



Note: Each Smoke Detector must be tested once a month or any time suspected as not working properly.

Press the center Test/Mute button In order to test the device.

3.13. The Universal Transmitter (UT) – ES800UT

The Universal Transmitter (UT) is the We.R™ interface onto legacy wired devices.

It connects with ON/OFF type devices, enabling incorporation of 3rd party wired peripherals into the We.R™ system.



Figure 139: The Universal Transmitter

Accessories available for the Universal Transmitter:

- Double-sided adhesive tape.

3.13.1. The Universal Transmitter Function

The Universal Transmitter incorporates the following functions:

- Bi-directional wireless device.
- Flexible application definition as Security Device, Flood/Fire/Gas Detector, Panic Button, etc.
- May be configured, via the We.R™ Web Application, to Normally Open or Normally Close modes.
- Dual-LED (green/red) for open/close status indication.
- 30 cm (1 feet) cable.
- Data security is ensured with 128-bit AES encryption.
- Up to 500m (1640 feet) RF range (open air) communication.
- Unique electronic serial number.
- Supports automatic over-the-air software upgrade programming and configuration.
- Provides long operation period while powered by a single standard AA-size Alkaline battery.

3.13.2. Installing the Universal Transmitter

The Universal Transmitter should be mounted near the device it is interfacing with.

The Universal Transmitter mounting base is the unit's back cover (where it also serves the purpose of battery cover).

The base should be disassembled from the Universal Transmitter body, as demonstrated in Figure 140 below, and attached either by the double-sided tape (pre-attached to the base) or using screws as demonstrated in Figure 141 below.



Figure 140: Releasing the Universal Transmitter Base

3.13.2.1. Universal Transmitter Positioning Recommendations

For optimal safety, the following factors must be taken into consideration when selecting the Universal Transmitter mounting position:

- A flat vertical surface.
- Attach the Universal Transmitter to a surface that is clean, dry, flat and smooth.
- The Universal Transmitter must be mounted within 700m (2300ft) (open air nominal) of the CCU.

3.13.2.2. Installing with Screws

1. Release the Universal Transmitter base by inserting a coin into one of the edge slots, as demonstrated in the Figure 140 above, and twist it to open the cover.
2. Use a flat screwdriver to remove the punch-outs 1 and 2 (see Figure 141 below).

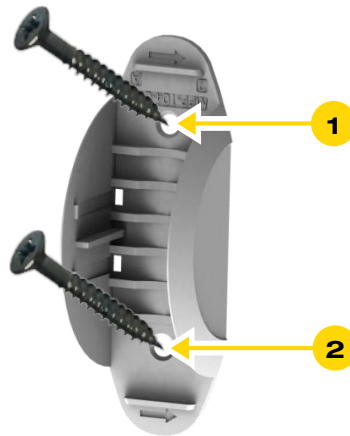


Figure 141: Universal Transmitter Base with Screws

3. Place and hold the base on the desired mounting location and mark the drilling locations (the above-mentioned punch-outs 1 and 2).
4. Drill the holes; insert two (2) dowels if needed, place the base over them and screw in the two (2) screws.

3.13.2.3. Installing with Pre-attached Double-side Tape

The pre-attached double-sided tape will be mostly used in installations of the Universal Transmitter.

1. Release the base (see Figure 140 above).
2. Peel the tapes' protective covers.
3. Attach the base to its designated location while applying slight pressure.
4. Attach the Universal Transmitter body back into the base.

3.13.2.4. Dismounting the Universal Transmitter

For dismounting the Universal Transmitter (i.e. in case of battery replacement):

1. Insert a coin (or flat screw driver) into one of the edge slots as demonstrated in Figure 142 below.
2. Twist it to raise the cover (body) edge.
3. Pull the body straight out of the base's shoulders.

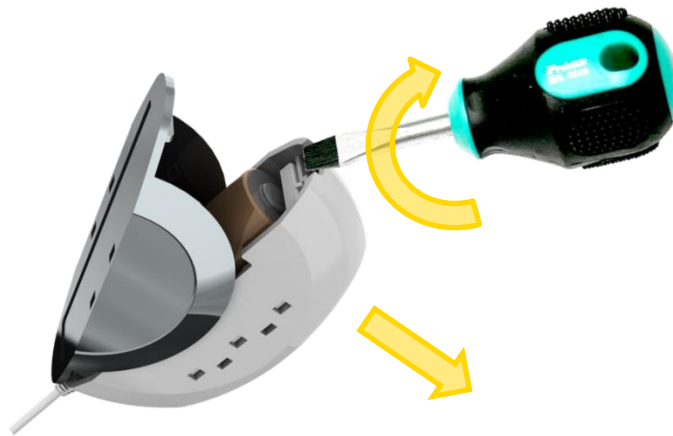


Figure 142: Dismounting the Universal Transmitter

3.13.3. Adding the Universal Transmitter to the We.R™ System

The Universal Transmitter need to be functionally added to the system following the above described physical installation procedure.

The addition of the Universal Transmitter is a standard **Add Device** procedure performed as follows:



Note: You may also want to refer to paragraph 5.1 below to get acquainted with the process of installing/ replacing a battery in the Flood Detector.

