

# VA-SIGNAL W

Septic tank overflow alarm

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**Save this manual for  
future reference!**



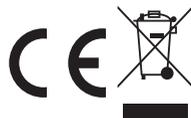
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### Safety precautions

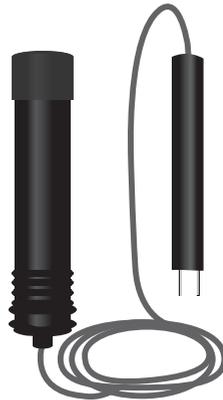
- Read the installation manual carefully *before installation*
- Alarm panel must only be installed indoors in dry areas.
- The equipment may only be used for high level/overflow alarms in septic tanks or water tanks.
- Do not use with oil or petrol!
- If the tank will be embedded, make sure that the sensor can be easily accessed by fitting a manhole or riser pipe, etc.
- The sensor has a 2 m cable as standard. For longer distances, the sensor cable should be extended using an RKK 2 x 0.75 mm<sup>2</sup> cable.

## Components

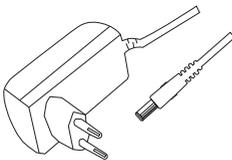
**Alarm panel**



**Transmitter module with VA sensor**



**Mains adapter**



**Mounting bracket**



**Cable shortener**



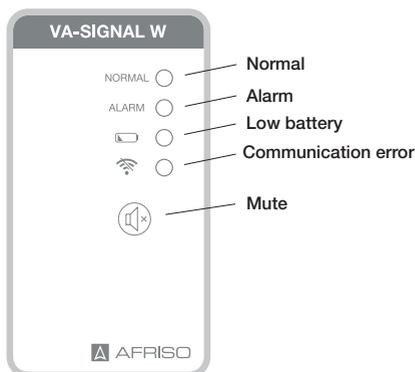
## User Manual

VA-Signal W is a wireless alarm for (closed) septic cisterns.

- Transmitter unit in pipe enclosure with a conductive sensor for placement in septic tanks/cisterns. This unit is powered by 1 x lithium battery of type ER14505M 3.6V.
- Alarm panel for placement on a wall indoors in a dry area. The unit is powered by the included mains adapter (12VDC).

VA-Signal W is intended for cisterns/tanks containing electrically conductive liquids. The overflow alarm is triggered when the tank content has reached the two electrodes at the lower part of the water sensor.

### Alarm panel icons



### Normal operation/no alarm

Green LED is solid

### Alarm (tank full)

If the liquid level in the tank rises to the preset alarm level, the LED starts flashing red, the built-in buzzer sounds with an uninterrupted signal, and the relay closes. If the mute button is pressed in, the buzzer will turn off and the alarm LED will change to a solid light.

- Order tank emptying.

### Low battery

When the transmitter battery is running low, the LED flashes red and the buzzer beeps once per minute. If the mute button is pressed in, the buzzer will turn off and the low battery LED changes to solid red.

- Change the battery (instructions further down).

### Communication error

If the transmitter and receiver lose contact, the LED starts flashing red, the buzzer turns on, and the relay closes. If the mute button is pressed in, the buzzer will turn off and the signal interruption LED changes to solid red.

- Communication problems can either be due to the battery being fully depleted or the devices being too far apart (instructions further down).

## Checking the unit

### Range test

Before installation, a location test must be performed to ensure that alarm panel can receive the radio signal from the transmitter. Place the alarm panel in the desired location and connect the mains adapter. Place the transmitter module in an area in the drain under the 'cover', do not mount the sensor at this stage. Insert the battery into the battery holder. If the 'Normal' LED is green, the signal is good.

If the LED  flashes, move the alarm panel to a location where the transmitter's signal is stronger and 'Normal' shines green.

### Checking the alarm function

Remove and reinsert the battery into the transmitter unit to activate test mode. Short-circuit the sensor input with a paper clip (or equivalent) or connect the sensor and submerge the electrode in water. 'Alarm' starts flashing red and the built-in buzzer goes off.

Press the mute button on the alarm panel -> the sound should turn off. Remove the short circuit or remove the sensor from water. The red LED stops flashing and 'Normal' turns green again. Alarm function test is OK.

The sensor can also be tested without activating test mode, but then there will be a delay of up to 2 minutes before there is an alarm.

### Pairing the transmitter and alarm panel

The transmitter and alarm panel come paired when delivered. If the transmitter or alarm panel is replaced, pairing must be redone.

Press and hold the 'Mute' button on the alarm panel and simultaneously plug in the mains adapter. Then release the button. The alarm panel is now in pairing mode, which is indicated by the LEDs lighting up from top to bottom as a 'running light'. Insert the battery into the transmitter. Pairing now takes place automatically. Once paired, the buzzer beeps a few times, the 'running light' stops, and 'Normal' shines with a solid green light.

