PRECISE LEVEL MEASUREMENT TECHNOLOGY

Equipped at best with the VORONIC tank transmitters

PRODUCT FEATURES

- Robust fully-electronic, capacitive measuring method
- Insensitive to soiling and deposits in the water
- Easy adaptation to the existing height
- No mechanically moved parts
- Suitable for plastic tanks and metal tanks
- Linear, continuous signal of the level
- Various installation possibilities
- Suitable for 12 V and 24 V continuous operation

The tank transmitters measure the tank level, and the measured value will be led to the display unit by means of only 2 cables. The 12 V or 24 V power supply of the tank transmitters is effected from the display. In quiescent condition, they are completely dead. The electronic system (IP 67) is sealed and frost-proof, thus being also suitable for problematic locations, such as at underfloor tanks. All VOTRONIC Tank Transmitters are working independently of pressure. Therefore, a falsification of the measured values in case of overpressure in the tank, pressure filling etc. is avoided. The standard delivery includes a protection against reverse battery, overvoltage, short-circuit and overload. All VOTRONIC tank transmitters are working according to the capacitive measuring method. The insulated measuring electrode and the surrounding medium are forming an electric capacitor, the capacity of which is changing with rising or falling level. The electronic system evaluates this effect and transmits an electrical signal to the display unit, which is equivalent to the level.

The display shows the level by means of 10 light-emitting diodes in three colours. Apart from the continuous measurement, the further advantage of this measuring method is its deep action and thus the insensitiveness to soiling, deposits and solids in the tank. Depending on the type of transmitter, the insulated measuring electrode is executed as stick probe or flexible cable probe for various installation possibilities, tank heights and mounting situations at the tank.

TANK DISPLAYS

for fresh water tanks, sewage water tanks and feces tanks

Fresh Water
Tank Display S

The VOTRONIC Tank Displays allow a significantly more exact reading of the level than conventional displays with often only 5 stages. Thus they ensure a much more convenient control of the levels.

A luminous bar with 10 light-emitting diodes shows the level in three colours. Also intermediate values are displayed. In this way, tendencies can be recognized immediately, and supply as well as disposal are much more safe. During continuous operation, the continuously raising or dropping display shows a direct image of the tank contents. So, the fresh water tank can be filled in doses.

Sewage Water
Tank Display S

Feces
Tank Display S

! NOTE

Being specially adapted, the measuring system does not allow measuring sensors/display units of other brands or an operation with the VOTRONIC tank displays for intervention vehicles and fire fighting vehicles (page 88-91).

TANK DISPLAYS Level Measurement Technology			
Unit Type	Fresh Water Tank Display S	Sewage Water Tank Display S	Feces Tank Display S
Order No.	**5311**	**5313**	**5315**
Battery Voltage	**12 and 24 V**	**12 and 24 V**	**12 and 24 V**
Power Consumption	1-30 mA	1-30 mA	1-30 mA
Dimensions (HxWxD)	47x85x19 mm	47x85x19 mm	47x85x19 mm
Assembly Dimensions	30x63x15 mm	30x63x15 mm	30x63x15 mm
Weight	28 g	28 g	28 g

i INFORMATION

See page 87 for required level sensors (different types are available).

Mark of Conformity: CE, E Test (EMV/automotive regulations)
Delivery Scope: Fastening screws, manual, drilling jig

TANK ELECTRODE 20 K-WC

Stick electrode, special design for cassette toilets

PRODUCT FEATURES

- Tank transmitter, special design for cassette toilets and movable tanks
- Compact, robust, water-tight (IP67)
- Easy installation, revision opening is not required
- With 3-pole circular connector for separation of the tank
- Complete mounting material included in the standard delivery
- Ideal for retrofitting

» All technical data, see page 87 or visit our website www.votronic.de

Nowadays, cassette toilets are an absolute standard in campers. They have a compact design and dispose of a display. Unfortunately, this display only shows the full level. If the full level is reached, the toilet cannot be used further in the vehicle. Foresight planning of the disposal is not possible, and the „smallest room" can only be used with restrictions.

The Tank Electrode 20 K-WC is a further development on the basis of the tank electrode, which has been well-proven for years. It is a fully-fledged level display, which has been designed particularly for application in cassette toilets. Due to the compact design, the tank transmitter can be easily screwed from above into the toilet cassette using the delivered assembly ring. The required mounting hole of 38 mm diameter can be easily produced by means of a hole saw. The electronic system is completely sealed and water-tight (IP67), and it is suitable for heavy-duty operation of flushing the toilet cassette.

For replacement of the cassette, the Tank Electrode 20 K-WC is separated from the vehicle via a solid 3-pole circular connector. The connector is then fastened at the cassette. Apart from the 3-pole circular connector, the standard delivery includes an assembly ring, as well as the complete mounting material.

ACCORDING TO DIN 2001-2

TANK ELECTRODE 12-24 K AND 15-50 K

Tank transmitter for water and hydrous media

These tank transmitters had been designed particularly for level measuring of fresh water, sewage water (grey water and industrial water), as well as feces, in metal or plastic tanks. Thus, they are universally applicable. Due to the use of corresponding material, these tank transmitters are complying with the Drinking Water Ordinance DIN 2001-2.

A further particularity is the possibility to install the tank electrodes from inside as well as from outside on the tank top. In case of fresh water tanks, the installation is also possible at the tank bottom..