1. Prepare a single AA-size Alkaline battery required to power the Universal Transmitter.

2. Activate the We.R™ Web Application.

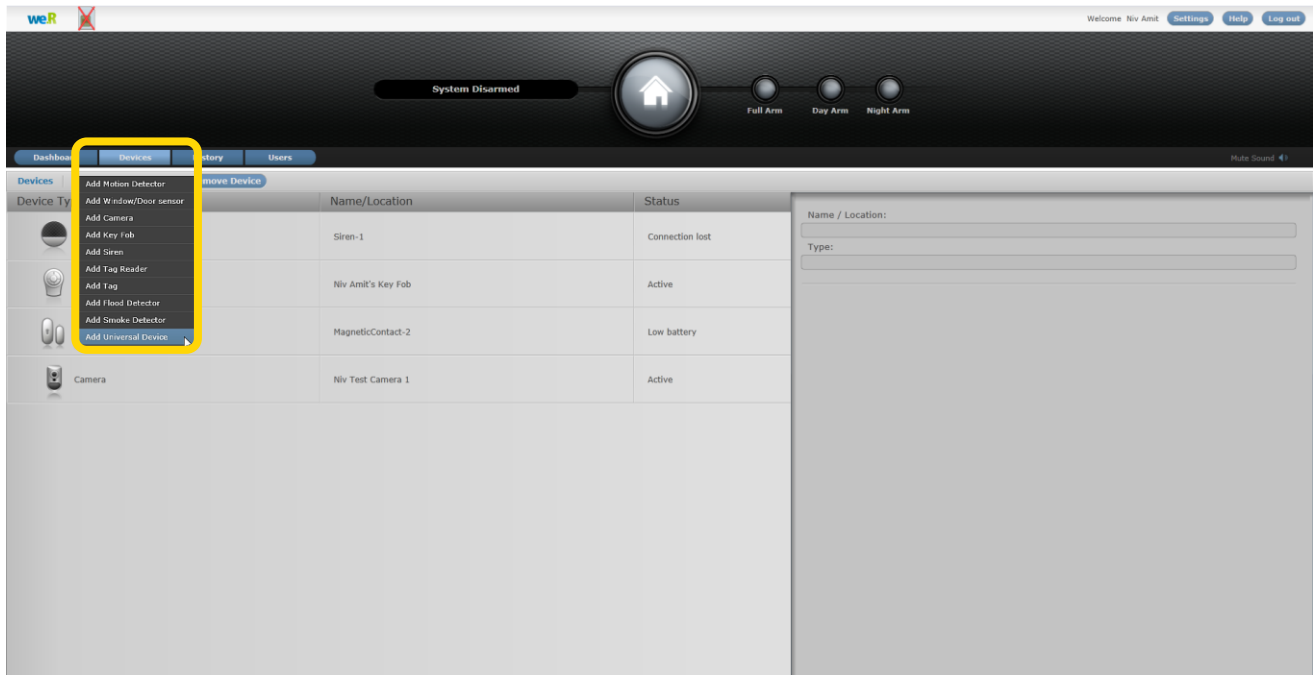


Figure 143: Add Universal Transmitter Device Utilizing Web Application

3. Select the **Devices** page (tab) and click over the **Add New Device** button.
4. A roll-down selection menu will open.
5. Click over the **Add Universal Transmitter** option of the menu as illustrated in Figure 143 above.
6. A window defining the function performed by the legacy wired device opens (see Figure 144 below) where you need to:
 - ◆ Select the device type.
 - ◆ Define its mode of operation (normally closed or normally open).
 - ◆ Optionally mark a request for notification regarding device reset.

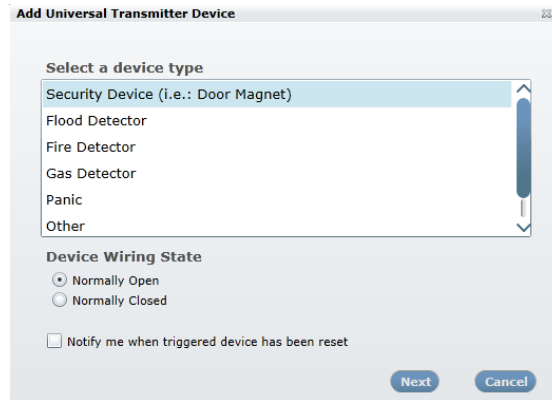


Figure 144: Definition of Function of the Legacy Wired Device




7. Click over the  button once all data is selected or marked.
Click over the  button if you need to terminate this process.
8. Once the  button was clicked over, an **Add New Device (Universal Transmitter)** window will pop-up and its timer will start running.



Figure 145: Add Universal Transmitter Window

9. Verify that the Device Type is Universal Transmitter.

10. The down-counter provides a time-frame of three (3) minutes within which the battery should be installed to power-up the Universal Transmitter, as demonstrated in Figure 146 below:



Figure 146: Inserting a Battery into the Universal Transmitter

11. Verify battery polarity to match marking within the unit body.



Note: In case the installation of the batteries could not be accomplished within the three (3) minutes period, it is possible to restart the process by applying step 2 (on page 176) and onwards again.

12. The insertion of the battery into the Universal Transmitter triggers a handshake process in which the Universal Transmitter communicates with the CCU to inform it of its presence and the CCU add it to its peripherals' inventory.
13. If the CCU did not detect the new Universal Transmitter within this time-frame, the following error (✖) message will appear within the **Add New Device** window:



Figure 147: Add New Universal Transmitter Timeout Error Message

In such a case, it is possible to re-initiate the Add New Device process by clicking over the **Try Again** button.

Clicking over the **Cancel** button will terminate the Add New Device process.

