



**smart
vatten®**

VERTO

**VERTOLUMI INSTALLATION
INSTRUCTION**

2026

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1 IMPORTANT NOTE FOR THE INSTALLATION TECHNICIAN



Note! When installing the meters, only use the seals that come with the meter.

Install the meters only by tightening the connectors. The torque for tightening the meters' connectors is 10–12 Nm.



Note that the body may only be seized with a tool at the place marked with an 'x' (28 mm width of jaw opening).

These installation and user instructions can also be downloaded from our website.

2 INSTALLATION INSTRUCTIONS

2.1 Installing the meter

These installation and user instructions can also be downloaded from our website.



1. Install the meters into a horizontal or vertical pipe paying attention to the flow direction indication arrow on the meter body.
2. Place the meters (total length 196 mm) so that they are easy to service. Make sure that their installation must meet the regulations for fire safety and electrical installations.
3. If you place the devices inside a casing or suspended ceiling, install a service hatch measuring at least 500 x 500 mm in the location of the devices.
4. When installing the meters, only use the seals that come with the meter.
5. Install the meters only by tightening the connectors. The torque for tightening the meters' connectors is 10–12 Nm.

Note that the body may only be seized with a tool at the place marked with an 'x' (28 mm width of jaw opening).

6. Install the stop valve immediately before the meter.
7. Do not install hot water circulation between the stop valve and the meter body.

2.1.1 Using the meter

The V-15UD meter has a button next to the display. To turn on the display, shortly push the button. The display stays on for 10 seconds. The display shows the water consumption in cubic meters (1 litre is 0,001m³).

If the water flows in the wrong direction through the meter, meaning that there is backflow, the arrow on the display points to the opposite direction then when the water flows to the normal direction. Backflow does not increase the amount shown on the display.

The meter shows errors with E symbols (E1...E5):

- Error 1: general error about the meter's processes
- Error 2: not used
- Error 3: meter has been reset
- Error 4: checking the software of the meter has failed, a fatal error

- Error 5: checking the operating system of the meter has failed, a fatal error

There can be multiple errors in the meter simultaneously, the latest of which is shown on the display.



2.2 Installing the collection unit

Always install the collection unit before the meter units.

The collection unit needs a 230V electrical socket (can be freely placed in the space).

If the collection unit is read remotely via a Ethernet connection (TCP/IP), a data socket for an RJ45 network cable is required.

The electrical contractor must ensure that the cables are suitable for the building and meet the regulations for fire safety and electrical installations.

1. Install the collection unit in the main electrical cabinet or other suitable location. Make sure that it is in the range of the radio network and mobile network.
2. Do not install the collection unit side by side with strong current cables.
3. Connect the collection unit into a protective earthed fixed socket-outlet with a power source that is included in the device delivery.
4. Fix the collection unit with screws.
5. After installation, connect a voltage to the collection unit.

Two versions of the collection unit are available:

- EVG-SA HVAC no. 4466916, product no. WU0001, SIM card (GSM)
- EVG-EA HVAC no. 4466917, product no. WU0002, Ethernet

2.3 Connecting the impulse sensors to the collection unit (optional)

1. Connect any impulse sensors located in the same space, such as the main water meter, to channels 1–4 in the connection table of the collection unit, see Figure 1.

