current (I_o)	Typ. 15 mA
Frequency of operating cycles max.	50 Hz
Permitted ambient temperature	-20...+70 °C
LED-display	Green / yellow
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67*
Norm	EN 60947-5-2
Connection cable	10 m, PVC, 5 x 0.34 mm²
Housing material	VA No. 1.4305 / AISI 303
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PC (FDA 21 CFR 177.1580)
Media optimized	Yes
Accessories (is delivered with the unit)	2 nuts M 30 x 1.5





* With sealed potentiometer screw

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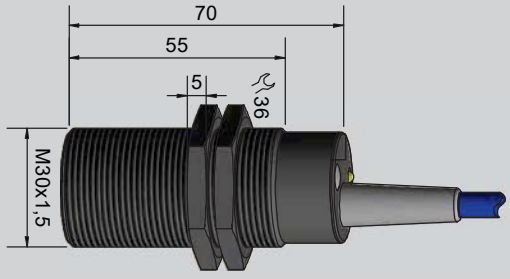
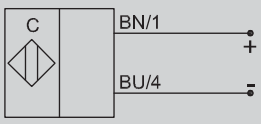
Capacitive Sensors
Series 40- NAMUR EN 60947-5-6

Housing M 30 x 1.5
- For use in areas with the risk of gas explosion, zone 0
- Housing material: PBT
- Sensing distance 0.5...25 mm adjustable

DMT 03 ATEX E 048	IECEx BVS 07.0031	CCC 2020312315000408
II 1G Ex ia IIC T1-T6 Ga	Ex ia IIC T1-T6 Ga	Ex ia IIC T1 – T6 Ga

Technical data	Flush mountable
Operating distance S_n	10 mm
Operating distance min. / max. adjustable	0.5...25 mm
Electrical version	2-wire DC
Output function	NAMUR DIN 60947-5-6
Type	**KAS-40-A14-N-K**
Art. No.	**KA 0231**
Operating voltage (U_B)	5 - 15 V DC, U_i 15 V DC
Output current active surface free	< typ 1.5 mA
Output current active surface covered	> typ. 2.5 mA
Self-inductance (L)	0.2 mH
Self-capacitance (C)	250 nF
Permitted residual ripple max.	5 %
Frequency of operating cycles max.	50 Hz
Permitted ambient temperature	-25...+70 °C
LED-display	Yellow
Degree of protection IEC 60529	IP 67
Connection cable	5 m, PUR, 2 x 0.75 mm²
Housing material	PBT
Active surface	PBT
Lid	PC (FDA 21 CFR 177.1580)
Media optimized	Yes
Accessories (included in delivery)	2 nuts M 30 x 1.5





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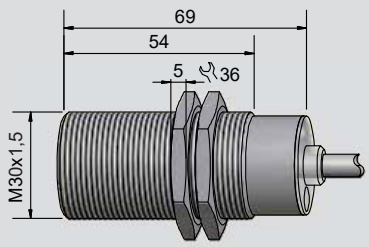
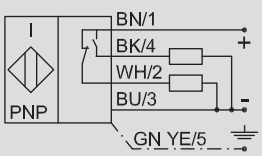
Inductive Sensors
Series 10 - PNP - StEx - ATEX

Housing M 30 x 1.5
- Housing material: Brass
- For use in areas with the risk of dust explosion, zone 20
- For use in areas with the risk of gas explosion, zone 1
- Sensing distance Sn 10 mm

DMT 01 ATEX E 157	IECEx BVS 07.0015	CCC 2020312315000410
Ex II 2 G Ex mb IIC T4 Gb	Ex mb IIC T4 Gb	Ex mb IIC T4 Gb
Ex II 1/2 D Ex ta/tb IIIC T101°C Da/Db	Ex ta/tb IIIC T_{200}101°C Da/Db	Ex tD A21 IP67 T101°C

Technical data	Flush mountable
Operating distance S_n	10 mm
Electrical version	4-wire DC
Output	Antivalent
Type PNP	**IAS-10-A14-A-M30-PTFE/MS-Z05-0-2G-1/2D**
Art.-No.	**IA 0183**
Operating voltage (U_B)	10...30 V DC
Voltage drop max. (U_d)	≤ 2.5 V
Permitted residual ripple max.	10 %
Operating current (I_e)	2 x 0...150 mA
No-load current (I_o)	Typ. 15 mA
Frequency of operating cycles max.	1 kHz
Permitted ambient temperature	-20...+70 °C
LED-display	Green / yellow
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67
Norm	EN 60 947-5-2
Connection cable	5 m, PVC, 5 x 0.34 mm²
Housing material	Brass
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PC (FDA 21 CFR 177.1580)
Accessories (delivered with the sensor)	2 nuts M 30 x 1.5





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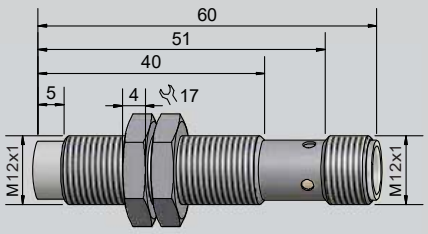
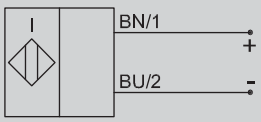
Inductive Sensors
Series 30 - NAMUR EN 60947-5-6

Housing M 12 x 1
- Housing material: Stainless steel VA No. 1.4404 / AISI 316L
- For use in areas with the risk of gas explosion, zone 0
- Sensing distance Sn = 4 mm
- With flange connector M 12 x 1

DMT 03 ATEX E 048	IECEx BVS 07.0031	CCC 2020312315000408
II 1G Ex ia IIC T1-T6 Ga	Ex ia IIC T1-T6 Ga	Ex ia IIC T1 – T6 Ga

Technical data	Non-flush mountable
Operating distance S_n	4 mm
Electrical version	2-pin DC
Output	NAMUR EN 60947-5-6
Type	**IAS-30-A22-N-Y5**
Art.-No.	**IA 0191**
Operating voltage (U_B)	5 - 15 V DC, U_i = 15 V DC
Output current active surface free	> typ. 2 mA
Output current active surface covered	< typ. 1.5 mA
Self-inductance (L)	2 mH
Self-capacitance (C)	250 nF
Permitted residual ripple max.	5 %
Frequency of operating cycles max.	1.5 kHz
Permitted ambient temperature	-20...+70 °C
LED-display	Yellow
Degree of protection IEC 60529	IP 67
Connection	Flange connector M 12 x 1 (A-coded)
Housing material	Stainless steel VA No. 1.4404 / AISI 316L
Active surface	PA
Accessories (delivered with the sensor)	2 nuts M 12 x 1, protective clip





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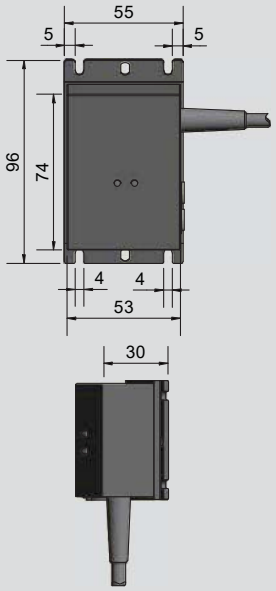
Capacitive evaluation unit
Series KXA-eXtreme
Article number XA0066
Description KXA-5-2-L-P-A-ET-Z02-Y90

- Housing 96 x 55 x 30 mm
- KXA-... for connection to 2 capacitive sensors KXS-...-M18/... to -M32/...
- Sensitivity adjustment with EasyTeach function, with cable (ETW) or with magnet (ETM)



Technical data

Output function	2 x PNP, Antivalente
Sensitivity adjustment	Teach ETW + ETM
Operating voltage (U_B)	18...36 V DC
Voltage drop max. (U_d)	≤ 2.5 V
Permitted residual ripple max.	25 %
Operating current (I_e)	2 x 0...200 mA
No-load current (I_o)	Typ. 75 mA
Frequency of operating cycles max.	50 Hz
Permitted ambient temperature	-25...+55 °C
LED-display	Green / yellow
Protective circuit	Built-in
Degree of protection IEC 60529	IP 54
Norm	EN 60947-5-2
Connection	Cable, 2 m, PUR, 8 x 0.25 mm²
Housing material	PA
MTTF (average operating time until failure in Years)	124.82 Years
Accessory (included in the scope of delivery):	Teach magnet

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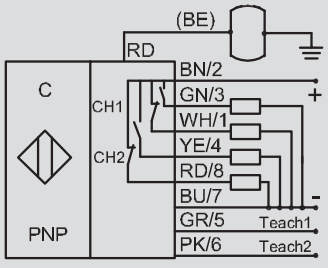
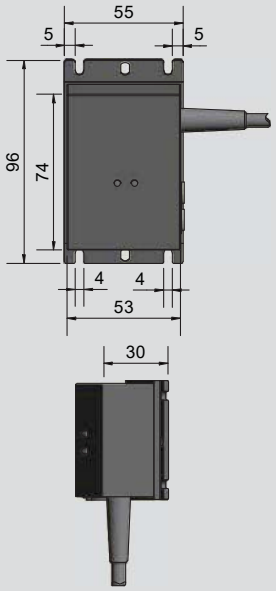