14. If the new Universal Transmitter was properly detected by the CCU within this time-frame, the counter will freeze and a **Device Properties** sub-window will appear within the **Add New Device** window, where the Flood Detector's system name/location needs to be typed-in.

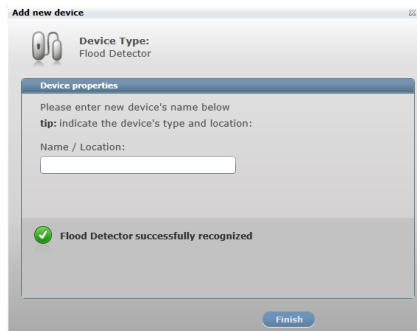



Figure 148: Add New Flood Detector Device Properties

Clicking over the  button will end the Add New Device process while the new Flood Detector is added onto the system configuration.

15. You may verify that the Flood Detector (FL) was properly added by checking the details of the We.R™ Web Application's **Devices** page.

3.14. The We.R™ Z-Wave® Controller (ZWD) – ES800ZWD

3.14.1. The Z-Wave® Concept

Z-Wave®, from Sigma Designs, is a proprietary wireless protocol oriented towards the residential control and automation (Smart Home) market.

It allows wireless remotely controlled home appliances, products and systems, to be integrated and work well together in a mesh network modular topology.

Z-Wave® application uses simple, reliable, low-power radio frequency (RF) communication channel and high reliability protocol to unify home electronics into an integrated wireless network.

Z-Wave® operates within the Industrial, Scientific, and Medical (ISM) band on a single frequency using frequency-shift keying (FSK) radio and its throughput is suitable for control and sensor interface applications.

Each Z-Wave® network (mesh topology) may include up to 232 nodes and consists of two sets of nodes: controllers and slave devices.

Nodes may be configured to retransmit the message in order to guarantee connectivity in multi-path environment of the residential house.

Average communication distance between two nodes is 100 feet (30 meters), and with message ability to hop up to four times between nodes, it gives enough coverage for most residential houses.

The Z-Wave® interface may be added to almost any electronic device in the house, including devices that were not meant to be “intelligent” such as appliances, window shades, thermostats and home lighting.

All Z-Wave-certified products “speak the same language” to provide true Z-Wave® interoperability.

A given device must be added to the Z-Wave® network before it can be controlled via Z-Wave® controller. This process (also known as “pairing” see Appendix G on page 299) is usually achieved by pressing a button on the device, an operation which must be performed once, after which the device will always be recognized by the controller.

Devices can also be removed from the Z-Wave® network through a similar process of button strokes.

3.14.2. Essence Z-Wave® Controller

Unlike all other We.R™ peripheral devices, the We.R™ Z-Wave® Controller is classified as a controller (just like the system’s Central Control Unit) and not as a peripheral device.

The Z-Wave® Controller is the We.R™ system interface to Z-Wave® approved Smart Home devices allowing control of such devices via the We.R™ system thus expanding the We.R™ system’s capabilities and devices’ portfolio beyond Essence ECOP RF protocol capabilities.

The dongle connects to the We.R™ Central Control Unit (CCU) as an add-on.



Figure 149: The Essence Z-Wave® Controller Dongle

The Z-Wave® Controller incorporates two connecting points:

- 1 A cable with a mini-USB™ type connector which connects to the We.R™ Central Control Unit’s mini-USB™ back-panel socket, and
- 2 A mini-USB™ socket, on its other end, for the Central Control Unit’s power adaptor connector.

3.14.2.1. The We.R™ Z-Wave® Controller Generic Device Classes

In theory, every controllable or controlling device at home can be equipped with Z-Wave® technology.

Therefore, a broad variety of different devices and functions should be expected. However, there are some basic functionality patterns that allow categorizing different devices:

- Each device will either control other devices or being controlled by other devices.
In the Z-Wave® terminology, controlling devices are called controllers, reporting devices are called sensors and controlled devices are called actuators.
- It is also possible to combine a logical sensor controller or actor function within one physical device.
- Actors switch either digital (i.e. ON/OFF for an electrical switch) or analog signals (i.e. 0 to 100% for a dimmer).
- Sensors deliver either a digital signal (i.e. door, glass breaking and motion detector) or an analogue signal (i.e. temperature, humidity, power).

The Essence We.R™ Z-Wave® Controller was developed to serve as a generic controller covering all Z-Wave® supported generic device classes.

Four (4) different end-devices were implemented insofar:

- Binary Switches – ON/OFF.
- Multilevel Switches – like a Dimmer.
- Thermostats – like Climate Controllers.
- Door Locks.



Notes: Once integrated into the We.R™ system's configuration, the Z-Wave® Controller will accommodate all devices based on these categories, regardless their manufacturer.

3.14.3. Installing the Z-Wave® Controller



Notes: The following procedure of installing the We.R™ Z-Wave® Controller is based on the assumption that the Z-Wave® Controller is being added onto a fully operational We.R™ system.

Due to the installation procedure, a Power Failure event will be logged and a notification should be expected.

1. Disconnect the Central Control Unit (CCU) from power by plugging-out the power adaptor cube from the electric power (mains) socket.
2. Disconnect the power cord from the CCU:



Note: The mini-USB™ socket is for the We.R™ power cord only. Do not connect other USB™ equipment to this socket.

3. Plug the We.R™ Z-Wave® dongle's mini-USB™ connector into the Central Control Unit's mini-USB™ socket (now vacant from the power cord).