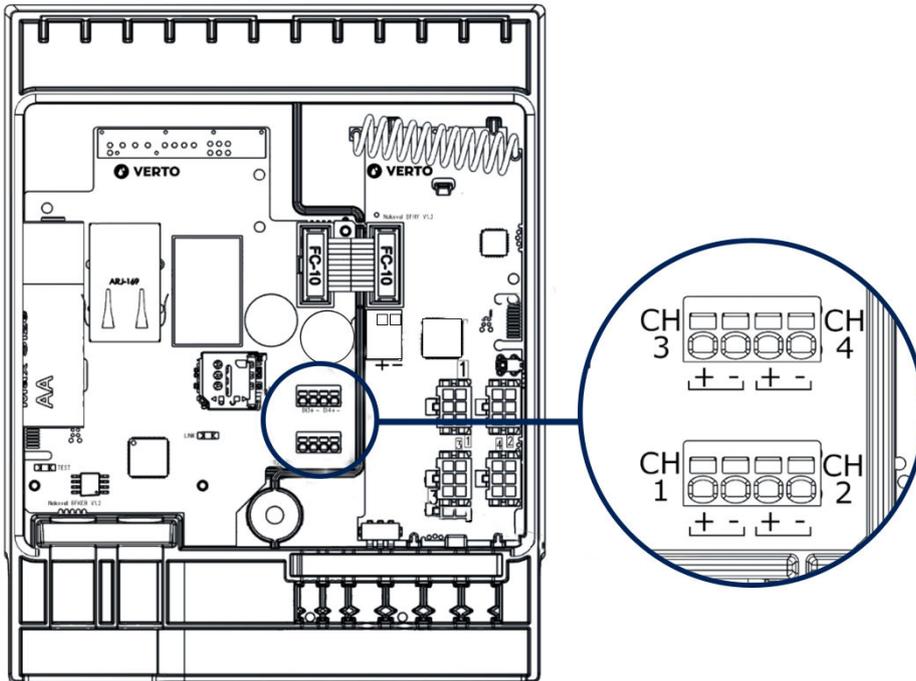


Figure 1: Channels 1–4 in the connection table of the collection unit

2. Connect the impulse input with a shielded twisted pair cable.
3. After installation, connect a voltage to the collection unit.

2.4 Installing the meter unit

The meter units EVH-RB are powered by a battery. The battery is replaceable, and the replacement may only be done by a maintenance provider authorised by Smartvatten. The battery is supplied by Smartvatten. Do not use any other type of battery in the equipment.

The meter unit EVH-R230 is equipped with a 230 V internal power source that is connected to the mains supply. In case of power outages, the EVH-R230 has an emergency battery.

The electrical contractor must ensure that the cables are suitable for the building and meet the regulations for fire safety and electrical installations.

1. Make sure to install the meter unit in the space whose number is shown on the meter unit casing.
2. Do not install the meter units in a position where their cable connections face upward. Other installation positions are acceptable.
3. Install the meter units near the meters in each space in compliance with electrical and fire safety regulations and in a manner that makes it easy to access and service the device. If service hatches are needed, their size must be at least 500 x 500 mm.
4. The flow meters have a 1 m connecting cable. If necessary, replace the cable with a 10 m connecting cable.
5. The meters in the space (1 to 4 meters per space) are connected to one meter unit. If more than 4 meters are needed in the space, connect the extra meters to a separate meter unit.

Two versions of the meter unit are available:

- Battery powered EVH-RB HVAC no. 4466914, product no. WU0005
- Mains power EVH-R230 HVAC no. 4466915, product no. WU0003