Capacitive evaluation unit
Series KXA-eXtreme
Article number XA0067
Description KXA-5-2MINI-L-P-A-ET-Z02-Y90

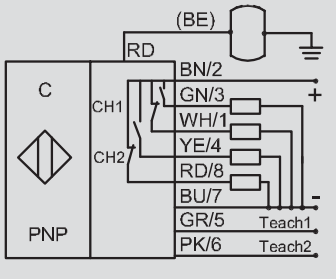
- Housing 96 x 55 x 30 mm
- KXA-... for connection to 2 capacitive sensors KXS-...-M5/... to -M16/...
- Sensitivity adjustment with EasyTeach function, with cable (ETW) or with magnet (ETM)



Technical data

Output function	2 x PNP, Antivalente
Sensitivity adjustment	Teach ETW + ETM
Operating voltage (U_B)	18...36 V DC
Voltage drop max. (U_d)	≤ 2.5 V
Permitted residual ripple max.	25 %
Operating current (I_e)	2 x 0...200 mA
No-load current (I_o)	Typ. 75 mA
Frequency of operating cycles max.	50 Hz
Permitted ambient temperature	-25...+55 °C
LED-display	Green / yellow
Protective circuit	Built-in
Degree of protection IEC 60529	IP 54
Norm	EN 60947-5-2
Connection	Cable, 2 m, PUR, 8 x 0.25 mm²
Housing material	PA
MTTF (average operating time until failure in Years)	124.82 Years
Accessory (included in the scope of delivery):	Teach magnet

Made in Germany



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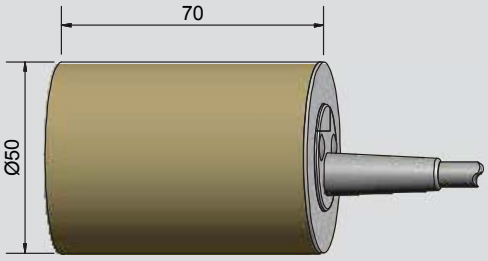
Capacitive Sensors with Analogue Output
Series 80 - PNP

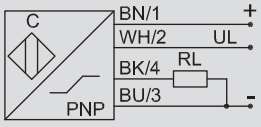
Output current **4...20 mA**
Voltage output **0...10 V**

Housing Ø 50mm
- Housing material: PEEK
- Operating range 0...40 mm
- Current and voltage output in the same sensor

Technical data	Flush mountable
Operating range	0...40 mm
Linear range	0...30 mm
Electrical version	4-wire DC
Output function	Analogue
Type Analogue	**KAS-80-50-IL4/UL0-D50-PEEK-FG-Z02-1-HP**
Art. No.	**KA 1385**
Operating voltage (U_B)	15...30 V DC
Output signal	4...20 mA, 0...10 V
Permitted residual ripple max.	5 %
No-load current (I_o)	≤ 40 mA
Output current active surface free	≤ 4 mA
Output current active surface covered	≥ 20 mA
Load resistor (R_L)	0...600 Ohm
Permitted ambient temperature	0...+70 °C
LED-display	Yellow / green
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67*
Norm	EN 60947-5-2 / EN 60947-5-7**
Connection	2 m, PVC, 4 x 0.5 mm²
Housing material	PEEK (FDA 21 CFR 177.2415)
Active surface	PEEK (FDA 21 CFR 177.2415)
Lid	PA
Accessories for **mounting** (not included in delivery)	#190050

* With sealed potentiometer screw
** Where applicable





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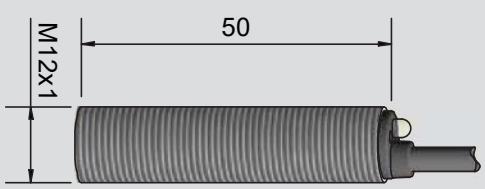
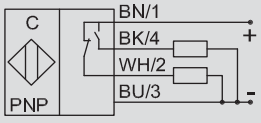
Capacitive Sensors
Series 80 - PNP

Housing M 12 x 1
- Housing material: PTFE
- Sensing distance 0...6 mm adjustable

Technical data	Flush mountable
Operating distance S_n	2 mm
Operating distance min. / max. adjustable	0...6 mm
Electrical version	4-wire DC
Output function	Antivalent
Type PNP	**KAS-80-A12-A-M12-PTFE-FG-Z02-1-HP**
Art.-No.	**KA 1693**
Operating voltage (U_B)	10...35 V DC
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
Operating current (I_e)	2 x 0...250 mA
No-load current (I_o)	Typ. 15 mA
Frequency of operating cycles max.	500 Hz
Permitted ambient temperature	-25...+70 °C
LED-display	Green / yellow
Protective circuit	Built-in
Degree of protection IEC 529	IP 67*
Norm	EN 60947-5-2
Connection cable	2 m, PUR, 4 x 0.14 mm²
Housing material	PTFE (FDA 21 CFR 177.1550)
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PA
Media optimized	Yes





* With sealed potentiometer screw

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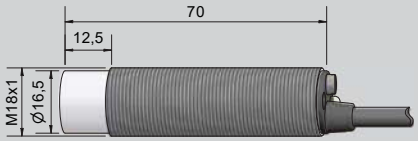
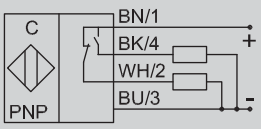
Capacitive Sensors
Series 80 - PNP

Housing M 18 x 1
- Housing material: PTFE
- Ideal for detection of chemically aggressive media
- Ideal for use in food applications
- Sensing distance 0.5…15 mm adjustable
- Option: Total chemical resistance is given when ordering the sensor with PTFE cable and PTFE - protection set Art.-No. 196305

Technical data	Non-flush mountable
Operating distance S_n	8 mm
Operating distance min. / max. adjustable	0.5...15 mm
Electrical version	4-wire DC
Output function	Antivalent
Type PNP	**KAS-80-A23-A-M18-PTFE-FG-Z02-1-HP**
Art.-No.	**KA 1688**
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. 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 60529	IP 67*
Norm	EN 60947-5-2
Connection cable	2 m, PVC, 4 x 0.34 mm²
Housing material	PTFE (FDA 21 CFR 177.1550)
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PA
Media optimized	Yes

* With sealed potentiometer screw





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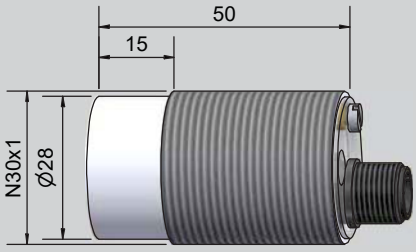
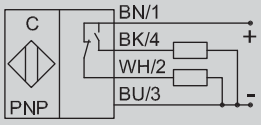
Capacitive Sensors

Series 80 - PNP

Housing M 30 x 1.5
- Housing material PTFE
- Sensing distance 1...30 mm adjustable
- With flange connector M 12 x 1

Technical data	Non-flush mountable
Operating distance Sn	15 mm
Operating distance min./max. adjustable	1...30 mm
Electrical version	4-pin DC
Output	Antivalent (NO + NC)
Type PNP	KAS-80-A24/50-A-M30-PTFE-FG-Y5-1-HP
Art.-No.	KA 1689
Operating voltage (U_B)	10...35 V DC
Operating current (I_e)	2 x 250 mA
Load current min.	-
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10%
No-load current (I_o)	Typ. 15 mA
Frequency of operating cycles max.	50 Hz
Permitted ambient temperature	-25...+70° C
LED-display	Green/yellow
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67
Norm	EN 60947-5-2
Connection	Flange connector M 12 x 1 (A-coded)
Housing material	PTFE (FDA 21 CFR 177.1550)
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PC (FDA 21 CFR 177.1580)





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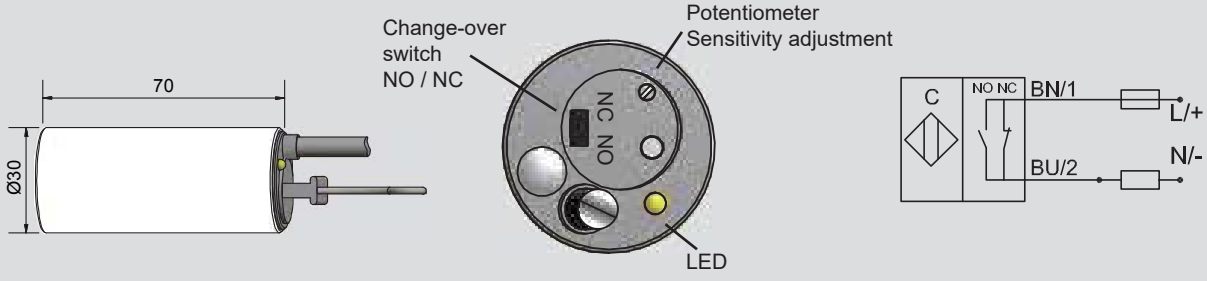
Capacitive Sensors
Series 90 - AC / DC