4. Plug the power adaptor's cord (previously disconnected from the CCU) into the dongle's mini-USB™ socket.



5. Plug the power adaptor cube back into the mains socket.

The CCU should be back in full-operational mode (front panel LED turns green) within about 30 seconds. This could be verified as described in paragraph 3.14.3.1 below.



Note: The We.R™ Z-Wave® Controller is powered by the We.R™ Central Control Unit's power adaptor only and will not be powered by the We.R™ CCU's backup battery in case of mains power failure.

3.14.3.1. Verification

Verification of Central Control Unit returned into its fully-operational mode is required following the installation procedure as well as the addition of the We.R™ Z-Wave® Controller reported by the system.

The verification is done by activating the We.R™ Web Application software (described above in paragraph 3.3. The We.R™ Web Application) and checking for the We.R™ Z-Wave® Controller status row in the **Dashboard** page (see Figure 28 on page 56).

3.14.4. Activating the Z-Wave® Controller

Once the Z-Wave® Controller is installed, it is time to add the definitions of the Z-Wave® remotely controlled devices to configure the system to work with them properly.


The next paragraphs detail how to:

- Add new Z-Wave® remotely controlled devices.
- Remove previously added Z-Wave® remotely controlled devices.
- Control Z-Wave® remotely controlled devices via the We.R™ system.

3.14.4.1. Adding a New Z-Wave® Device

Prior to the process of adding a new Z-Wave® remotely controlled device, you need to get familiar with the additional **Smart Home** page in the We.R™ Web Application Data Window.

The Smart Home page is similar to the previously discussed **Devices** page (see paragraph 3.3.6.2 above):

 **Note:** Being central to the We.R™ system configuration, the Z-Wave® Controller, just like the CCU, is not enumerated as a supported device.

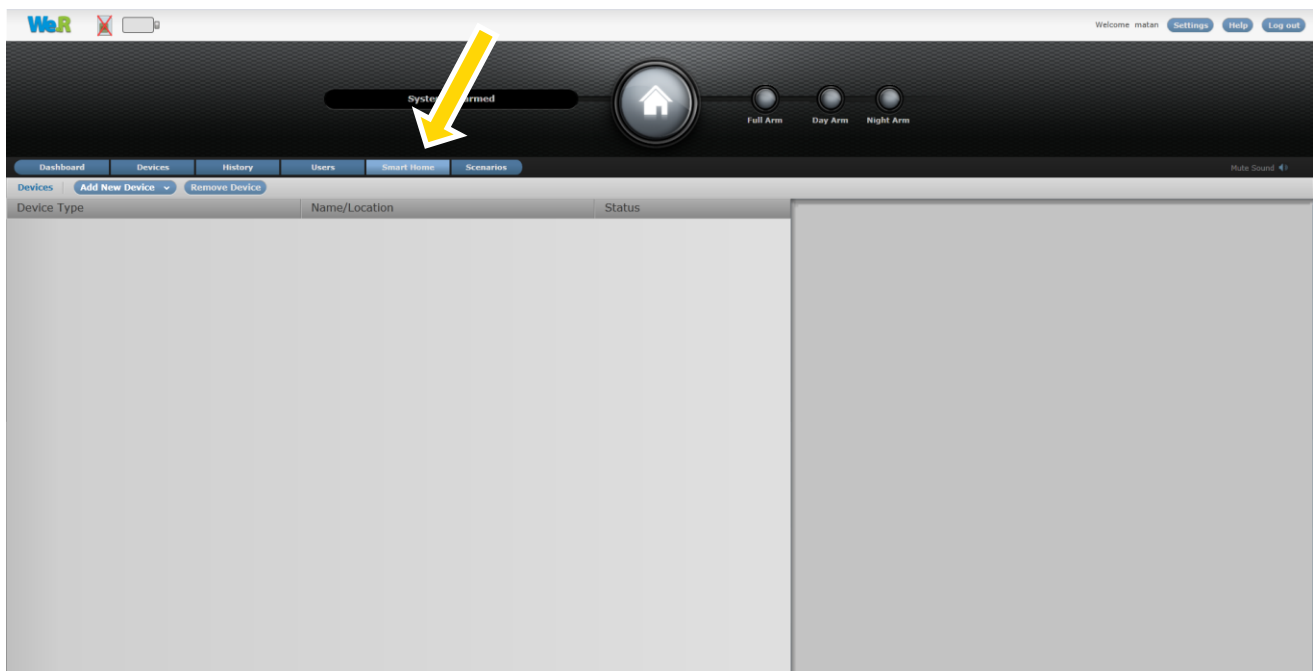


Figure 150: The Smart Home Page

Clicking over the **Add New Device** button will open an **Add Z-Wave Device** selection button which enables auto-detection of the paired Z-Wave® device:



Figure 151: The Smart Home Page Add Z-Wave® Device

Once selected, the following Add New Device window will pop-up:

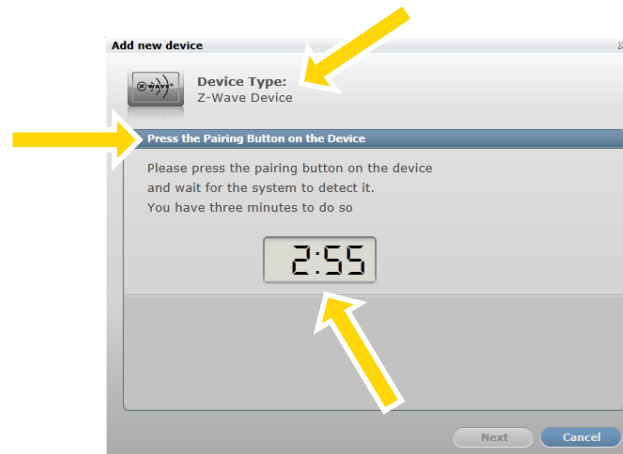



Figure 152: Add Z-Wave® Device Installation Stopwatch

Similar to the standard We.R™ Add Device procedure described above, this is a count-down stopwatch which counts a period of 3 minutes, within which the pairing button (switch) on the Z-Wave® remotely controlled device must be pressed to initiate the pairing process (see Appendix G Pairing and Bonding for details of the pairing process).