2.5 Connecting the meters to the meter unit

1. Install the meter cables based on the information on the casing label (hot/cold water).

2. Install the cables in the order shown in Figure 2.

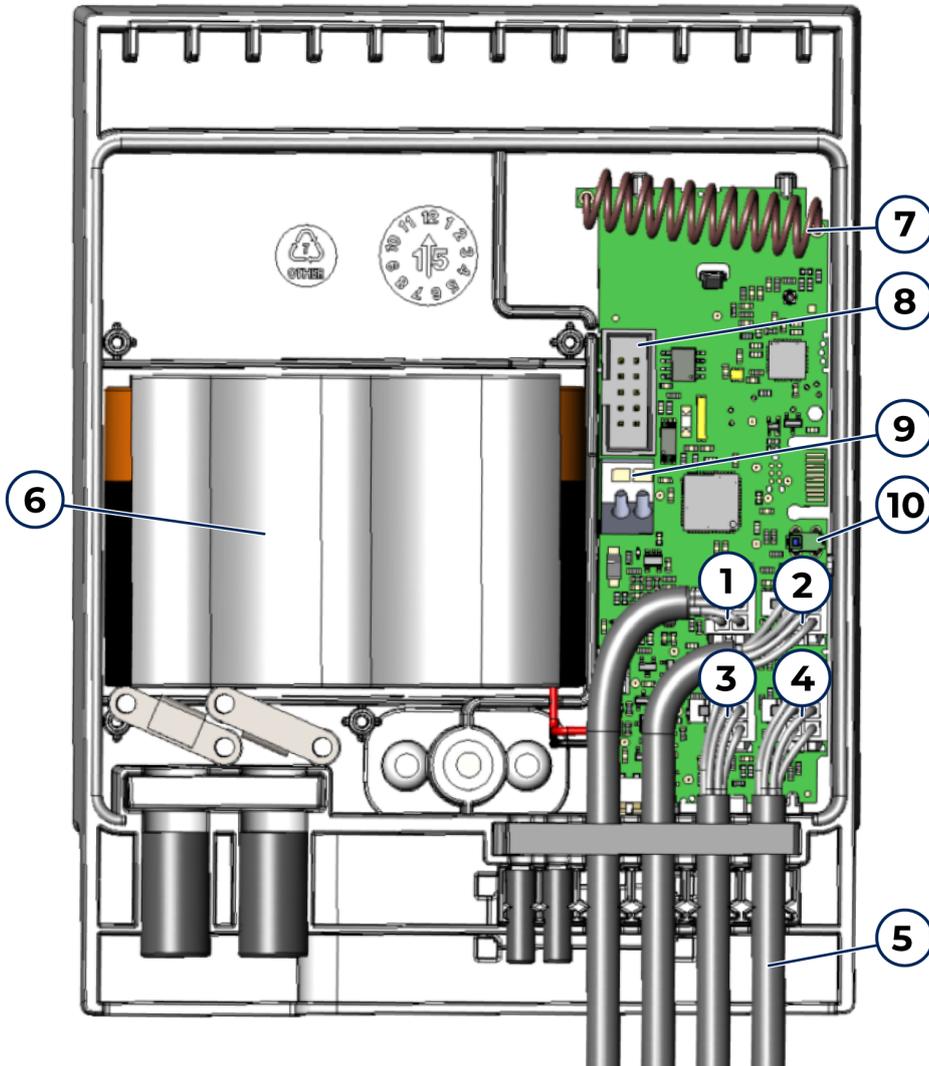


Figure 2: Installing cables to the meter unit EVH-RB

1	Meter cable connection	6	Battery
2	Meter cable connection	7	Antenna
3	Meter cable connection	8	Connector for additional element
4	Meter cable connection	9	Connector for DC power source
5	Meter cables	10	Cover switch