Housing M 30 x 1.5
- Housing material: PTFE
- Sensing distance 2...20 mm adjustable
- NO and NC function selectable by means of a change over switch

Technical data	Flush mountable
Operating distance S_n	10 mm
Operating distance min. / max. adjustable	2...20 mm
Electrical version	2-wire AC / DC
Output function	Normally open or normally closed
Type PNP	**KAS-90-30-P-D30-PTFE-FG-Z02-1-NL**
Art.-No.	**KA 1529**
Operating voltage (U_B)	20...250 V AC / DC
Voltage drop max. (U_d)	≤ 6.0 V
Permitted residual ripple max.	5 %
Operating current (I_e)	5...330 mA (ETL = 250 mA)
No-load current (I_o)	Typ 2.5 mA
Frequency of operating cycles max.	25 Hz
Permitted ambient temperature	-25...+70 °C
LED-display	Yellow
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67*
Norm	EN 60947-5-2
Connection cable	2 m, PVC, 2 x 0.75 mm²
Housing material	PTFE (FDA 21 CFR 177.1550)
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PBT
Media optimized	Yes



* With sealed potentiometer screw

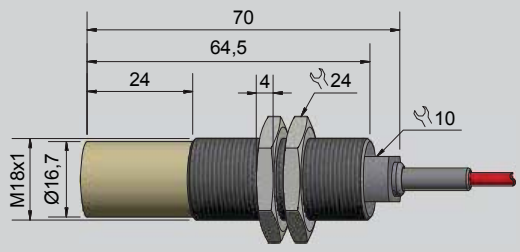
Made in Germany

Y95

Capacitive sensors
Series KXS-eXtreme

Housing M 18 x 1
- Housing material: Stainless steel VA no. 1.4305 / AISI 303
- For connection to capacitive evaluation units KXA-...
- Extreme large sensing distance
- Up to 250° C ambient temperature

Technical data	Non-flush mountable
Operating distance S_n	30 mm
Operating distance min / max adjustable	2...50 mm
Type	**KXS-250-M18/70-X-M18-PEEK/VAb-250C-FG-X02/Y95**
Art.-No.	**KX 0110**
Permitted ambient temperature	-50...+250 °C
Enclosure rating IEC 60529*	IP 67
Norm	EN 60947-5-2
Connection cable for connection to capacitive evaluation units KXA-... with plug-in connector	5 m FEP, Triax
Housing material	Stainless steel VA no. 1.4305 / AISI 303
Active surface	PEEK (FDA 21 CFR 177.2415)
Accessories (delivered with the sensor)	2 nuts M 18 x 1



*Enclosure rating IEC 60529 for connector on request.

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Capacitive Sensors - S26
Series 80 - PNP

Type of construction G 1/2“
- Housing material: PEEK

Technical data	Non-flush mountable
Level sensor, in contact with the product	Medium dependent adjustable
Operating distance min. / max. adjustable	0...10 mm
Electrical version	4-wire DC
Output function	Antivalent
Type PNP	**KAS-80-26/105-A-G1/2-PEEK-FG-Z02-1-HP**
Art.-No.	**KA 1244**
Operating voltage (U_B)	10...35 V DC
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
Operating current (I_e)	2 x 0...200 mA
No-load current (I_o)	Typ. 15 mA
Frequency of operating cycles max.	2 Hz
Permitted ambient temperature	-25...+70 °C / CIP 121 °C
LED-display	Green / yellow
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67*
Norm	EN 60947-5-2
Connection cable	2 m, PVC, 4 x 0.34 mm²
Housing material	PEEK (FDA 21 CFR 177.2415)
Active surface	PEEK (FDA 21 CFR 177.2415)
Lid	PA
Media optimized	Yes
Varivent N Adapter EHEDG certified (not delivered with the sensor):	# 196395
Welding Socket EHEDG certified (not delivered with the sensor):	# 196394

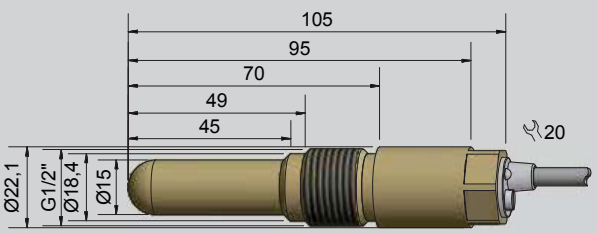
* With sealed potentiometer screw

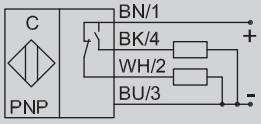
Capacitive Sensors S26 with hemispherical active surface for level control of products with a dielectric constant ε_r from 1,1. Products can be:

- Bulk material, like plastic granules, powder, cereals, etc.
- Liquids, like water, juice, wine, oil, chemicals or pharmaceutical solutions and much more.
- Pastes in the food, pharmaceutical and cosmetics industry

Advantages:

- EHEDG-Certified
- Measurement is independent of the mounting position
- Permitted pressure on the active area: 10 bar





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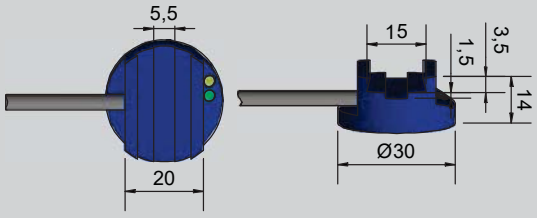
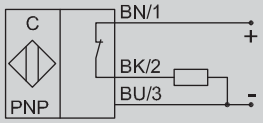
Capacitive Sensors
Series 80 - PNP EasyMount

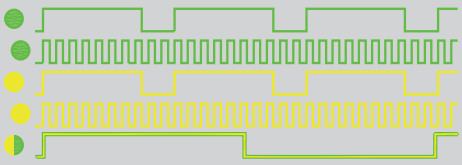
Housing Ø 30 mm
Capacitive sensor for level control of liquids
Very suitable for a measurement through non-metallic container walls
- EasyTeach by magnet (Magnet is supplied with the sensor)
- Housing material: Polyamid (PA)
- Various mounting possibilities (see accessories)
- Watertight

Technical data	Flush mountable
Operating distance S_n	5 mm
Operating distance min. / max. programmable	0...10 mm
Electrical version	3 wire DC
Output function	Normally closed
Type PNP	**KAS-80-30EM/15-Ö-D30-PA-Z05-ETM-HP**
Art.-No.	**KA 1684**
Operating voltage (U_B)	10...35 V DC
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
Operating current (I_e)	0...200 mA
No-load current (I_o)	Typ. 15 mA
Frequency of operating cycles max.	2 Hz
Permitted ambient temperature	-25...+70°C
LED-display	Green / yellow
Protective circuit	Built-in
Degree of protection IEC 60529	IP 68
Norm	EN 60947-5-2
Connection cable	5 m PVC, 3 x 0.14 mm²
Housing material	PA
Accessory supplied with the sensor	Teach magnet
Accessories Sensor holder (not included in delivery)	Sensor holder EasyMount #196389, #196390, #196391, #196392, #196393





EasyTeach **chart:**
LED / Output function
Yellow = A1
Green = A1



Adjustment "empty"
Initializing "empty"
Adjustment "full"
Initializing "full"
Test

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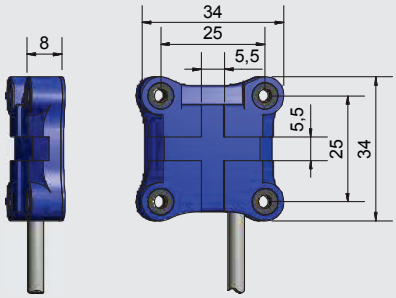
Capacitive Sensors

Series 80 - PNP EasyMount

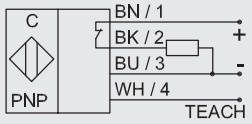
Housing 34 x 34 mm
Capacitive sensor for level control of liquids, very suitable for a measurement through non-metallic container walls. Special adaptation for bypass applications.