Once paired-up, the device will communicate with the We.R™ Z-Wave® Controller and be configured, according to its features, onto the We.R™ system.

Once communicating properly with the Z-Wave® Controller;

- The stopwatch will freeze, and
- The device will be added to the We.R™ database and will be displayed in the Smart Home Data Window page.
- The device will appear in the Devices (left) pane and its details, to be manually typed-in, within the data fields of the right pane.
- Any change made to the data fields in the right pane must be saved by clicking over the  button.

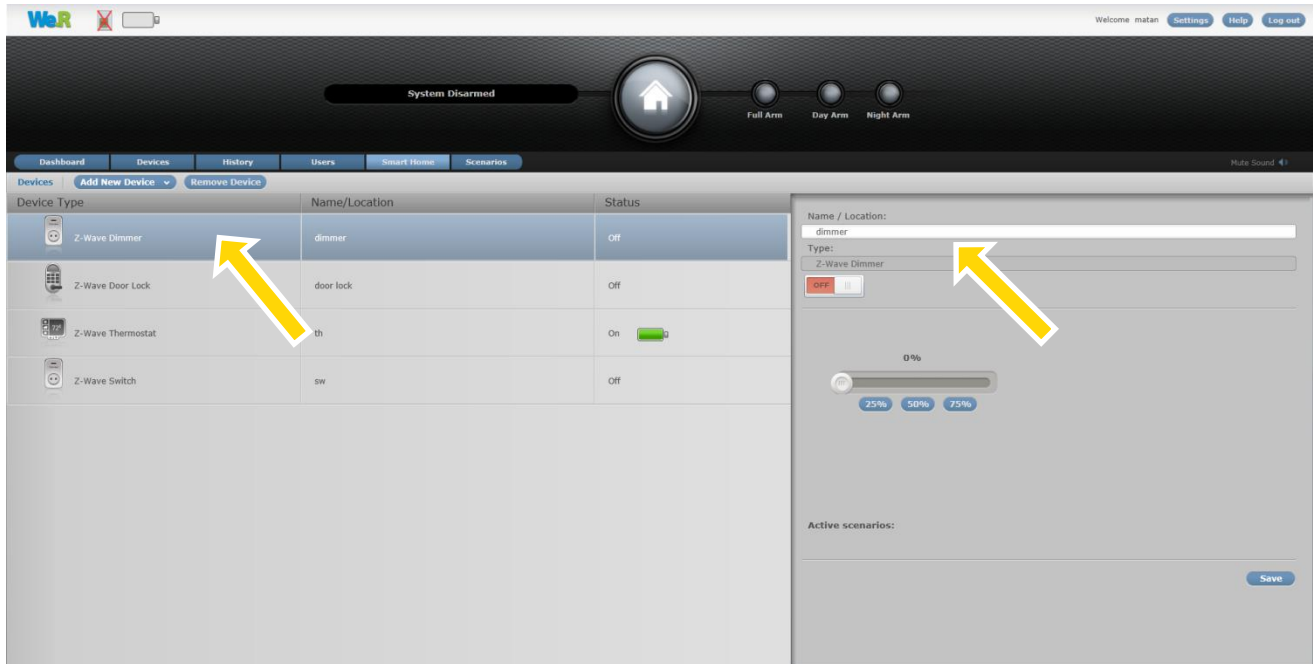



Figure 153: A Dimmer Device Added

3.14.4.2. Removing a Connected Z-Wave® Device

Removing a previously added Z-Wave® remotely controlled device from the We.R™ system is a similar process to the removal of a We.R™ device:

1. The device to be removed must be selected by clicking over its row in the Device (left) pane of the Smart Home Data Window.
2. The removal is triggered by clicking over the  button.

A window message will pop-up requesting press on the pairing button on the Z-Wave® remotely controlled device destined for removal:

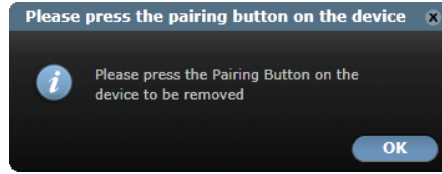



Figure 154: Removal Message for a Z-Wave® Device

In case the device to be removed participates in a scenario (see example in paragraph 3.14.4.3 below), the following error message will pop-up instead:



Figure 155: Removal of Z-Wave® Device Participating in a Scenario

The  button need to be clicked upon following the press on the pairing button on the Z-Wave® remotely controlled device.

The device selected will be removed from the system and its row, in the left pane, will be deleted.

For example:

The system presented in Figure 156 below has four (4) Z-Wave® remotely controlled devices – a dimmer, a door lock, a thermostat and a switch.