3. Connect both ends of the meter cable before powering up the meter unit.

4. With the EVH-R230 meter unit, first install the meter cables as with the battery powered meter unit EVH-RB.

5. After this, install the cables.

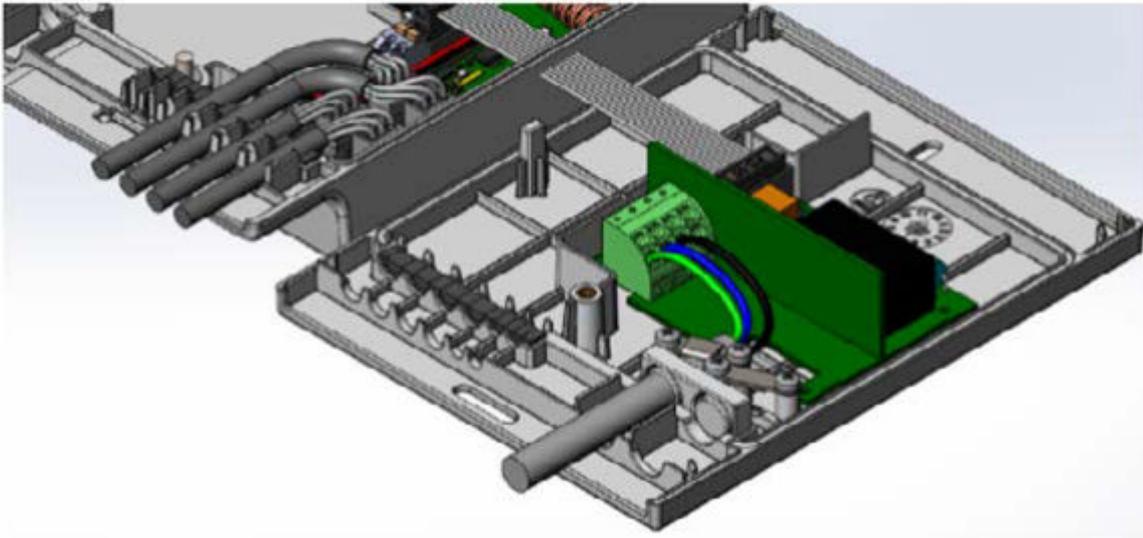


Figure 3: Installing cables to the 230 V meter unit EVH-R230

6. Connect the backup battery connector to the meter unit EVH-R230, or the battery connector to the meter unit EVH-RB. Route the cables as shown in the images. Make sure that the cable does not get caught between the inner walls of the casing.