» **All units with technical data are listed on page 87.**

INFORMATION

The measuring electrodes can be shortened easily to the height of the tank. The exact „full" adjustment is effected by an adjusting device at the top of the transmitter by means of an inprinted dial, if required also „dry".

OUR TIPP

Instead of the mounting hole of 38 mm diameter, also a PG29 thread can be produced in order to screw the tank electrode directly from outside without coupling ring. But this is only possible for plastic tanks with sufficient wall thickness of max. 8 mm. This is enormous helpful in case of lacking revision opening.

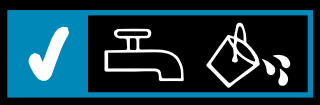
TANK ELECDRODE 30-110 K-FL

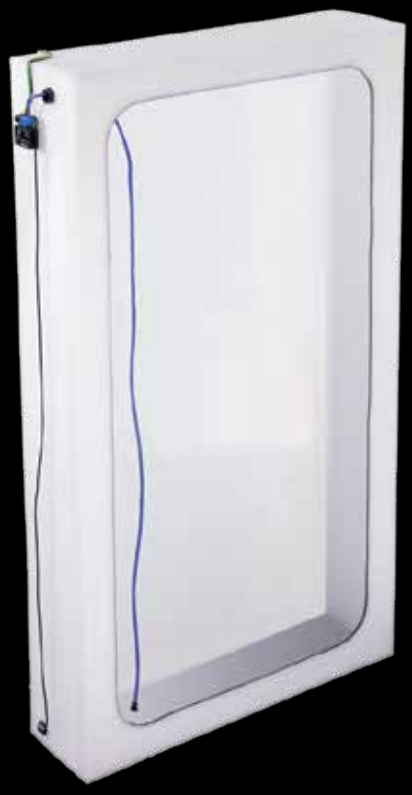
Tank transmitter, special design for high tanks

The Tank Electrode 30-110 K is the follow-up product of the Tank Electrode FL, which has been well-proven for years. It is a special design for high tanks with access from the top.

Such as all VOTRONIC Tank Transmitters, also the Tank Electrode 30-110 K-FL works according to the capacitive measuring method, it is suitable for plastic and metal tanks, and it is universally applicable. The flexible cable probe can be easily shortened to the corresponding tank height between 30 and 110 cm. Such as for the Tank-Sensor FL, the conductor is installed at the tank from outside.

The Tank electrode can be installed on the tank top via a bore hole 38 mm, from outside as well as from inside. The complete mounting material is included in the standard delivery.





TANK SENSOR FL

Tank transmitter, special design for high tanks

Due to its extremely compact design, the Tank-Sensor FL is applied mainly for high tanks, where only a lateral installation at the tank is possible. The tank must be equipped with a revision opening, and the wall thickness of plastic tanks should not exceed 8 mm. The flexible cable probe of the Tank-Sensor FL is simply shortened to the desired tank height, and the „Full“ adjustment is effected at the electronic module. Connection is realized by means of solid terminal screws.

Like all tank transmitters, also the Tank-Sensor FL works according to the capacitive measuring method, and it is universally suitable for water and hydrous media in metal or plastic

MEASURING SENSOR
Level Measurement Technology

Unit Type	Tank Electrode 12-24 K	Tank Electrode 15-50 K	Tank Electrode 20 K-WC	Tank Sensor FL	Tank Electrode 30-110 K-FL
Order No.	**5543**	**5545**	**5555**	**5530**	**5551**
Battery Voltage	**12 and 24 V**	**12 and 24 V**	**12 and 24 V**	**12 and 24 V**	**12 and 24 V**
Installation at the Tank	Top/Bottom	Top/Bottom	Top	Top/Side Wall	Top/Side Wall
Tank Material Ku = Plastic Me = Metal	Ku / Me	Ku / Me	Ku / Me	Ku / Me	Ku / Me
Tank Hight, adjustable (min.- max.)	12-24 cm	15-50 cm	12-24 cm	30-100 cm	30-110 cm
Suitable for Fresh Water	●	●	–	●	●
Suitable for Sewage Water	●	●	●	●	●
Suitable for Feces	●	●	●	–	–
Suitable for Tank Display:					
Fresh Water Tank Display S	●	●	–	●	●
Sewage Water Tank Display S	●	●	●	●	●
Feces Tank Display S	●	●	●	–	–
Info Panel Pro	●	●	●	●	●
Info Panel Pro 24 V	●	●	●	●	●
VPC Terra	●	●	●	●	●
VPC Luna	●	●	●	●	●
VPC Mars	●	●	●	●	●
VPC Jupiter	●	●	●	●	●
Previous Votronic Tank Displays since1987	●	●	●	●	●

Delivery Scope Tank Electrode 12-24 K and 15-50 K: Tank electrode, packing ring, nut PG 29, connection cable 75 cm, manual

Delivery Scope Tank-Sensor FL: Flexible cord probe, tank wall bushing, stainless steel conductor, fastening screws, manual

Mark of Conformity: CE, E Test (EMV/automotive regulations)

Delivery Scope Tank Electrode 20 K-WC: Tank electrode, packing ring, connection cable 75 cm, manual, bolts, mounting-ring, connecting jack and socket, holding-clip

Delivery Scope Tank Electrode 30-110 K-FL: Flexible cord probe, packing ring, nut PG 29, manual, stainless steel conductor

» More technical specifications and informations you will get at our website **www.votronic.de**