Assuming the dimmer need to be removed:

1. Click over the first row in the left pane (the dimmer row) to select it.
2. The row will be highlighted.

3. Click over the **Remove Device** button.
4. The removal message (see above Figure 154) pops-up.
5. Press the pairing button on the dimmer device.
6. Click over the **OK** button on the removal message.
7. The dimmer will be removed from the system and the row will be deleted.

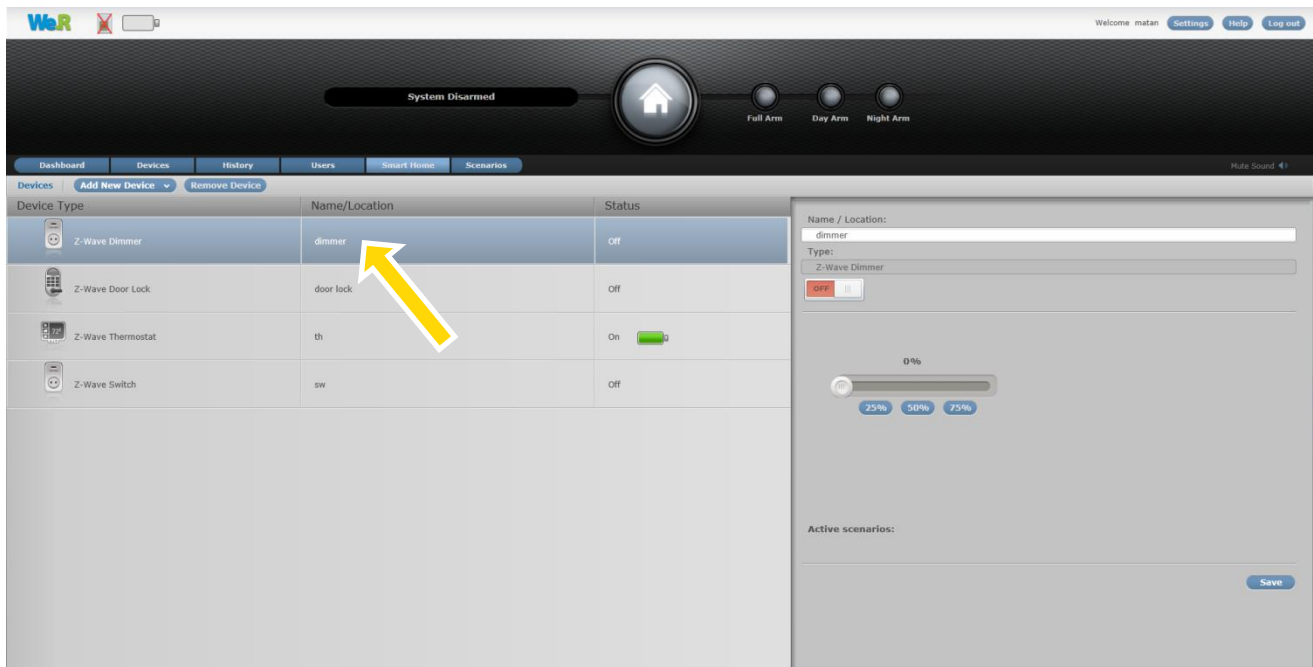


Figure 156: A Z-Wave® System with Dimmer and Switch Devices

3.14.4.3. Controlling a Z-Wave® Device via the We.R™ System

Following are some examples of setting up typical Z-Wave® devices (scenarios):

- Setting up Z-Wave® devices to turn ON upon We.R™ system being disarmed:

The system enables setting devices to turn ON as soon as the We.R™ system is turned into disarm mode of operation (for example: turning the light and the air-condition ON as soon as you walk into your home).

To set up such a scenario:

- a) Click over the Scenarios tab to open the Scenarios page.
- b) Select which scenario is to be set (i.e. turn ON / turn OFF).
- c) Select the devices you want to turn ON upon disarm mode of operation by marking their rows.

