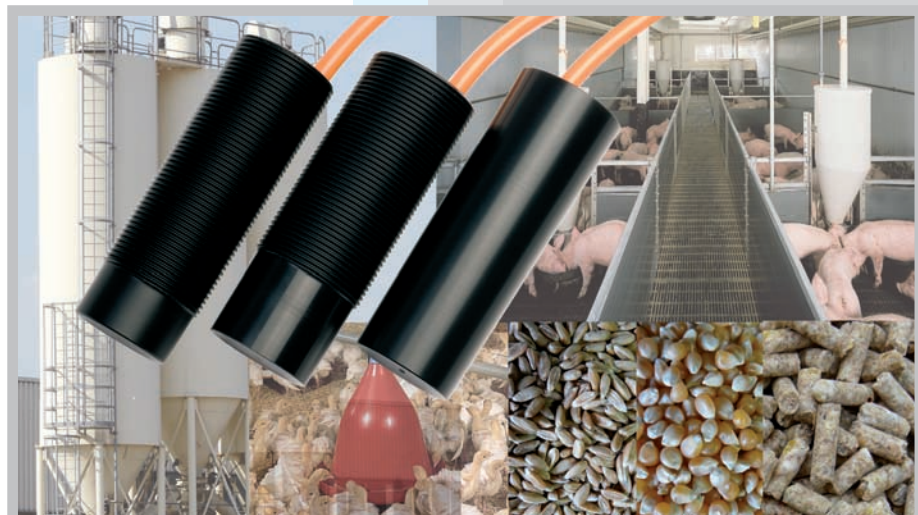


***CAPACITIVE  
SENSORS  
KAS  
SERIES 95***

*Sensors for industrial  
automation in the*

- *Agriculture Industry*
- *Feed Industry*

*Filling Level Control  
Backlog Jam Indication  
Full / Empty Indication*





Registration No.: 1327-01



Testing laboratory accredited according to  
DIN EN 45001 Reg.-No. DAT-P-048/95-00

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**Edition March 2009**

With publication of this catalogue all former printed catalogues about RECHNER 95 series capacitive sensors are invalid.

# Capacitive Level Sensors KAS Series 95

For many years, in the field of industrial automation, capacitive proximity sensors (our abbreviation KAS) have been well accepted as indispensable elements for the level control of most different products. This is true whether the products are liquids, pastes, powder, seeds, grain or granulates. The sensors are available in a wide range of variants.

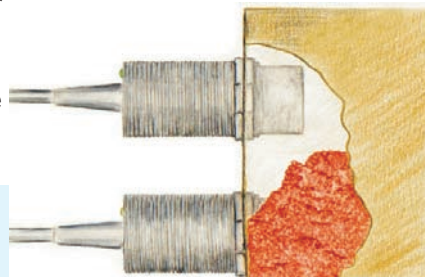
In the agriculture industry the capacitive sensors and probes control automatic animal feeding systems and detect fodder and seeds. They serve as a backlog jam indicator in conveying systems or as level control in dosing units, filling or packaging systems. They control the filling level both in large silos and in small storage containers.

Capacitive sensors detect the filling level within agriculture machinery, in the storage tanks and dosing units, for instance seed, fertilizer, etc.

This brochure presents one of our high lights: the series 95 capacitive sensors.

## Series 95

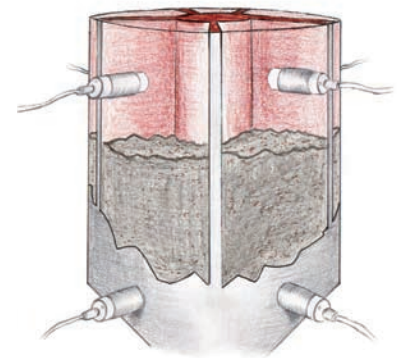
- Supply voltage 20 - 250 V AC/DC
- Relay output, optional time relay (1 sec. - 10 min. adjustable)
- Optional on-delay or off-delay switchable
- Low power consumption, 2 mA only
- Intelligent micro controller technology



Non-flush mounting

All sensors shown in this brochure are for non-flush mounting. This means they are designed for applications where the active area of the sensor is in contact with the material to be detected.

With this kind of level control the sensor head (active area) is completely immersed into the powder, granulate or liquid.



Non-flush mounted capacitive sensors. Level control in a dosing unit.

For further information about capacitive sensors please look at our main catalogue or our web site:

[www.rechner-sensors.com](http://www.rechner-sensors.com).