After approx. 10 minutes, normal operation will resume.

### Replacing the battery in the transmitter

Open the transmitter unit as indicated on Page 5 under the heading 'Mounting the Sensor'.

Change the battery (observe polarity) and reinsert in the reverse order.

It is important that the lid closes tightly and that the cable gland is pulled taut to prevent moisture from entering.



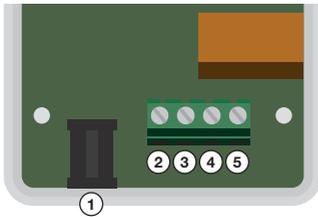
*Battery placement*

## Installation

Installation must be carried out by competent installer.

### Mount the alarm panel

Perform a range test before mounting to find a suitable location for the panel. Mount the alarm panel in the desired place in the house, preferably as close to the sensor as possible. Open the snap lid by squeezing the long sides together. The bottom part must be screwed to the wall using suitable screws.



- 1: Mains adapter input
- 2: + 12V DC
- 3: - 12V DC
- 4: Relay output NO
- 5: Relay output C

### 12V DC - terminal blocks 2 and 3

Works as either input or output voltage. If the mains adapter is connected, there will be 12V DC on the terminal block, which can be used for power supply of external alarm transmitters, for example. It is also possible to use this terminal block for connecting 12V DC from a transformer if the mains adapter is not used.

### Relay output - terminal blocks 4 and 5

The receiver has a relay with a closing voltage-free contact for connecting external alarms. This relay is activated for level alarms and communication errors (the relay

technical data can be found on Page 7).

### Mounting the sensor:

Route the sensor cable through the gland and connect the sensor cable as shown below. Insert the battery and slide the circuit board into the enclosure. Push in the cover and tighten the cable gland.



Fit the mounting bracket in a suitable place in the tank neck under the drain cover.

For the best signal, mount on the far side in relation to the receiver.

Place the transmitter electronics in the holder and close the holder. Place the transmitter with the cable pointing down and positioned as high up as possible in the drain to ensure the best possible range.

The sensor hangs freely from its cable, and the sensor level is adjusted using the cable loop. This is adjusted with the cable shortener so that the tips of the sensor are positioned where the tank is considered full and the alarm must be triggered.

## Operation:

CAUSE/ERROR	ACTION
<p><b>Normal operation/no alarm</b> Green LED is solid</p>	<p>Normal operation - no action</p>
<p><b>Alarm (tank full)</b> The built-in buzzer sounds with an uninterrupted signal and the red LED starts flashing.</p>	<p>Order tank emptying!</p> <p>When the tank is emptied, the Alarm turns off and the LED for Normal Operation comes on.</p>
<p><b>Low battery</b> The LED flashes red and the buzzer beeps once per minute. If the mute button is pressed in, the buzzer turns off and the low battery LED changes to solid red.</p>	<p>Change the battery in the transmitter unit. Lithium battery - type ER14505M 3.6V.</p> <p>After replacing the battery, the low battery LED turns off and the Normal Operation comes on.</p>
<p><b>Communication problem (error)</b> The LED flashes red and the buzzer turns on. The relay is activated. If the mute button is pressed, the buzzer will turn off and the low battery LED changes to solid red.</p>	<p>Communication problems can be due to a depleted battery, that the devices are too far apart, or that something is blocking/obstructing the signal.</p>

## Troubleshooting:

CAUSE/ERROR	ACTION
<p>No LED lights up or flashes.</p>	<p>Make sure the mains adapter is connected.</p>
<p>Sensor in liquid but unit does not trigger alarm.</p>	<p>The alarm transmitter has a delay of 2 minutes to avoid false alarms.</p>
<p>Sensor in air but unit still alarms.</p>	<p>Clean the sensor.</p>

## Technical data:

### Alarm panel

Power supply:	12 V mains adapter or 12 V DC transformer.
Relay contact:	Closing voltage-free Um 125 V AC, Im 1 A Um 30 V DC, Im 2 A
Radio frequency:	433 Mhz (LoRa)
Enclosure class:	IP 42
Dimensions:	62 x 112 x 32 mm (WxHxD)
Weight:	85 g

### Transmitter unit

Power supply:	1 x ER14505M Lithium battery 3.6 V
Measurement frequency	once per hour
Radio frequency	433 Mhz (LoRa)
Dimensions:	ø 50 x 210 mm (diameter x L)
Weight:	130 g
Enclosure class:	IP 65

### Sensor

Measurement principle:	Conductive
Cable:	2 x 0.5 mm <sup>2</sup> (2 m)
Dimensions:	ø 30 x 150 mm (diameter x L)
Weight:	380 g
Enclosure class:	IP68



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