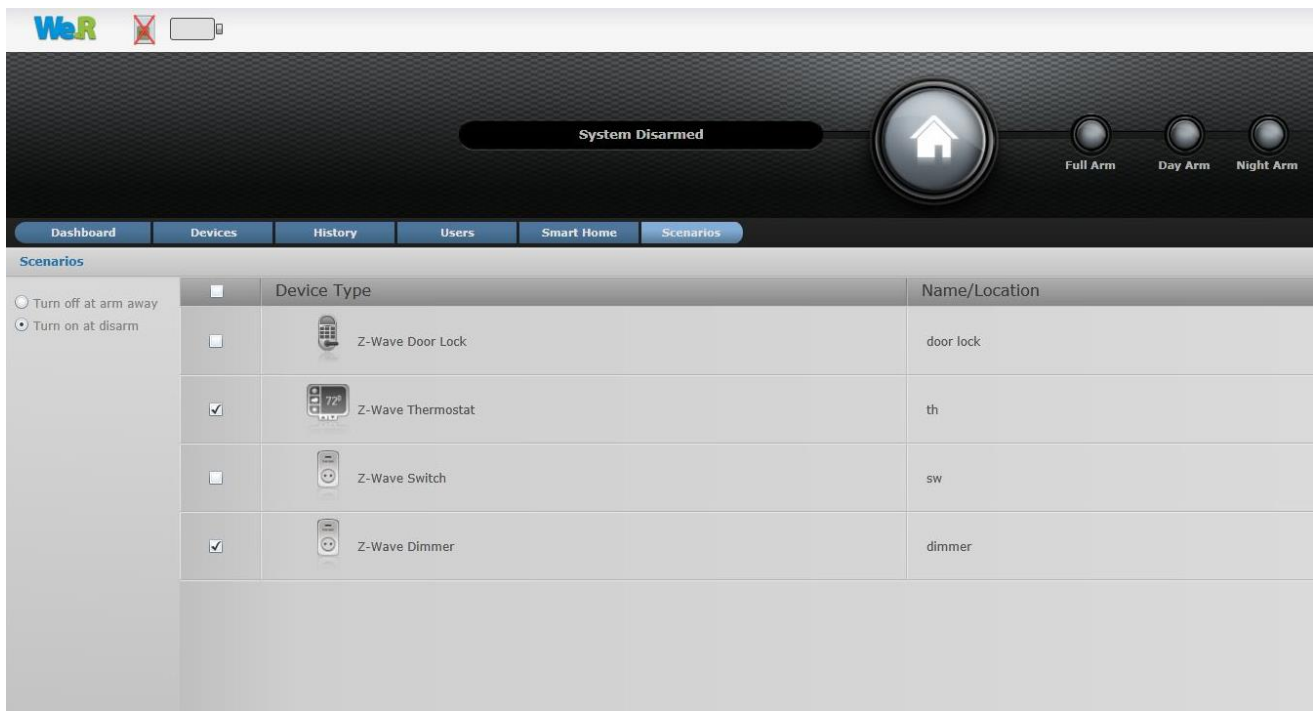


Figure 157: Setting up Z-Wave® Devices to Turn ON upon Disarmed

- Setting up Z-Wave® devices to turn OFF upon We.R™ system being armed:

The system enables setting devices to turn OFF as soon as the We.R™ system is armed (for example: turning the living room light off and locking the door as soon as you walk out of your home).

To set up such a scenario:

- a) Click over the Scenarios tab to open the Scenarios page.
- b) Select which scenario is to be set (i.e. turn ON / turn OFF).
- c) Select the devices you want to turn OFF upon arm mode of operation by marking their rows.

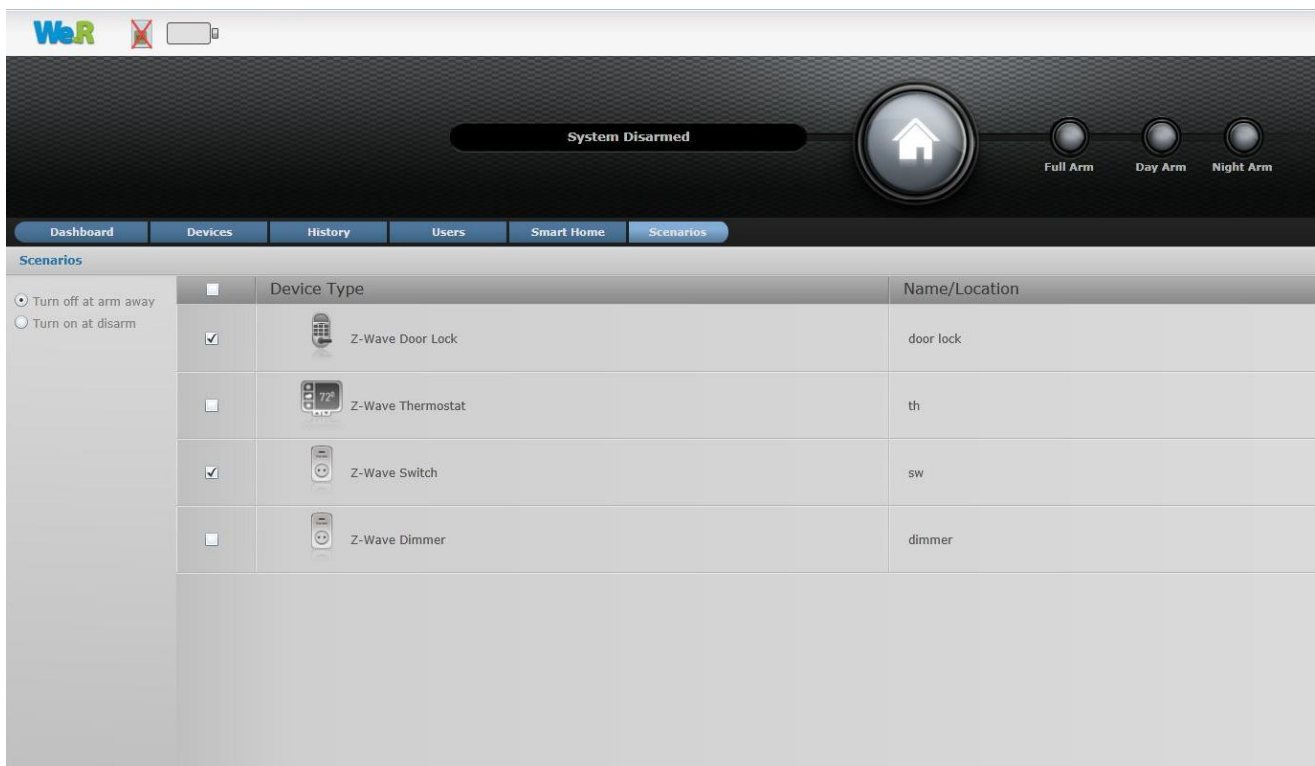


Figure 158: Setting up Z-Wave® Devices to Turn OFF upon Arming the System

Following is an example of controlling typical Z-Wave® device:

- To control a thermostat:
 - a. Click over the Smart Home tab to open the Smart Home page.