The 95 series capacitive sensors are favoured in the agriculture industry as a universally applicable device. The reasons, apart from the quality and reliability, are the wide supply voltage range of 20...250 V AC/DC (alternating current and direct current), the easy mounting and installation and the potential-free relay output. The sensors can be connected to PLC's or using directly by the consumer for control purposes to a max. 1 A.

The components of the KAS are mounted in plastic or metal casings and encapsulated with epoxy casting resin. Therefore all devices are insensitive to dirt, vibration (vibration stability: 30 g, 100...2000 Hz, 1 hour) and are watertight (depending on the type, up to IP 68).

The plastics used for the housings are:

- POM (polyoxymethylene)
- PA (polyamide) 6.6. glass-fibre reinforced
- PC (polycarbonate)
- PPO (polyphenylenoxide)
- PTFE (polytetrafluor ethylene) (FDA 21 CFR 177.1550)

(For the housing materials used please see the respective technical specifications of the model).

A PG36 pressure type connection is available as an accessory (Article No. 196370) for the 32 mm diameter smooth bodied sensor.



## CAPACITIVE SENSORS Series 95

Dimension	M 30 x 1,5	M 30 x 1,5
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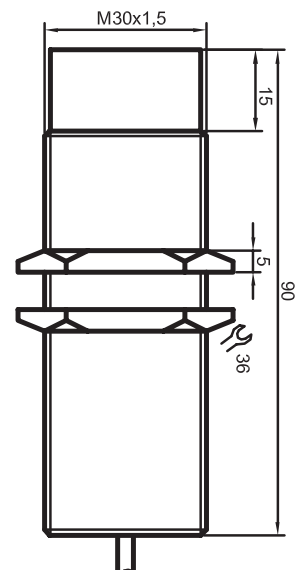
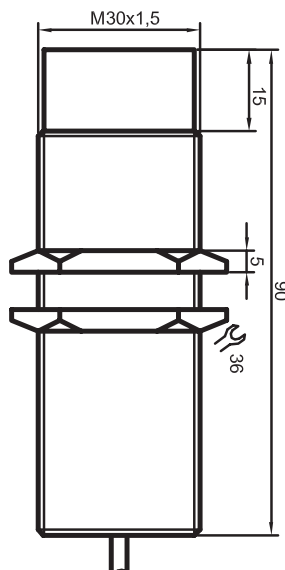
Technical data	Non-flush mountable		Non-flush mountable	
	Description	Art.-No.	Description	Art.-No.
Sensing distance $S_n$ [mm]	15 mm		15 mm	
Sensing distance min./max. [mm] adjustable	2...20 mm		2...20 mm	
Type	KAS-95-A24-1CO-K-POM	KA0747	KAS-95-A24-1CO-K-POM-TD	KA0748
Electrical version	5 Wire AC/DC		5 Wire AC/DC	
Output function	Relay 1 CO		Relay 1 CO	
Certificates	CE, RoHS		CE, RoHS	
Operating voltage ( $U_o$ )	20...250 V AC / DC		20...250 V AC / DC	
Time delay	No		Adjustable 1 sec ...10 min.	
On-delay	No		Changeable	
Off-delay	No		Changeable	
Load max. AC (I, U)	1 A, 250 V		1 A, 250 V	
Load max. DC (I, U, P)	1 A, 220 V, 60 W		1 A, 220 V, 60 W	
Power consumption ( $I_o$ )	2.1 mA		2.1 mA	
Switching frequency max.	2 Hz		2 Hz	
Permitted ambient temperature	-25...+70° C		-25...+70° C	
LED display	Yellow		Yellow	
Protective circuit	Built-in		Built-in	
Degree of protection IEC 60529*	IP 67*		IP 67*	
Norm	IEC 60947-5-2		IEC 60947-5-2	
Connection	2 m cable, PVC, 5 x 0.34 mm <sup>2</sup>		2 m cable, PVC, 5 x 0.34 mm <sup>2</sup>	
Housing material	POM		POM	
Active surface	POM		POM	
Lid	PA/PPO		POM	