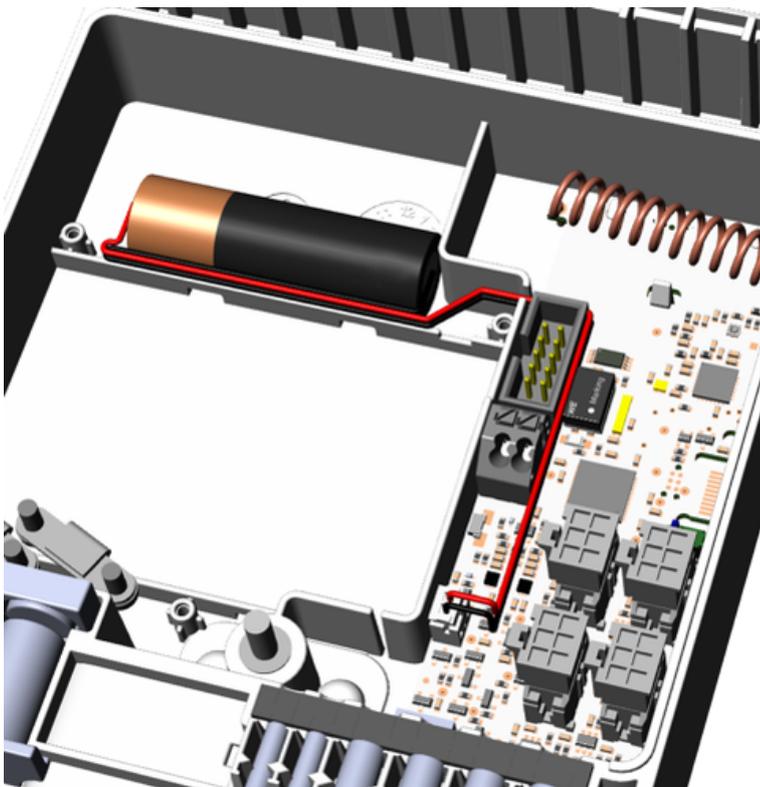


Figure 4: EVH-R230, connecting the backup battery

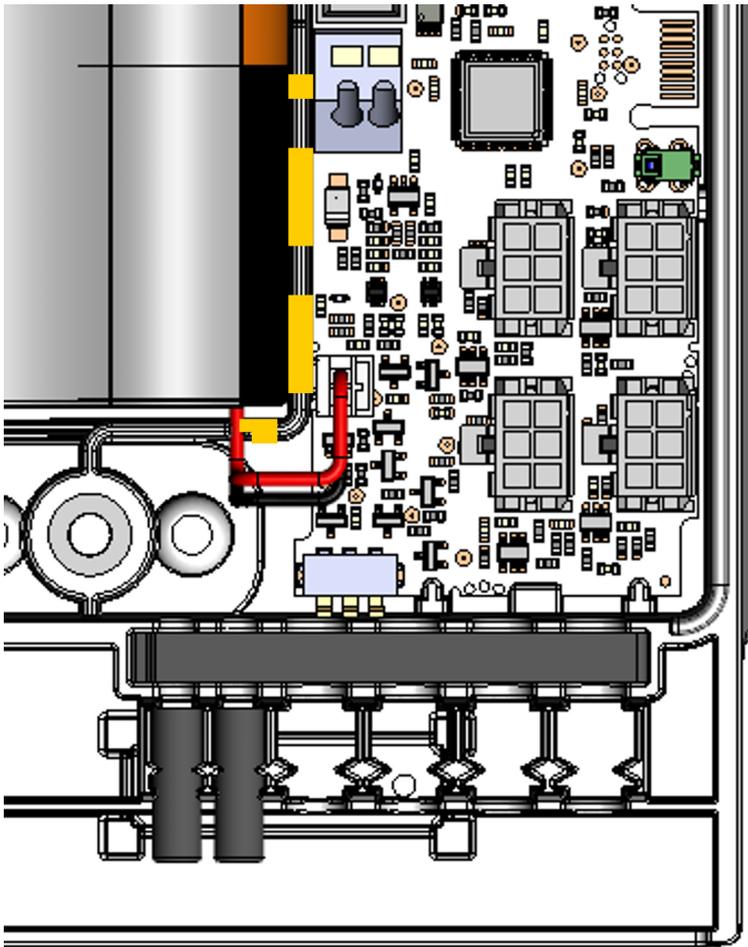


Figure 5: EVH-RB, connecting the battery pack

2.6 Installing the unit display

2.6.1 Installing the unit display EVN-RB

1. Remove the battery pull tab before first use.
2. Place the unit display in a dry space using the wall mount that is included in the delivery.
3. Install the wall mount in the entryway or hallway. The recommended installation height is 160 cm.
4. The unit display also features temperature and humidity measuring. Take this into account when determining the installation location.
5. The unit display and the meter unit are usually delivered pre-paired, and they must be installed in the space indicated on the casing label. Otherwise, inform Smartvatten of the serial number of the unit display. For the EVN-RB unit display, the pairing is done in the cloud service.
6. Install the unit display to the wall mount.



EVN-RB

2.6.2 Installing the unit display EVN-RC

1. Place the unit display in a dry space using the wall mount that is included in the delivery.
2. Install the wall mount in the entryway or hallway. The recommended installation height is 160 cm.
3. The unit display also features temperature and humidity measuring. Take this into account when determining the installation location.
4. The unit display and the meter unit are usually delivered pre-paired, and they must be installed in the space indicated on the casing label. Otherwise, inform Smartvatten of the serial number of the unit display. For the EVN-RC unit display, the pairing is done in the cloud service.
5. Connect the EVN-RC unit display to the 5–12 V DC power supply with a USB-C connector.
 1. For surface mounting, you can separately order the white, plug-mounted power adapter WU00064, and a 2 m long USB-C cable.
 2. For box mounting, you can separately order the power adapter WU00062, which comes with a grommet and strain relief.



More detailed electrical design instructions and examples can be found on our home pages.

3. Measure the length of the cord as shown in the figure.



4. Fasten the strain relief and the grommet of the power adapter firmly on the back of the wall mount.



6. Install the unit display to the wall mount.



EVN-RC

3 AFTER THE INSTALLATION

3.1 Commissioning inspection

The warranty requires an approved commissioning inspection. When installation is nearing completion, the plumbing contractor arranges the commissioning inspection procedure with the device manufacturer in good time (at least two weeks in advance).

The commissioning inspection is performed by a maintenance provider authorised by Smartvatten.

Tel. +358 20 741 4020

E-mail verto@smartvatten.fi

3.2 Service

When calling Smartvatten service, please state the serial number of your collection unit. If possible, call the service while on site.

Tel. +358 20 741 4020

3.3 Warranty

The warranty requires an approved commissioning inspection. When the commissioning inspection takes place, a representative of the plumbing contractor that installed the equipment must be present on site.

3.4 Recycling

Various parts of the system contain materials that need to be recycled as electronic waste. Our company is a member of the SELT Association and as a customer you can return your used equipment free of charge to the recycling centres for electrical and electronic waste. The location of the nearest recycling centre can be found at: www.elker.fi/fi/SER-kierratys



Note! Do not dispose of the equipment as mixed waste.

4 TECHNICAL DETAILS

4.1 Meter unit

EVH-RB HVAC no. 4466914

EVH-R230 HVAC no. 4466915

- Wireless connection to the unit display and collection unit
- LoRa radio
- EVH-RB: Battery nominal voltage 3.6 V. The batteries may be replaced only by a maintenance provider authorised by Smartvatten.
- EVH-R230: Input voltage: 230 V, ~50 Hz.



