



**Accepterad**  
monteringsanvisning  
2016:1



# WaterFuse® - Cottage

User Manual  
&  
Installation Instructions



**WaterFuse®**

Thank you for choosing the WaterFuse® water switch.  
We hope that WaterFuse® will meet your expectations as a simple yet effective protection against water damage due to damaged pipes or equipment. The manual is divided into two parts, one for the user and one for the installer, in order to provide simple and clear instructions for the user and the necessary information for the installer.



### **Safety**

Read this manual carefully and follow the instructions for placement and usage.



The product may only be connected by a qualified installer. The warranty does not cover repairs of faults caused by faulty installation or incorrect use of the appliance.



**SINTEF**



### **Recycling**

Used products must be left at a collection point for the recycling of electrical and electronic components. By ensuring that the product is handled correctly, you help to prevent any negative environmental and health effects that may occur if the product is disposed of as normal waste. For further information on recycling, please contact local authorities, your household waste disposal service, or the shop where you purchased the item.

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# User Manual

## 1.1 General Information:

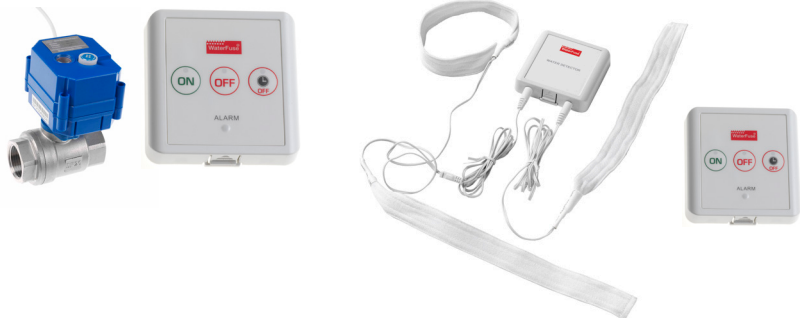
WaterFuse® Cottage reduces the risk of water damage by allowing you to easily turn the water off and through the use of water detectors which turn off the water when water is indicated.

A motorised shut-off valve, which electronically turns the water on or off in the entire property is mounted right after the water meter. It is controlled by the central unit, which in turn can be controlled by remote unit(s). The remote unit is placed at the front door for easy, manual switching on and off of the water. The water detectors act as a smoke alarm, but to water. If they indicate water, a signal is sent to the central unit which turns off the water automatically.

As the water switch is installed, a washing machine can also be placed in the kitchen without a floor drain, if there is a waterproof surface and a water detector is placed so that any water leaking from the equipment can be detected so that the leak can be automatically stopped. This of course also applies to other pressurised equipment, such as dishwashers, coffee makers and refrigerator/freezer with automatic water supply.

## Components

- Central unit, art. no. 2220082 – Motorised ball valve, art. no. 2130021 (DN20)
- DC adapter, Manual
- Wireless water detectors, art.no 2220042 (optional)
- Remote unit, art.no. 2220022 (optional)



## 1.2 The Different Parts:

### The central unit:

The central unit controls the ball valves and receives the signals from the wireless units.

*Install in a suitable place in the area around the water meter.*



### The water unit:

Motorised ball valve to turn water supply ON and OFF.

If the power goes out, they can also be operated manually with a mechanical knob on the unit. Lift the knob 5 mm and turn clockwise to close the valve. The indicator next to the knob shows open/closed.

*Fitted by the water meter.*



### Remote unit: (optional)

Control the central unit with the same buttons as on the central unit. From here you can easily turn the water off and on with a wireless signal to the central unit.

*Place by the front door.*

### Water detector: (optional)

Each water detector comes with three sensors, which are placed in suitable locations. The water detector transmits a radio signal and gives off a pulsating sound signal if it detects water.

The water detector sends an "I am alive" signal every 24 hours to the central unit. If the central unit does not receive the "I am alive" signal, the "ALARM" LED starts flashing on the central unit. "ALARM" LED continues to flash until it has contact again.




### 1.3 Daily Operation:

If external control is used, see section 1.6

#### When you leave home

- Press OFF on the remote unit. The water is turned off throughout the property.

If you want the water to remain on for a limited time, press the "delayed OFF" button.  The water remains on during the time set using the DIL switches on the central unit, the standard setting is 2 hours. The water is then turned off throughout the house.