\*With sealed potentiometer screw



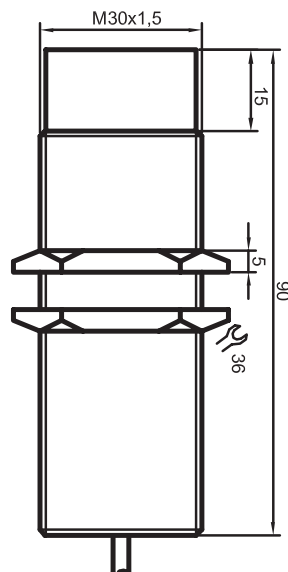
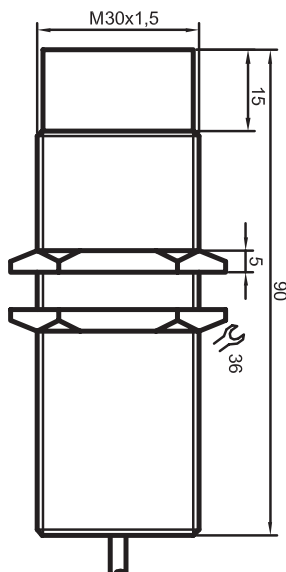
Connection diagram:

BN = brown,  
BU = blue  
WH = white  
GY = grey  
BK = black



## Dimension M30 x 1,5

M 30 x 1,5		M 30 x 1,5	
Non-flush mountable		Non-flush mountable	
15 mm		15 mm	
2...20 mm		2...20 mm	
Description	Art.-No.	Description	Art.-No.
KAS-95-A24-1CO-K-POM-OND	KA0749	KAS-95-A24-1CO-K-POM-OFD	KA0750
5 Wire AC/DC		5 Wire AC/DC	
Relay 1 CO		20...250 V AC / DC	
CE, RoHS		CE, RoHS	
20...250 V AC / DC		20...250 V CA / CC	
Adjustable 1 sec ...10 min.		Adjustable 1 sec ...10 min.	
Yes		No	
No		Yes	
1 A, 250 V		1 A, 250 V	
1 A, 220 V, 60 W		1 A, 220 V, 60 W	
2.1 mA		2.1 mA	
2 Hz		2 Hz	
-25...+70° C		-25...+70° C	
Yellow		Yellow	
Built-in		Built-in	
IP 67*		IP 67*	
IEC 60947-5-2		IEC 60947-5-2	
2 m cable, PVC, 5 x 0.34 mm <sup>2</sup>		2 m cable, PVC, 5 x 0.34 mm <sup>2</sup>	
POM		POM	
POM		POM	
-		-	



## CAPACITIVE SENSORS Series 95

Dimension

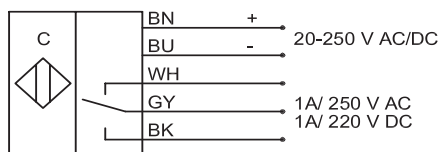
M 32 x 1,5

M 32 x 1,5



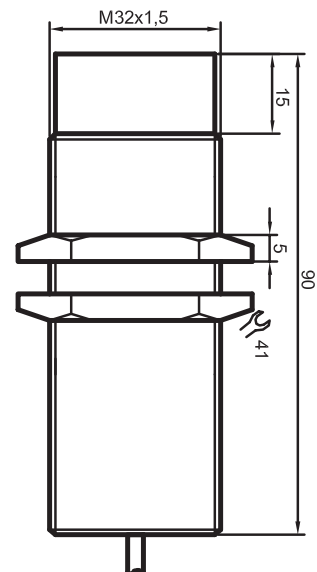
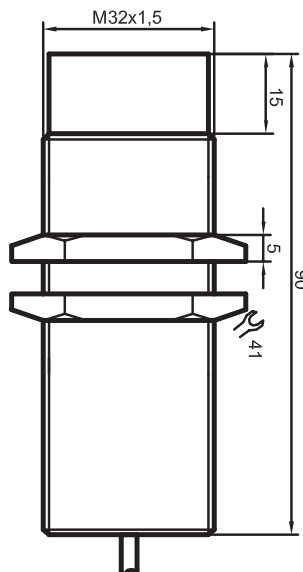
Technical data	Non-flush mountable		Non-flush mountable	
Sensing distance $S_n$ [mm]	20 mm		20 mm	
Sensing distance min./max. [mm] adjustable	2...25 mm		2...25 mm	
	Description	Art.-No.	Description	Art.-No.
Type	KAS-95-32-1CO-K-M32-POM	KA0743	KAS-95-32-1CO-K-M32-POM-TD	KA0744
Electrical version	5 Wire AC/DC		5 Wire AC/DC	
Output function	Relay 1 CO		Relay 1 CO	
Certificates	CE, RoHS		CE, RoHS	
Operating voltage ( $U_B$ )	20...250 V AC / DC		20...250 V AC / DC	
Time delay	No		Adjustable 1 sec ... 10 min.	
On-delay	No		Changeable	
Off-delay	No		Changeable	
Load max. AC (I, U)	1 A, 250 V		1 A, 250 V	
Load max. DC (I, U, P)	1 A, 220 V, 60 W		1 A, 220 V, 60 W	
Power consumption ( $I_o$ )	2.1 mA		2.1 mA	
Switching frequency max.	2 Hz		2 Hz	
Permitted ambient temperature	-25...+70° C		-25...+70° C	
LED display	Yellow		Yellow	
Protective circuit	Built-in		Built-in	
Degree of protection IEC 60529*	IP 67*		IP 67*	
Norm	IEC 60947-5-2		IEC 60947-5-2	
Connection	2 m cable, PVC, 5 x 0.34 mm <sup>2</sup>		2 m cable, PVC, 5 x 0.34 mm <sup>2</sup>	
Housing material	POM		POM	
Active surface	POM		POM	
Lid	PA/PPO		PA/PPO	