4.2 Unit display

4.2.1 Unit display EVN-RB

EVN-RB, HVAC no. 4466934

- Wireless
- Mounting on wall mount
- Metering of temperature and humidity
- Dimensions: 96.5 x 96.5 x 26.0 mm (H x W x D)
- Batteries: 2 x LR6 AA alkaline battery
- User can replace the batteries as necessary



Figure 6: EVN-RB, HVAC no. 4466934

4.2.2 Unit display EVN-RC

EVN-RC, HVAC no. 4466933

- Wireless data transmission
- Mounting on wall mount
- Metering of temperature and humidity
- Dimensions: 96.5 x 96.5 x 26.0 mm (H x W x D)
- USB-C cable, 5–12 V DC power source



Figure 7: EVN-RC, HVAC no. 4466933

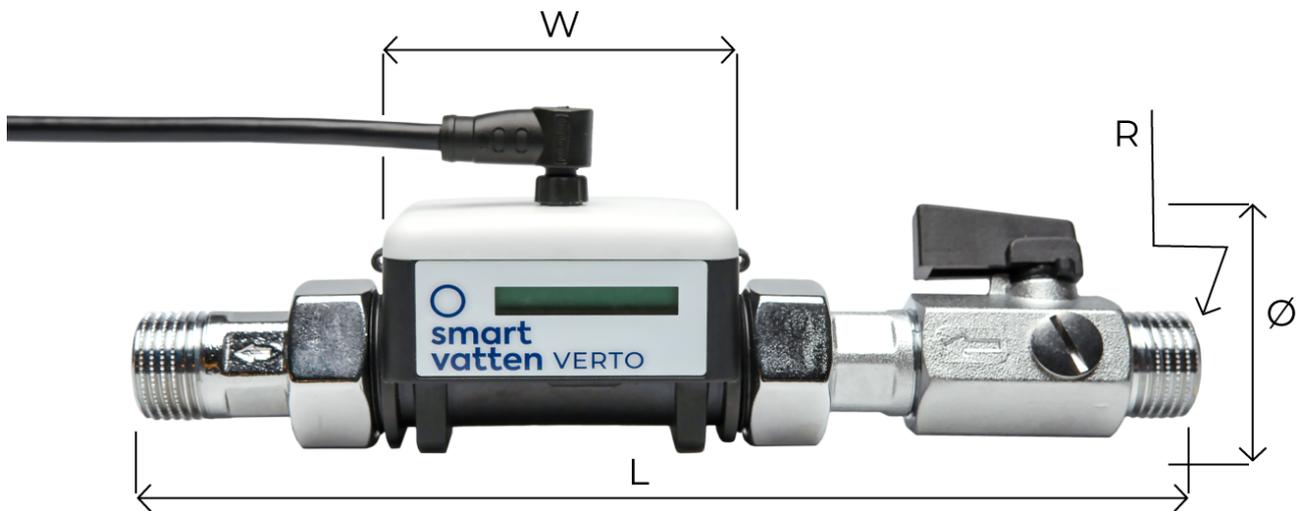
4.3 Meter

HVAC no. 4426501

Meets the requirements for MID type approval 2014/32/EU.

- V-15UD ultrasound meter (hot and cold domestic water)
- 1 m cable included in the delivery
- Nominal size: DN 15 (R ½)
- Pressure rating: PN 10
- Temperature max: 70°C
- Flow range R160
- Flow rate Q₃: 1.6 m³/h

The length of the body of the meter is 85 mm.



Dimensions	W	Ø	R	L
V-15UD	64	45 / 65	1/2"	196

4.4 Collection unit

EVG-SA HVAC no. 4466916 / SIM card (GSM)

EVG-EA HVAC no. 4466917 / Ethernet

- Capacity: consumption data from 300 meter units
- LoRa radio
- Mobile network with SIM card, or TCP/IP Ethernet connection
- Input voltage:
 - EVG-SA 230V, ~50Hz
 - EVG-EA 230V, ~50Hz



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