#### When you come home

- Press ON on the remote unit. The water turns on throughout the property.

### 1.4 Alarm:

- **The water detector indicates water.**

If a water detector has identified water, the water is automatically turned off in the whole property. The water detector gives off a pulsating alarm signal for as long as it can identify water. The central unit gives a pulsating alarm signal until you press OFF on the central unit. Resolve the leak and confirm the alarm by pressing OFF. As long as one of the water sensors is wet, the system will turn off again.

### 1.5 Faults:

- Low battery voltage

If the battery voltage gets too low in any of the battery-powered units, the devices will beep in a way similar to a smoke alarm.

During normal use, the batteries have a life expectancy of at least 2 years.

- **Radio communication errors**

If the radio communication between different devices stops working, or does not work satisfactorily, this is usually because something has changed in the home since the radio communication last worked. Something new has been introduced that interferes with the transmission; tin cans under the sink that block the signal is the most common problem, but new wires or electric equipment within 30 cm from one of the radio units could also be the cause. See section 2.7 for more information.



## **1.6 External Control:**

See instructions or manual for these devices. Note that the keystroke / control signals override the previous ones. Connect according to the description in section 2.4.

## 2 Assembly Instructions

### 2.1 General:

The product must be installed by a person who has the professional knowledge required to perform the installation correctly. Unless the installation is performed by a professional, the insurance companies may claim that the insurance does not cover any damage that has occurred and that the offers made by the insurance companies to the property owner are invalid.

The ball valve is exercised daily through the closing / opening that takes place when water is turned off or on. If the ball valve is open for more than three days, it will be automatically exercised, but the water will not be completely turned off.

Water detectors (optional) and remote units (optional) transmit a signal every 24 hours that is registered by the central unit. If no signal is registered by the central unit for 72 hours, the central unit gives a warning by flashing the "ALARM" LED, indicating that communication is down.

A total of 16 external units can be installed, mixed freely between remote devices and water detectors.

A washing machine can also be placed in the kitchen without a floor drain, if there is a waterproof surface and a water detector is placed so that any water leaking from the equipment can be detected so that the leak can be automatically stopped. (According to Safe Water Installation 2016: 1 Section 3.6.3) This of course also applies to other pressurised equipment such as dishwashers, coffee machines, and refrigerators / freezers with automatic water supply.

### 2.2 Installation:

#### Motorised ball valve: (art. no. 2130021)

The unit is intended for tap water, 0-60 ° C and 0-10 bar. Fitted after the water meter and the water main. It can be mounted horizontally, vertically, or upside down and independent of flow direction. The unit has an internal R-thread. Connect to them to pipes, for example with compression fitting according to the pipe and coupling manufacturer's instructions. Use the required sealant. The unit must not be mounted in a concealed place; it must be placed so that it can be changed and so that any leaking water can be easily detected. The units must be installed in a room with a waterproof floor, in a distribution cabinet, or in a custom space. If a distribution cabinet is used, the installation instructions for this must be followed. After mounting, the installation must be checked for leaks with the tap water installation's existing water pressure according to the instructions on [www.säkervatten.se](http://www.säkervatten.se)







NOTE - If there is emergency cooling of heating equipment, sprinkler system or similar in the property, the installation must allow such equipment to retain their function.

**The central unit: (art. no. 2220082)**

Install in a suitable place near the motorised ball valve.

Check that there are no electrical cables or installations within 50 cm of the equipment as this impairs radio transmission. The box has a "button" on the underside that is used to open it. The included DC adapter or the property's own 12vdc can be used for power supply. The cable from the motorised ball valve is drawn to the central unit and connected to the 2-pole terminal K82 on V1 with the red cable to +.



↑  
"Button"

All cables can be connected at the back of the central unit to avoid visible wiring, just disconnect the centre plate on the mounting plate and connect the cables to the terminals. Alternatively, use the premade hole at the bottom of the casing. See section 2.5

**Water detector: (art. no. 2220042) (optional)**

The accompanying sensors are placed in the area intended to be protected. For example by the dishwasher and sink: One sensor on the tray that should be underneath the dishwasher, one sensor on the floor underneath the sink and the final sensor in the shaft where the pipes emerge from the floor. The box has a "button" on the underside that is used to open it. Install two new AA batteries in the battery compartment as instructed. The back piece is screwed to the wall. Check that there are no electrical cables or installations within 50 cm of the device as this impairs the radio transmission. Read section 2.6 for connection to central unit.