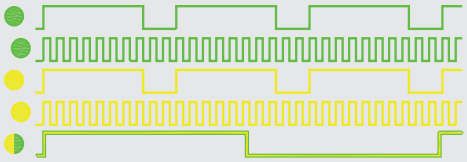
- Sensitivity adjustment with EasyTeach by Wire (ETW)
  Magnet delivered with the sensor
- Housing material: PA
- Easy to mount, by screwing ,gluing or cable ties
- Watertight
- Flat housing - 8 mm

Technical data	Flush mountable
Operating distance S_n	5 mm
Operating distance min. / max. programmable	0...10 mm
Electrical version	3 wire DC
Output function	Normally closed
Type PNP	**KAS-80-C30EM/8-Ö-34x34x8-PA-Z05-ETW-HP**
Art.-No.	**KA 1675**
Operating voltage (U_B)	10...35 V DC
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
Operating current (I_e)	0...200 mA
No-load current (I_o)	Typ 15 mA
Frequency of operating cycles max.	2 Hz
Permitted ambient temperature	-25...+70°C
LED-display	Green / yellow
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67
Norm	EN 60947-5-2
Connection	Cable, 5 m, PUR, 4 x 0.14 mm²
Housing material	PA



EasyTeach chart:
LED / Output function
Yellow = A1
Green = A1





Adjustment “empty“
Initializing “empty“
Adjustment “full“
Initializing “full“
Test

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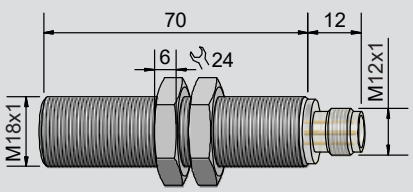
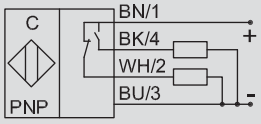
Capacitive Sensors
Series 80 - PNP

Housing M 32 x 1.5
- Housing material: PTFE
- Sensing distance 0.5...10 mm adjustable
- With flange connector M 12 x 1

With manufacturer certificate	
for use in zone 2	for use in zone 22
Ex II 3G Ex nA IIC T6 Gc X	Ex II 3D Ex mc IIIC T101°C Dc IP67 X

Technical data	Non-flush mountable
Operating distance S_n	5 mm
Operating distance min. / max. adjustable	0.5...10 mm
Electrical version	4-pin DC
Output	Antivalent
Type PNP	**KAS-80-A13-A-M18-PTFE-Y3-1-HP-3G-3D**
Art.-No.	**KA 0799**
Operating voltage (U_B)	10...30 V DC
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
Operating current (I_e)	2 x 0...150 mA
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 60529	IP 67*
Norm	EN 60947-5-2
Connection	Flange connector M 12 x 1 (A-coded)
Housing material	PTFE (FDA 21 CFR 177.1550)
Active surface	PTFE (FDA 21 CFR 177.1550)
Media optimized	Yes
Accessories (delivered with the sensor)	2 nuts M 32 x 1.5, Protective clip
Matching connectors (not delivered with the sensor)	#193391, #193392





* With sealed potentiometer screw

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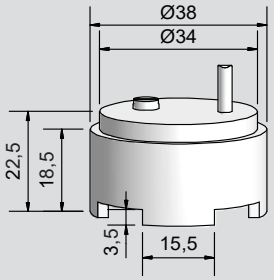
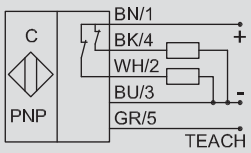
Capacitive Sensors
Series Leak

Housing Ø 38 mm
- Leakage control of liquids in clean room / Alarm for containers and pipelines
- Mounting in „drip trays“ of plastic, glass or metal
- Housing material: PTFE
- Semiconductor Industry, Chemical Industry
- Output function (Antivalent / 2 x normally open / 2 x normally closed) selectable with EasyTeach by Wire (ETW)

With manufacturer certificate
for use in zone 2 (gas)
Ex II 3G Ex nA IIC T6 Gc X

Technical data	Flush mountable
Switching point	2 mm
Switching distance min. / max. adjustable	0.5...4 mm
Electrical version	4-wire DC
Output function	Normally open / normally closed / antivalent switchable
Type PNP	**KAS-80-39/23-2Ö-D38-PTFE-Z05-ETW-Leak-3G**
Art.-No.	**KA 1674**
Operating voltage (U_B)	10...30 V DC
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
Operating current (I_e)	2 x 0...150 mA
No-load current (I_o)	Typ. 15 mA
Permitted ambient temperature	0...+60 °C
LED-display	Green / yellow
Protective circuit	Built-in
Degree of protection IEC 529	IP 67
Norm	EN 60947-5-2
Connection cable	2 m, FEP, screened, 5 x 0.14 mm
Housing material	PTFE (FDA 21 CFR 177.1550)
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PTFE (FDA 21 CFR 177.1550)
Accessories (delivered with the sensor)	PVC-holder (#196326)





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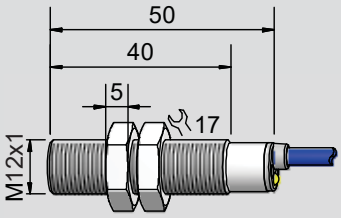
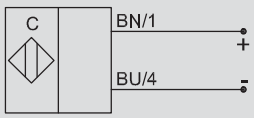
Capacitive Sensors
Series 40 - NAMUR EN 60947-5-6

Housing M 12 x 1
- For use in areas with the risk of gas explosion, zone 0
- Housing material: PTFE
- Sensing distance 1...5 mm adjustable

DMT 03 ATEX E 048	IECEx BVS 07.0031
II 1G Ex ia IIC T1-T6 Ga	Ex ia IIC T1-T6 Ga

Technical data	Flush mountable
Operating distance S_n	2 mm
Operating distance min. / max. adjustable	1...5 mm
Electrical version	2-wire DC
Output function	NAMUR DIN 60947-5-6
Type	**KAS-40-A12-N-K-PTFE**
Art. No.	**KA 1268**
Operating voltage (U_B)	5 - 15 V DC, Ui = 15 V DC
Output current active surface free	< typ. 1.5 mA
Output current active surface covered	> typ. 2.5 mA
Self-inductance (L)	0.2 mH
Self-capacitance (C)	250 nF
Permitted residual ripple max.	5 %
Frequency of operating cycles max.	50 Hz
Permitted ambient temperature	-25...+70 °C
LED-display	Yellow
Degree of protection IEC 60529	IP 67*
Connection cable	5 m, PVC, 2 x 0.14 mm²
Housing material	PTFE (FDA 21 CFR 177.1550)
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PA





Matching Ex barriers can be offered on request.

* With sealed potentiometer screw

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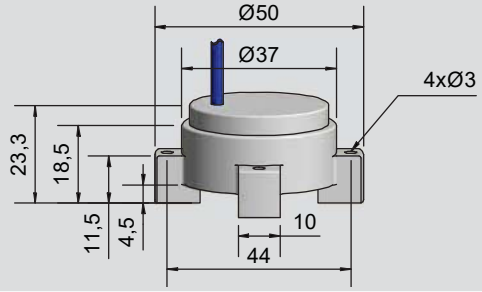
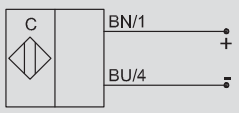
Capacitive Sensors
Series Leak - ATEX

Housing Ø 50 mm
- For use in areas with the risk of gas explosion, zone 0
- Leakage control in clean room / Alarm for containers and pipelines. Mounting in „drip trays“ of plastic, glass or metal
- Housing material: PTFE
- Semiconductor Industry, Chemical Industry

DMT 03 ATEX E 048	IECEx BVS 07.0031
Ex II 1G Ex ia IIC T1-T6 Ga	Ex ia IIC T1-T6 Ga

Technical data	Flush mountable
Operating distance S_n	2 mm
Switching distance min. / max.	0.5...3 mm
Electrical version	2-wire DC
Output function	NAMUR DIN 60947-5-6
Type current	**KAS-40-39/23-N-D50-PTFE-Z03-1-Leak-1G**
Type	**KAS-40-LEAK-D50-PTFE-N**
Art.-No.	**KA 1673**
Operating voltage (U_B)	5 - 15 V DC, U_i = 15 V DC
Output current active surface free	< typ. 1.5 mA
Output current active surface covered	> typ. 2.5 mA
Self-inductance (L)	0.2 mH
Self-capacitance (C)	250 nF
Permitted residual ripple max.	10 %
Permitted ambient temperature	0...+60 °C
LED-display	Red
Degree of protection IEC 529	IP 67*
Connection cable	3 m, FEP, screened, 2 x 0.14 mm
Housing material	PTFE (FDA 21 CFR 177.1550)
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PTFE (FDA 21 CFR 177.1550)



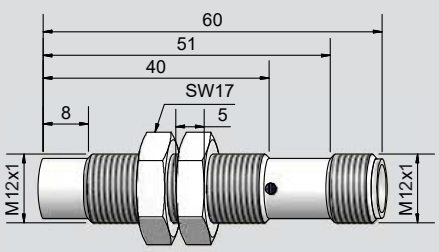


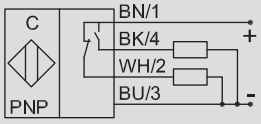
* With sealed potentiometer screw

Capacitive Sensor
Series 80 - PNP

Housing M 12 x 1
- Capacitive sensor for level and position control
- Housing material: PTFE
- Sensing distance 0.5...10 mm adjustable
- With flange connector M 12 x 1

Technical data	Non-flush mountable
Operating distance S_n	4 mm
Operating distance min. / max. adjustable	0.5…10 mm
Electrical version	4-pin DC
Output function	Antivalent
Type PNP	**KAS-80-A22-A-M12-PTFE-Y5-1-HP**
Art.-No.	**KA 0247**
Operating voltage (U_B)	10…35 V DC
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
Operating current (I_e)	2 x 0...250 mA
No-load current (I_o)	Typ. 15 mA
Frequency of operating cycles max.	50 Hz
Permitted ambient temperature	-25…+70 °C
LED-display	Yellow
Protective circuit	Built-in
Degree of protection IEC 529	IP 67*
Norm	EN 60947-5-2
Connection	Flange connector M12 x 1
Housing material	PTFE (FDA 21 CFR 177.1550)
Active surface	PTFE (FDA 21 CFR 177.1550)
Media optimized	Yes
Accessories (delivered with the sensor)	2 nuts M 12 x 1
Matching connectors (not delivered with the sensor)	#193391, #193392