\*With sealed potentiometer screw



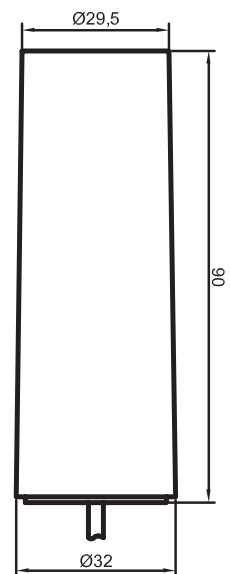
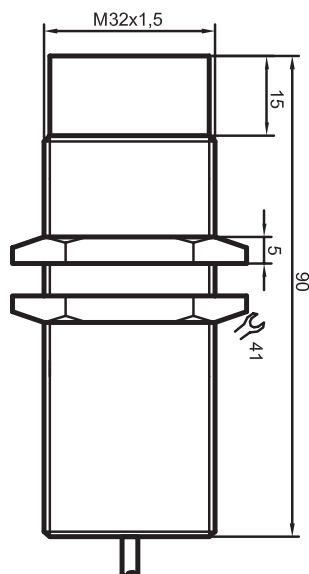
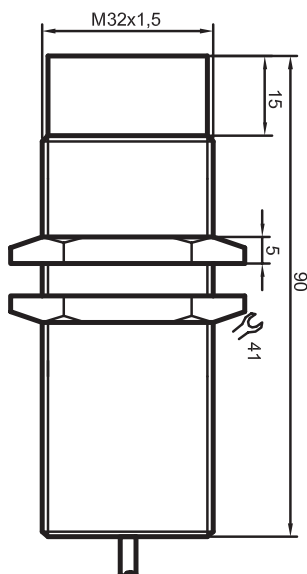
Connection diagram:

BN = brown,  
BU = blue  
WH = white  
GY = grey  
BK = black



## Dimension M32 x 1,5 and Ø 32

M 32 x 1,5		M 32 x 1,5		Ø 32	
Non-flush mountable		Non-flush mountable		Non-flush mountable	
20 mm		20 mm		20 mm	
2...25 mm		2...25 mm		2...25 mm	
Description	Art.-No.	Description	Art.-No.	Description	Art.-No.
KAS-95-32-1CO-K-M32-POM-OND	KA0745	KAS-95-32-1CO-K-M32-POM-OFD	KA0746	KAS-95-32-1CO-K-POM-TD	KA 0761
5 Wire AC/DC		5 Wire AC/DC		5 Wire AC/DC	
Relay 1 CO		Relay 1 CO		Relay 1 CO	
CE, RoHS		CE, RoHS		CE, RoHS	
20...250 V AC / DC		20...250 V AC / DC		20...250 V AC / DC	
Adjustable 1 sec ...10 min.		Adjustable 1 sec ...10 min.		Adjustable 1 sec ...10 min.	
Yes		No		Changeable	
No		Yes		Changeable	
1 A, 250 V		1 A, 250 V		1 A, 250 V	
1 A, 220 V, 60 W		1 A, 220 V, 60 W		1 A, 220 V, 60 W	
2.1 mA		2.1 mA		2.1 mA	
2 Hz		2 Hz		2 Hz	
-25...+70° C		-25...+70° C		-25...+70° C	
Yellow		Yellow		Yellow	
Built-in		Built-in		Built-in	
IP 67*		IP 67*		IP 67*	
IEC 60947-5-2		IEC 60947-5-2		IEC 60947-5-2	
2 m cable, PVC, 5 x 0.34 mm <sup>2</sup>		2 m cable, PVC, 5 x 0.34 mm <sup>2</sup>		2 m cable, PVC, 5 x 0.34 mm <sup>2</sup>	
POM		POM		POM	
POM		POM		POM	
-		-		PA/PPO	



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