- b. Select which device is to be controlled (i.e. switching ON an air condition appliance and setting up its temperature and fan speed).
- c. Select the device you want to control by marking it row on the left (Device Type) pane.
- d. The selected device details will be displayed in the right pane, in a case of a thermostat – its ON/OFF switch, Heat/Cool selector, Fan Speed selector, measured temperature display and Target Temperature setting dial.
- e. Accordingly, you can manually turn the air condition ON or OFF, select between heating or cooling operation, set up the fan speed and set up the desired temperature.

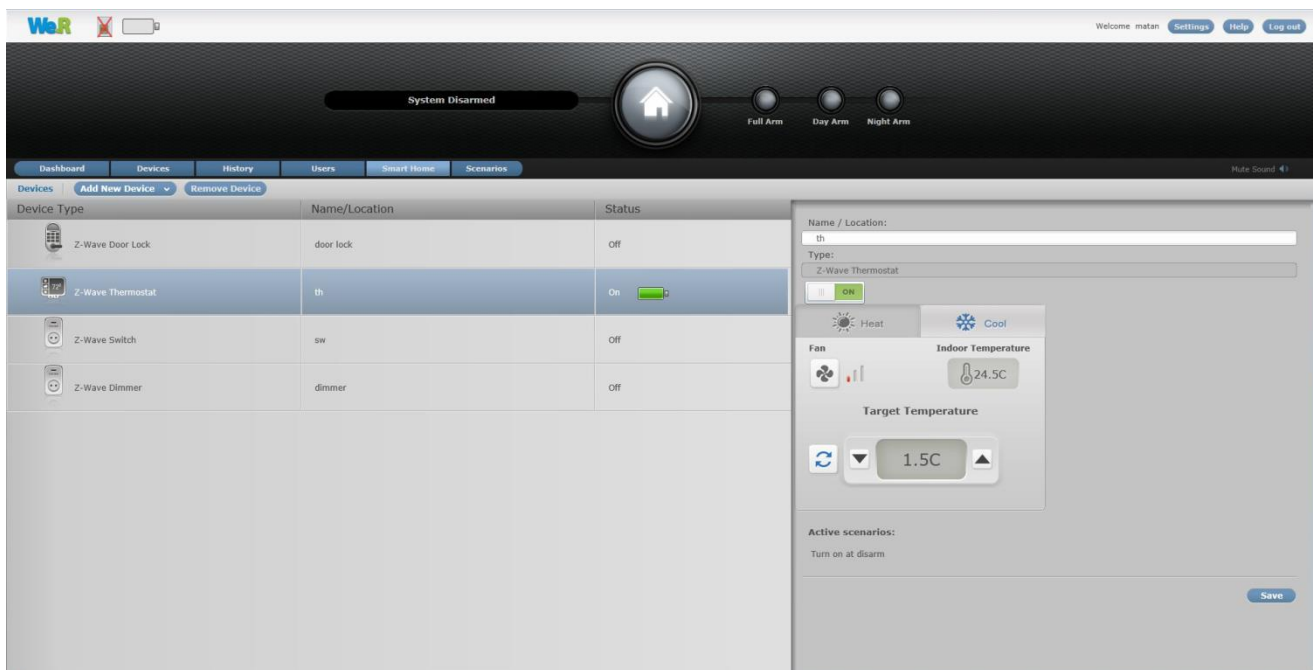


Figure 159: Controlling a Z-Wave® Thermostat



Note: Each FLiRS device (i.e. Door Lock, Thermostat, etc.) has a battery icon added in the status column to indicate its charging level for operation safety.

3.15. System Support Capabilities

The We.R™ Central Control Unit can support up to a total of 64 devices as detailed in Table 5 below:

Item	Essence P/N	Number of devices
Motion Indoor Photo Detector (IPD)	ES800IPD	Up to 8
Motion Detector (PIR)	ES800PIR	Up to 64 total Security
Door/Window Magnetic Sensor (MGL)	ES800MGL	Up to 64 total Security
Indoor Siren (SRN)	ES800SRN	Up to 3
Remote Control Unit (KF)	ES800KF	Up to 8
Wireless Access Control Tag Reader (TR5)	ES800TR5	Up to 8 in total Security. Up to total of 8 Tags
Safety Device	Smoke Detector (SK2)	} Up to 16 (total Safety)
	Flood Detector (FL)	
	Universal Transmitter (UT)	
Z-Wave® Controller (ZWD)	ES800ZWD	One (1) Controller and up to 232 Z-Wave® devices
Users		Up to 32 (out of which two are designated as Master users, where 1 is a MUST)

Table 5: System Support Capabilities

Total number of supported peripheral devices is limited by the number of other peripheral devices already installed in the system.

For example:

- ◆ If there are two sirens in the system, the CCU can support only 62 more PIRs (assuming no other peripherals are defined for the system).
- ◆ If there are four PIRs and two Key Fobs, only 58 more peripherals may be supported.



Note: Being central to the We.R™ system configuration, the CCU is not enumerated as a supported device. Only one CCU is supported per We.R™ system installation.

Out of the 32 possible Users the system designates up to two Master Users; users with privileges to change the system's setup (i.e. add/remove a device, add/remove Users, etc.), but **a minimum of one (Master) must be defined** to allow the initial setup and control of the system.