* With sealed potentiometer screw

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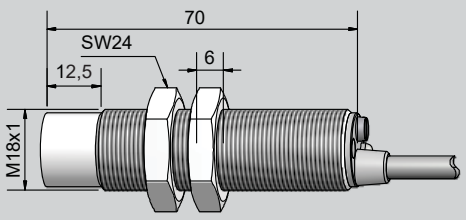
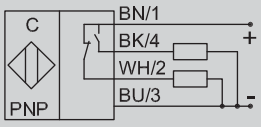
Capacitive Sensors

Series 80 - PNP

Housing M 18 x 1
- Housing material: PTFE
- Sensing distance 1...10 mm adjustable

Technical data	Non-flush mountable
Operating distance S_n	8 mm
Operating distance min. / max. adjustable	1...10 mm
Electrical version	4-wire DC
Output	Antivalent
Type PNP	**KAS-80-A23-A-M18-PTFE-Z05-1-NL**
Art.-No.	**KA 0571**
Operating voltage (U_B)	12...30 V DC
Operating current (I_e)	2 x 200 mA
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	5 %
No-load current (I_o)	< 15 mA
Frequency of operating cycles max.	50 Hz
Permitted ambient temperature	-25...+70 °C
LED-display	Yellow
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67
Norm	EN 60947-5-2
Connection cable	5 m, PVC, 4 x 0.34 mm²
Housing material	PTFE (FDA 21 CFR 177.1550)
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PA / PPO





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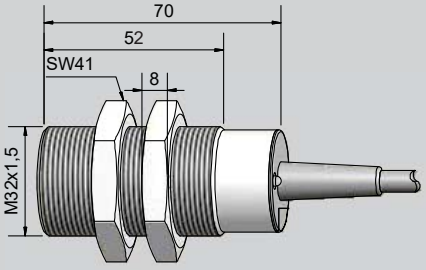
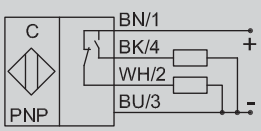
Capacitive Sensors

Series 80 - PNP

Housing M 32 x 1.5
- Housing material: PTFE
- Ideal for detection of chemically aggressive media
- Ideal for use in food applications
- Sensing distance 0,5...30 mm adjustable
- Option: Total chemical resistance is given when ordering the sensor with PTFE cable and PTFE - protection set Art.-No. 196301

Technical data	Flush mountable
Operating distance S_n	20 mm
Operating distance min. / max. adjustable	0.5...30 mm
Electrical version	4-wire DC
Output	Antivalent (NO + NC)
Type PNP	**KAS-80-30-A-K-M32-PTFE**
Art.-No.	**KA 0179**
Operating voltage (U_B)	10...35 V DC
Operating current (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. 15 mA
Frequency of operating cycles max.	200 Hz
Permitted ambient temperature	-25...+70 °C
LED-display	Yellow / green
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67
Norm	EN 60947-5-2
Connection cable	5 m, PVC, 4 x 0.5 mm²
Housing material	PTFE (FDA 21 CFR 177.1550)
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PC (FDA 21 CFR 177.1580)





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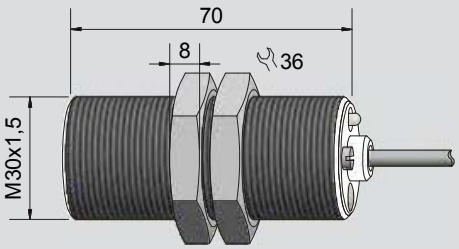
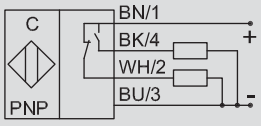
Capacitive Sensors
Series 80 - PNP

Housing M 30 x 1,5
- Housing material: PTFE
- Ideal for detection of chemically aggressive media
- Suitable for food applications
- 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.-No. 196302
- Leakage control
- Overfill prevention

Technical data	Flush mountable
Operating distance S_n	10 mm
Operating distance min. / max. adjustable	0,5...25 mm
Electrical version	4-wire DC
Output function	Antivalent
Type PNP	**KAS-80-A14-A-M30-PTFE-Z05-1-HP**
Art.-No.	**KA 0161**
Operating voltage (U_B)	10...35 V DC
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
Operating current (I_e)	2 x 0...250 mA
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*
Norm	EN 60947-5-2
Connection cable	5 m, PVC, 4 x 0.5 mm²
Housing material	PTFE (FDA 21 CFR 177.1550)
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PTFE (FDA 21 CFR 177.1550)
Media optimized	Yes
Accessories (delivered with the sensor)	2 nuts M 30 x 1,5





* With sealed potentiometer screw

Made in Germany

Capacitive Sensors - S26
Series 80 - PNP

Type of construction G 1”
- Housing material: PTFE
- With flange connector M 12 x 1
- Output function (Antivalent / 2 x normally open / 2 x normally closed) selectable with EasyTeach by Wire
- Operating distance adjustable with EasyTeach by Wire
- Optical guidance during the teach process with the aid of a 2-colour LED

Technical data	Non-flush mountable
Level sensor, in contact with the product	Medium dependent adjustable
Operating distance min. / max. adjustable	0...20 mm
Electrical version	4 - pin DC
Output function*	Antivalent
Type PNP	**KAS-80-26/113-P3-G1-PTFE-Y10-ETW-HP**
Art.-No.	**KA 1641**
Operating voltage (U_B)	10...35 V DC
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
Operating current (I_e)	2 x 0...250 mA
No-load current (I_o)	Typ. 15 mA
Frequency of operating cycles	25 Hz
Permitted ambient temperature	-25...+70 °C / CIP 121 °C
LED-display	Green / yellow
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67
Norm	EN 60947-5-2
Connection	Flange connector M 12 x 1 (A-coded)
Housing material	PTFE (FDA 21 CFR 177.1550)
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PC (FDA 21 CFR 177.1580)
Media optimized	Yes
Accessories (not delivered with the sensor): For varivent adapter (#196377), triclamp adapter (DN25 / DN32 / DN40 #196356, DN50 #196357), welding socket (#196355)	
Matching connectors (not delivered with the sensor)	#193330

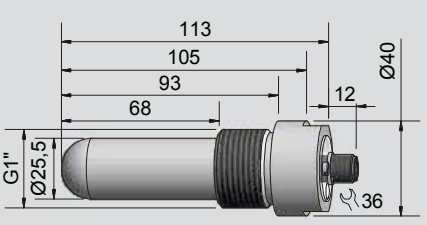
Capacitive Sensors S26 with hemispherical active surface for level control of products with a dielectric constant ε_r from 1,1. Products can be:

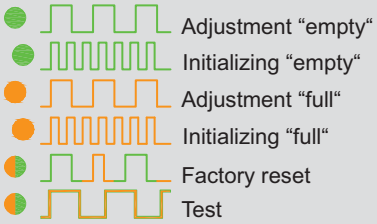
- Bulk material, like plastic granules, powder, cereals, etc.
- Liquids, like water, juice, wine, oil, chemicals or pharmaceutical solutions and much more.
- Pastes in the food, pharmaceutical and cosmetics industry

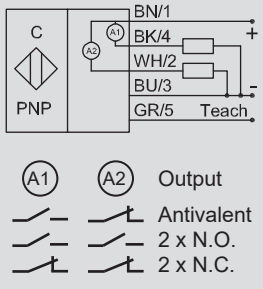
Highlights:

The sensor has three different output modes:
- Antivalent (factory setting)
- 2 x Normally open
- 2 x Normally closed

With the normally closed and normally open versions, two switching points can be set independently of each other.







*Factory setting: Antivalent. Further EasyTeach settings can be found in the operating instructions.

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Capacitive Sensors

Series 80 - PNP EasyMount

Housing 34 x 34 x 5 mm
Capacitive sensor for level control of liquids, very suitable for a measurement through non-metallic container walls.

- Output function (Antivalent / 2 x normally open / 2 x normally closed) selectable with EasyTeach by Magnet (ETM)
- Sensitivity adjustment with ETM
- Housing material: PA
- Easy to mount, by screwing or gluing
- Watertight
- Flat housing - 5 mm

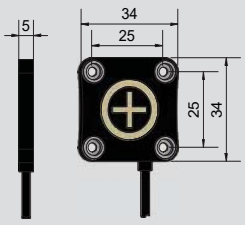
Technical data	Flush mountable
Operating distance S_n	5 mm
Operating distance min. / max. programmable	0...10 mm
Electrical version	4 wire DC
Output function*	Antivalent
Type PNP	**KAS-80-C30EM/5-P3-34x34x5-PA-Z02-ETM-HP**
Art.-No.	**KA 8981**
Operating voltage (U_B)	10...35 V DC
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
Operating current (I_e)	0...200 mA
No-load current (I_o)	Typ 15 mA
Frequency of operating cycles max.	100 Hz
Permitted ambient temperature	-25...+70°C
LED-display	Green / yellow
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67
Norm	EN 60947-5-2
Connection cable	2 m PVC, 4 x 0.14 mm²
Housing material	PA
Media optimized	Yes

*Factory setting: Antivalent. Further EasyTeach settings can be found in the operating instructions.