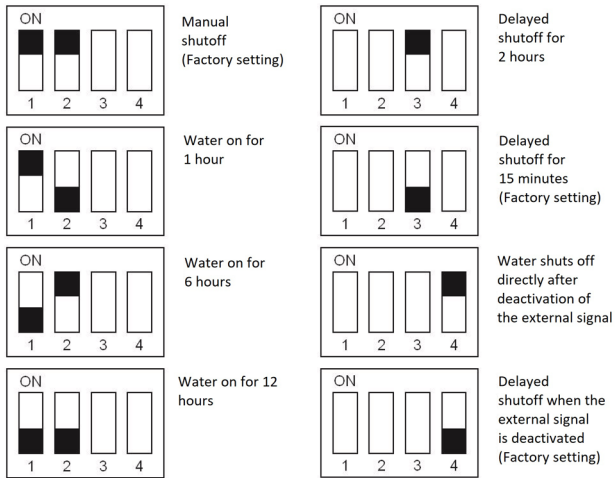
**Remote unit: (art. no. 2220022) (optional)**

Install in an easily accessible place near the front door. Check that there are no electrical cables or installations within 50 cm of the device as this impairs the radio transmission. The box has a "button" on the underside that is used to open it. Install two new AA batteries in the battery compartment as instructed. The back piece is screwed to the wall. Read section 2.6 for connection to central unit.



## 2.3 Settings:

There are a number of settings that can be changed for the product. Settings are changed with dip switches on the central unit circuit board. Changes to the dip switches are easily made by using a pen or a small screwdriver to move the switch. The black marking below shows the plastic switch you are moving. The plastic switch can be black, white, or blue.



## 2.4 Connection to Alarm or Other Remote Controls

WaterFuse® Cottage can be connected to a master alarm or property control system and thus becomes part of that system. This allows you to turn the water to the equipment on and off automatically.

The input port uses optocouplers to protect the electronics.

Suggestion for connection to external controls:

- Jumper + Out with + Ext. Install switch between –Ext and 0v.
- When the switch is closed, the optocoupler / signal is activated and the water is turned on.
- When the switch is opened, the optocoupler / signal is deactivated and the water is turned off immediately or with a delay according to DIL switch 4.



## 2.5 Connecting the Cables:

All terminal blocks for the ball valves are parallel. This means that you can connect valves as it suits you, you can also connect two valves in parallel in one terminal if it is more suitable.

### Terminal block - K82

Ball valve 1 is connected to V3. Red on +.

### Terminal block - K80

Ball valve 1 is connected to V1. Red on +. (If connecting via the back cover)

Ball valve 2 is connected to V2. Red on +. (If extra ball valve is fitted)

The terminal outputs for V1 and V2 are parallel to V3 on K82.

External voltage supply 12vdc between +12/24 and 0v

### Terminal block - K81

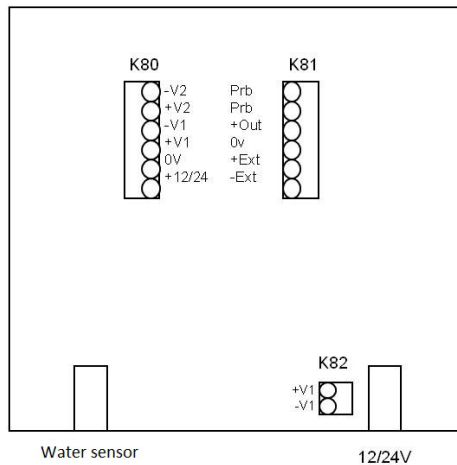
Water sensor between Prb and Prb.

External control of on / off with + Out, 0v, + Ext, -Ext.

+ Out = + 12vdc

0 v = GND (0v)

+ Ext, -Ext = Connection to optocoupler (alarm input)



## 2.6 Connecting Wireless Devices

### **Switch between normal mode and installation mode:**

Press and hold ON and DELAYED OFF simultaneously for 3 seconds to switch modes. A short beep indicates the shift.