Highlights:

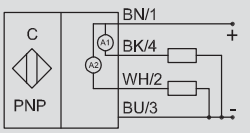
The sensor has three different output modes:
- Antivalent (factory setting)
- 2 x Normally open
- 2 x Normally closed

With the normally closed and normally open versions, two switching points can be set independently of each other.



EasyTeach chart*: LED LED / Output function
Yellow = A1 Green = A2

- Adjustment “Empty“
- Initializing “Empty“
- Adjustment “Full“
- Initializing “Full“
- Test



A1	A2	Output
		Antivalent
		2 x N.O.
		2 x N.C.

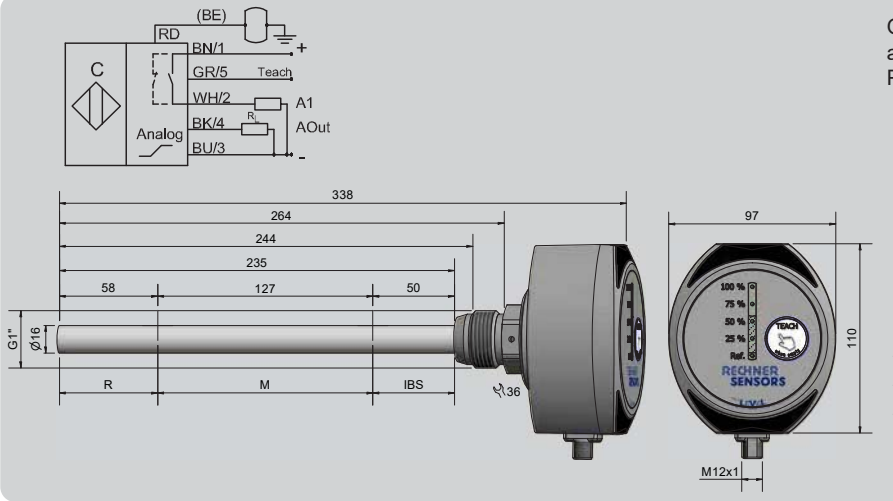
TRUE LEVEL Capacitive filling level probe - KFX

Analogue current output 4...20 mA / 20...4 mA

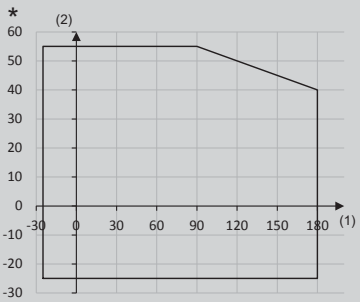
- Integrated evaluation electronics
- Adjustable with EasyTeach by keypad (ETF) / EasyTeach by wire (ETW)
- Housing material: PTFE, Ø 16 mm
- Connection head / process connection: Aluminium / Stainless steel VA no. 1.4305 (AISI 303)
- Process connection G1”
- Additional output in the reference range (normally open / normally closed switchable)

Technical data	
Active zones [M]	127 mm
Output function	Analogue
Type	**KFX-1-58-235-127-PTFE/VAb/AL-D16-PHG1-IL-ET-Y10**
Art.-No.	**KF 0642**
Operating voltage (U_B)	18...36 V DC
Operating current (I_e)	0...250 mA
Permitted residual ripple max.	25 %
Load resistance (R_L)	≤ 600 Ω
Power consumption (outputs no-load)	3 W
Analogue output	4...20 mA / 20...4 mA
Permitted ambient temperature	-25...+55 °C
Permitted product temperature	-25...+180 °C*
LED-Display	Green / blue
Protective circuit	Built-in
Degree of protection IEC 60529	IP 65
Norm	EN 60947-5-2*
Connection	Flange connector M 12 x 1 (A-coded) (5-pin)
Connection head / process connection	Aluminium / Stainless steel VA no. 1.4305 (AISI 303)
Housing material (active zone)	PTFE (FDA 21 CFR 177.1550)
Lid	Aluminium
For matching connectors please see our selection of accessories.	

*Where applicable



Other housing materials for the active zone (probe), like GFK or PEEK on request.



(1) Product temperature in °C
(2) Ambient temperature in °C

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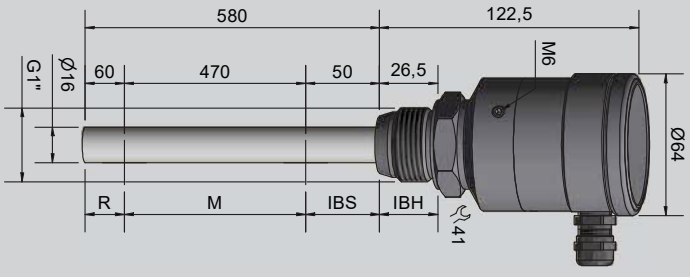
TRUE LEVEL Capacitive Filling Level Probe - ATEX

With analogue measuring range

- For connection to the capacitive amplifier KFA-1-...-Y70
- For use in areas with the risk of dust explosion, zone 20
- For use in areas with the risk of gas explosion, zone 1
- Housing material (active zone): PTFE, Ø 16 mm
- Connection head and process connection stainless steel VA
- Process connection G 1”
- Automatic compensation of changes of the dielectric constant

BVS 05 ATEX E 185	IECEx BVS 07.0032
II 2G Ex mb II T4	Ex mb II T4
II 1/2 D IP 67 T 110°C	Ex tD A20/21 IP 67 T 110°C

Technical data	
Active zone [M]	470 mm
Type	**KFS-1-580-470-PTFE/VA-1“-StEx**
Art. No.	**KF 0602**
Permitted ambient temperature	-20...+100 °C
Degree of protection IEC 60529	IP 67*
Norm	EN 60947-5-2
Connection to the evaluation unit KFA-1-...-Y70	Sockets within the connection head
Housing material	Stainless steel no. 1.4404 - AISI 316 L
Housing material (active Zone)	PTFE (FDA 21 CFR 177.1550)
Pressure	3 bar
Accessories:	
For evaluation unit KFA-1-...-Y70:	Plug connection Y75 / Y75, 2 m cable length, # 66101201, is not delivered with the probe
For evaluation unit KFA-1-...-Y70:	Plug connection Y75 / Y75, 5 m cable length, # 66101202, is not delivered with the probe
For matching accessories please see our selection of accessories.	



Connection sockets within the head connection

Please determine the total length „L“ and the measuring range „M“ when ordering.

* The degree of protection may be increased by means of special measures at mounting (e. g. injection of silicone mixture).

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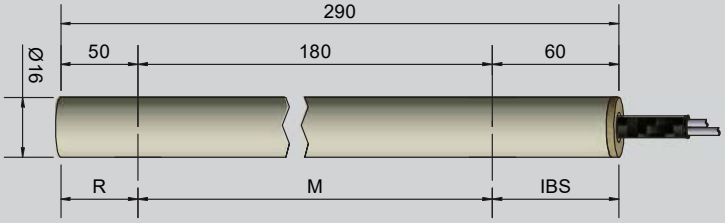
Y75

TRUE LEVEL Capacitive Filling Level Probe - KFS

With analogue measuring range

- For connection to the capacitive amplifier KFA-1-...-Y70
- Housing material: GFK, Ø 16 mm
- Probe length: 290 mm
- Automatic compensation of changes of the dielectric constant

Technical data	
Active zone [M]	180 mm
Type	**KFS-1-50-290-180-GFK-D16-X02-Y75**
Art. No.	**KF 0295**
Permitted ambient temperature	-50...+200 °C
Degree of protection IEC 60529	IP 67
Norm	EN 60947-5-2
Connection	2m, FEP cable, coax with plug
Housing material	-
Housing material (active Zone)	GFK
Housing material tail end	PEEK (FDA 21 CFR 177.2415)
Accessories:	
For evaluation unit KFA-1-...-Y70:	Plug connection Y75 / Y75, 2 m cable length, # 66101201, is not delivered with the probe
For evaluation unit KFA-1-...-Y70:	Plug connection Y75 / Y75, 5 m cable length, # 66101202, is not delivered with the probe



Technical data for connectors on request.

Please determine the total length “L” and the measuring range “M” when ordering.

Other housing materials for the active zone (probe), like PVDF or PE on request.

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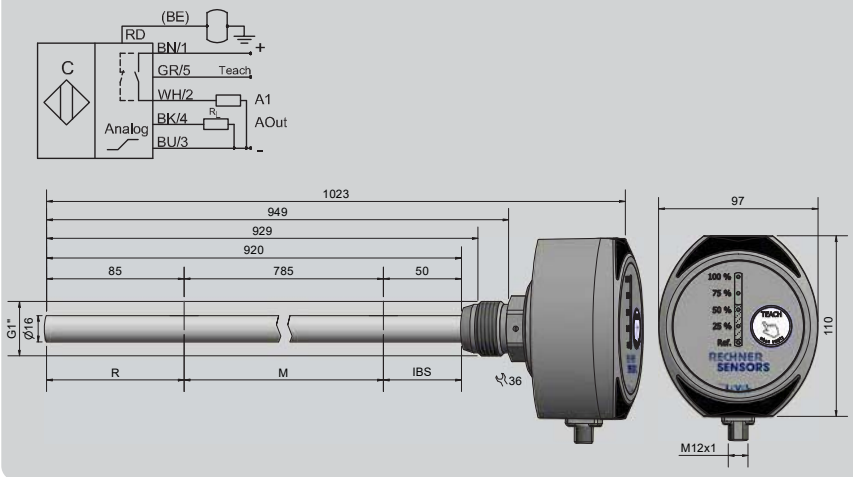
TRUE LEVEL Capacitive filling level probe

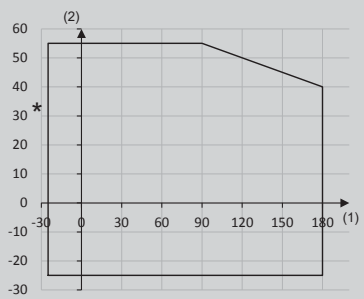
Analogue voltage output 0...10 V / 10...0 V

- Integrated evaluation electronics
- Adjustable with Easy Teach by Membrane foil (ETF) / Easy Teach by wire (ETW)
- Housing material: PTFE, Ø 16 mm
- Connection head / process connection: Aluminium / Stainless steel VA no. 1.4305 (AISI 303)
- Process connection G1”
- Additional output in the reference range (normally open / normally closed switchable)

Technical data	
Active zone [M]	865 mm
Output function	Analogue
Type	**KFX-1-85-920-785-PTFE/VAb/AL-D16-PHG1-UL-ET-Y10**
Art.-No.	**KF 0644**
Operating voltage (U_B)	18...36 V DC
Operating current (I_e)	0...250 mA
Permitted residual ripple max.	25 %
Load resistance (R_L)	≤ 600 Ω
Power consumption (outputs no-load)	3 W
Analogue output	0...10 V / 10...0 V
Permitted ambient temperature	-25...+55 °C
Permitted product temperature	-25...+180 °C*
LED-Display	Green / blue
Protective circuit	Built-in
Degree of protection IEC 60529	IP 65
Norm	EN 60947-5-2**
Connection	Flange connector M 12 x 1 (A-coded) (5-pin)
Connection head / process connection	Aluminium / Stainless steel VA no. 1.4305 (AISI 303)
Housing material (active zone)	PTFE (FDA 21 CFR 177.1550)
Lid	PC (FDA 21 CFR 177.1580)
For matching connectors please see our selection of accessories.	



Other housing materials for the active zone (probe), like GFK or PEEK on request.



(1) Product temperature in °C
(2) Ambient temperature in °C

**Where applicable

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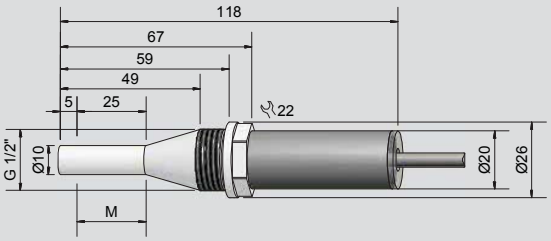
i-LEVEL Capacitive Filling Level Probe

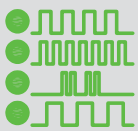
Analogue current output 20...4 mA

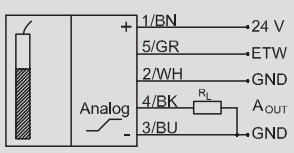
- Integrated evaluation electronics
- EasyTeach by Wire
- Current output 20 mA = min. level / 4 mA = max. level
- Housing material: PTFE / Stainless steel VA No. 1.4305 / AISI 303
- Process connection G 1/2"

Technical data	
Active zones [M]	25 mm
Electrical version	5-wire DC
Output function	Analogue
Type	**KFI-1-49-25-PTFE/VAb-D10-G1/2-IL20-ETW-Z02**
Art.-No.	**KI 0124**
Operating voltage (U_B)	15...30 V DC
Permitted residual ripple max.	5 %
Load resistance (R_L)	≤ 200 Ω
Power consumption (outputs no-load)	0,9 W
Analogue output	20...4 mA
Permitted ambient temperature	-25...+70 °C
LED-Display	Green
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67
Norm	EN 60947-5-2*
Connection cable	2 m, PVC, 5 x 0.34 mm²
Housing material	Stainless steel VA No 1.4305 / AISI 303
Active zone	PTFE (FDA 21 CFR 177.1550)
Lid	PC (FDA 21 CFR 177.1580)



EasyTeach chart:
LED green / Adjustment function





*Where applicable

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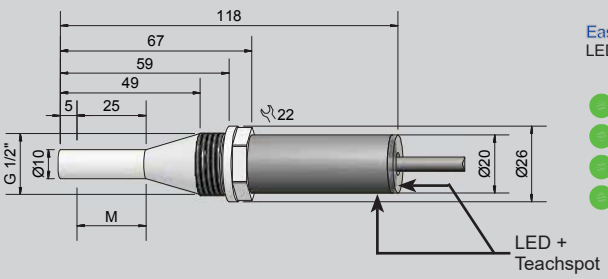
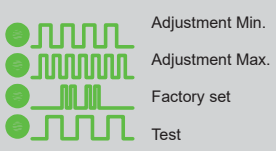
i-LEVEL Capacitive Filling Level Probe

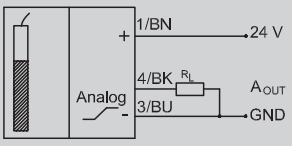
Analogue current output 20...4 mA

- Integrated evaluation electronics
- Adjustment with EasyTeach by Magnet (ETM)
- Current output 20 mA = min. level / 4 mA = max. level
- Housing material: PTFE / Stainless steel VA No 1.4305 / AISI 303
- Process connection G 1/2"

Technical data	
Active zones [M]	25 mm
Electrical version	3-wire DC
Output function	Analogue
Type	**KFI-1-49-25-PTFE/VAb-D10-G1/2-IL20-ETM-Z02**
Art.-No.	**KI 0188**
Operating voltage (U_B)	15...30 V DC
Permitted residual ripple max.	5 %
Load resistance (R_L)	≤ 200 Ω
Power consumption (outputs no-load)	0,9 W
Analogue output	20...4 mA
Permitted ambient temperature	-25...+70 °C
LED-Display	Green
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67
Norm	EN 60947-5-2*
Connection cable	2 m, PVC, 3 x 0.34 mm²
Housing material	Stainless steel VA No 1.4305 / AISI 303
Active zone	PTFE (FDA 21 CFR 177.1550)
Lid	PC (FDA 21 CFR 177.1580)
Accessories (not delivered with the sensor)	Teach magnet







*Where applicable

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i-LEVEL Capacitive Filling Level Probe - KFI

1 Limit value switching point

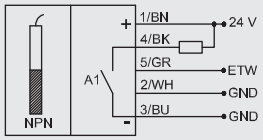
- Integrated evaluation electronics
- Easy Teach by Wire
- Housing material: PTFE / VA No. 1.4305 / AISI 303
- Process connection G 1/2"
- Automatic identification of NPN / PNP function

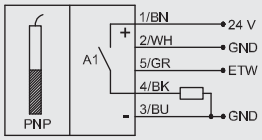
Technical data	
Active zone [M]	25 mm
Electrical version	4-wire DC
Output function	1 limit value switching point, normally open
Type	**KFI-51-49-25-PTFE/VAb-D10-G1/2-S-ETW-Z02**
Art.-No.	**KI 0159**
Operating voltage (U_B)	15...30 V DC
Permitted residual ripple max.	5 %
Output current max.	0...100 mA
Power consumption (outputs no-load)	0,9 W
Frequency of operating cycles max.	1 Hz
Permitted ambient temperature	-25...+70 °C
LED-Display	Green
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67
Norm	EN 60947-5-2*
Connection cable	2 m, PVC, 5 x 0.34 mm²
Housing material	VA No 1.4305 / AISI 303
Active zone	PTFE (FDA 21 CFR 177.1550)
Lid	PC (FDA 21 CFR 177.1580)

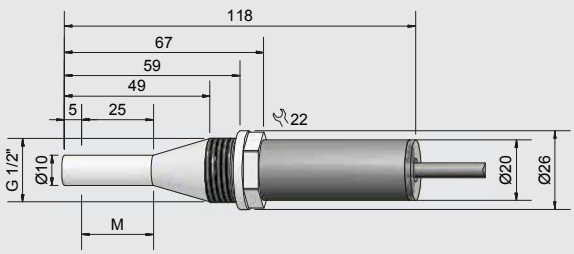
*Where applicable

EasyTeach chart:
LED green / Adjustment function

Adjustment
Factory set
Test







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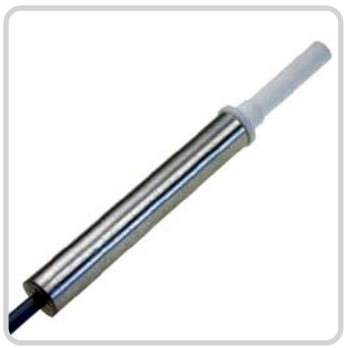