The ALARM LED is constantly lit when the unit is in the installation mode.

Press DELAYED OFF to see how many wireless devices are installed. The number of flashes corresponds to the number of wireless devices. A long beep indicates that no wireless devices are installed.

Press and hold ON and DELAYED OFF simultaneously for 3 seconds to switch back to normal mode.

(The wireless devices included in the same package as the central unit are pre-programmed to communicate together and do not need to be installed as below.)

### **Installing the remote unit and water detector:**

Switch to installation mode as above.

Put the remote unit/water detector in installation mode by restarting it.

(Remove the batteries, wait 1 minute, plug in the batteries, the unit beeps, the installation mode automatically switches to normal mode after 5 minutes)

When the control unit receives the installation signal, ON flashes green.

Press ON to install the device. A short beep and a ON flashing green indicate that the unit has been added.

If OFF instead flashes red, no more units can be installed. A maximum of 16 wireless units can be installed.

### **Uninstalling the remote unit and water detector:**

Switch to installation mode as above.

Individual devices cannot be deleted. All devices are deleted at the same time.

Afterwards you need to put all the remaining units back as above.

Press and hold OFF for three seconds. All units are deleted, and the deletion is confirmed with a long beep and OFF flashing red.



## 2.7 Troubleshooting Radio Communication:

Radio communication errors are indicated by the "ALARM" LED flashing on the central unit. "ALARM" LED continues to flash until it has contact again. Unfortunately, it does not indicate which wireless device has communication problems.

If the radio communication between different devices stops working, or does not work satisfactorily, this is usually because something has changed in the home since the radio communication last worked. Something new has been introduced that interferes with the transmission; tin cans under the sink that block the signal is the most common problem, but new electric equipment within 30 cm from one of the radio units could also be the cause.

Check if anything may have impaired the radio communication and fix it.

Then, place the remote unit/water detector in installation mode by restarting it. (Remove the batteries, wait 1 minute, plug in the batteries, the unit beeps, the installation mode automatically switches to normal mode after 5 minutes). If the radio communication is restored, the "ALARM" LED turns off.

If this does not work, uninstall and reinstall the units according to section 2.6. Another location may need to be selected for the units in order to obtain secure radio communication.

### 3 Technical Specifications

#### EL

230 vac for 12v dc adapter

2 × AA 1.5v batteries for remote unit

2 × AA 1.5v batteries for water detector

#### PHS

G20 (DN20)

Motorised ball valve with  
manual override

Battery life is expected to exceed 2 years.

Radio transmission up to 40 meters indoors, depending on building materials  
in the property.



## 4 Warranty and Limitation of Liability

In addition to the terms of the Consumer Purchase Act, a 1-year functional warranty is provided for the product.

The warranty stipulates that during normal use and maintenance, the product must be free from defects in design and function. The warranty period is calculated from the date of purchase, which must be proven by a receipt from the place of purchase. The warranty presupposes that the product has been installed appropriately and in accordance with the written instructions. The plumbing installation must be completed by a plumber.

If you have questions or problems with your product, you should first contact the dealer who sold or installed your equipment. Before you report a fault /complaint about your broken product, please read the operating instructions and, if possible, check that all settings are correct. The warranty stipulates that defective parts or components will be replaced with defect-free ditto. The customer is responsible for all overhead, unless the Consumer Sales Act is applicable. This means that shipping costs, inspection, and assembly costs are not included in the warranty commitment.

If possible, use the original packaging if the product needs to be transported.

The transport companies do not compensate for damage if the product has been poorly packaged.

The warranty does not apply to defects that occur during or after making your own changes to the product's function or appearance, such as rebuilding, upgrading, or other configurations of the product made without written approval.

The warranty does not cover faults that have arisen through an accident or malicious damage.

The warranty does not cover deterioration that has occurred after the purchase, if the seller can prove it probable that the deterioration is due to neglected or incorrect maintenance or that the appliance has been used for something other than its intended purpose, that inappropriate measures, unauthorised or incorrect interventions have been made or that installation instructions were not followed.

Batteries are considered consumables and are not covered by the warranty.

The reseller is not responsible for loss or damage of any kind caused by this product.

The liability is, in any case, strictly limited to the replacement of the product.



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