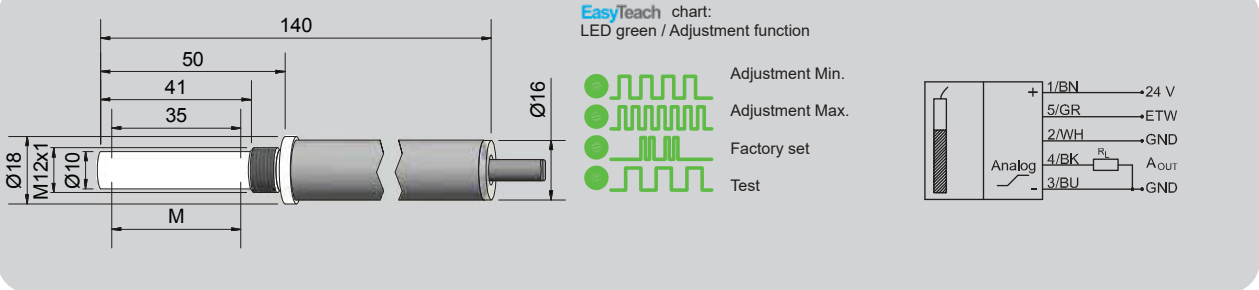
i-LEVEL Capacitive Filling Level Probe - KFI

Voltage output analogue 10...0 V

- Integrated evaluation electronics
- Easy Teach by wire
- Voltage output 10 V = min. level / 0 V = max. level
- Housing material: PTFE / Aluminium
- Process connection M 12 x 1

Technical data	
Active zones [mm]	35 mm, related on the probe tip
Electrical version	5-wire DC
Output function	Analogue
Type	**KFI-1-41-35-PTFE/AL-D10-M12-UL10-ETW-Z02**
Art.-No.	**KI 0046**
Operating voltage (U_B)	15...30 V DC
Permitted residual ripple max.	5 %
Load resistance (R_L)	≥ 2 kΩ
Power consumption (outputs no-load)	0,9 W
Analogue output	10...0 V
Permitted ambient temperature (for active zone)	-25...+70 °C
LED-Display	Green
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67
Norm	EN 60947-5-2*
Connection cable	2 m, PVC, 5 x 0.34 mm²
Housing material	Aluminium
Active zone	PTFE (FDA 21 CFR 177.1550)
Lid	PC (FDA 21 CFR 177.1580)

*Where applicable



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Capacitive sensors
Series 80 - PNP - StEx - ATEX

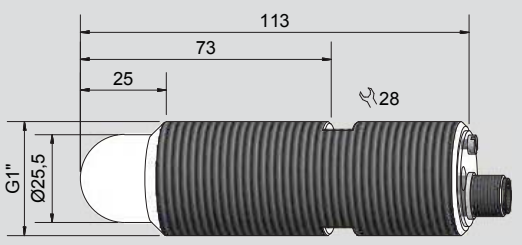
Housing G 1”
- For use in areas with the risk of dust explosion, zone 20
- Housing material PTFE

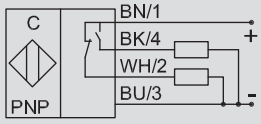
DMT 01 ATEX E 157	IECEx BVS 07.0015
II 1/2 D Ex ta/tb IIIC T101°C Da/Db	Ex ta/tb IIIC T_{200}101°C Da/Db

Technical data	Non-flush mountable
Level sensor, in contact with the product	Medium dependent adjustable
Operating distance min. / max. adjustable	0...20 mm
Electrical version	4 - wire DC
Output function	Antivalent
Type PNP	**KAS-80-26/113-A-G1-PTFE-Y5-1-HP-E-1/2D**
Art.-No.	**KA 1501**
Operating voltage (U_B)	10...30 V DC
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
Operating current (I_e)	2 x 0...150 mA
No-load current (I_o)	Typ. 15 mA
Frequency of operating cycles max.	50 Hz
Permitted ambient temperature	-25...+70 °C / CIP 121 °C
LED-display	Green / yellow
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67*
Norm	EN 60947-5-2
Connection	Flange connector M 12 x 1 (A-coded)
Housing material	PTFE (FDA 21 CFR 177.1550)
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PC (FDA 21 CFR 177.1580)
Media optimized	Yes
Accessories (delivered with the sensor)	Protective clip
Accessories (not delivered with the sensor): For varivent adapter (#196377), triclamp adapter (DN25 / DN32 / DN40 #196356, DN50 #196357), welding socket (#196355)	
Matching connectors (not delivered with the sensor)	#193210, #193230

Capacitive Sensors S26 with hemispherical active surface for level control of products with a dielectric constant ε_r from 1,1. Products can be:

- Bulk material, like plastic granules, powder, cereals, etc.
- Liquids, like water, juice, wine, oil, chemicals or pharmaceutical solutions and much more.
- Pastes in the food, pharmaceutical and cosmetics industry





* With sealed potentiometer screw

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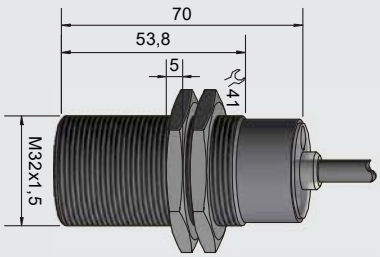
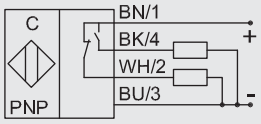
Capacitive Sensors

Series 80 - PNP

Housing M 32 x 1.5
- Housing material: Stainless steel VA No. 1.4305 / AISI 303
- Sensing distance 0.5...20 mm adjustable

Technical data	Flush mountable
Operating distance S_n	10 mm
Operating distance min. / max. adjustable	0.5...20 mm
Electrical version	4-wire DC
Output function	Antivalent (NO + NC)
Type PNP	**KAS-80-30-A-M32-Ceramic/VAb-Z02-1-HP**
Art.-No.	**KA 1066**
Operating voltage (U_B)	10...35 V DC
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
Operating current (I_e)	2 x 0...250 mA
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 60529	IP 67
Norm	EN 60947-5-2
Connection cable	2 m, PVC, 4 x 0.5 mm²
Housing material	Stainless steel VA No. 1.4305 / AISI 303
Active surface	Ceramic
Lid	PC (FDA 21 CFR 177.1580)
Media optimized	Yes
Accessories (delivered with the sensor)	2 nuts M 32 x 1.5





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Capacitive Sensors - S26
Series 80 - PNP - StEx - ATEX

Type of construction Triclamp DN 40
- For use in areas with the risk of dust explosion, zone 20
- Housing material: Stainless steel VA, No.1.4404 (AISI 316L) / PTFE
- With flange connector M 12 x 1

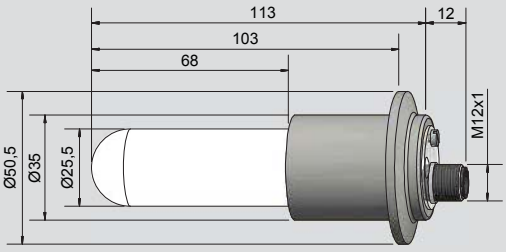
DMT 01 ATEX E 157	IECEx BVS 07.0015
II 1/2 D Ex ta/tb IIIC T101°C Da/Db	Ex ta/tb IIIC T_{200}101°C Da/Db

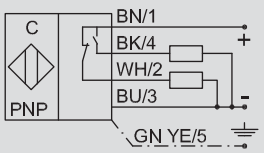
Technical data	Non-flush mountable
Level sensor, in contact with the product	Medium dependent adjustable
Operating distance min. / max. adjustable	0...20 mm
Electrical version	4-pin DC
Output function	Antivalent
Type PNP	**KAS-80-26/113-A-TRI-PTFE/VAc-Y10-1-HP-1/2D**
Art.-No.	**KA 1487**
Operating voltage (U_B)	10...30 V DC
Voltage drop max. (U_d)	≤ 2.0 V
Permitted residual ripple max.	10 %
Operating current (I_e)	2 x 0...150 mA
No-load current (I_o)	Typ. 15 mA
Frequency of operating cycles max.	50 Hz
Permitted ambient temperature	-20...+70 °C / CIP 121 °C
LED-display	Green / yellow
Protective circuit	Built-in
Degree of protection IEC 60529	IP 67*
Norm	EN 60947-5-2
Connection	Flange connector M 12 x 1 (A-coded)
Housing material	Stainless steel VA No.1.4404 / AISI 316L (FDA conforming)
Active surface	PTFE (FDA 21 CFR 177.1550)
Lid	PC (FDA 21 CFR 177.1580)
Media optimized	Yes

Accessories (not delivered with the sensor): For matching connectors please see our selection of accessories.

Capacitive Sensors S26 with hemispherical active surface for level control of products with a dielectric constant ε_r from 1,1. Products can be:

- Bulk material, like plastic granules, powder, cereals, etc.
- Liquids, like water, juice, wine, oil, chemicals or pharmaceutical solutions and much more.
- Pastes in the food, pharmaceutical and cosmetics industry





* With sealed potentiometer screw

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