Solar Powered Outdoor Siren

Manual

Quick Start

This device is a Z-Wave actuator. The device usually comes pre-charged. In case there is not enough power please place the device into sun light for 10 minutes.

1. Open the case and turn on the power switch by moving it towards the 'Z-Wave button'. All LEDs will shine for a short moment to confirm.
2. Remove the metal mounting plate from the device.
3. Remove all protection foil from the device.
4. Turn your controller into inclusion mode and start the inclusion with a short single click on the siren's internal 'Z-Wave button'.

The device supports secure communication if the controller supports secure communication as well. Keeping the Z-Wave button pushed for 2 seconds includes the device unsecured regardless of the controller's capabilities. Once the siren is placed on the metal mounting plate the tamper protection is activated. Do not remove the siren anymore unless it is deactivated!

Product Description

This solar powered outdoor siren can be used without any additional power supply or batteries. It can be installed on any place on the outside of the house and can be controlled using Z-Wave. The device will issue a very loud sound (105 dBm) and in parallel some stroboscope light as well. The siren is self-protecting. Removing the main device from the mounting unit immediately starts the siren and also reports the tamper attempt to the Z-Wave central controller. All communication between the Z-Wave controller and the siren is encrypted and secured to protect against manipulation. Thanks to the large solar panel, the siren can be mounted on nearly every place outside the house where it's recommended to place it in indirect sun light to prevent strong heating-up the housing. The siren is maintenance-free and water-proofed (IP56). The average solar energy of one day keeps the device alive for up to 50 days (without using the siren). Additionally, an internal temperature sensor reports the temperature inside the siren's enclosure.

Installation Guidelines

The siren can be placed on every location outside the home. Thanks to rating IP56 the location does not even need to be dry but please make sure it is placed high enough so that children do not accidently remove it. The device is self-protected against tamper and theft. In a first step the mounting plate (ill. 1 (1)) is placed on the wall using the 4 screws provided. It is recommended to mount the complete device 5 mm from the wall for better sound.

1. Open the case and turn on the power switch (ill.2 (A)) by moving it towards the Z-Wave button (B). All LEDs will shine for a short moment to confirm.
2. Remove the metal mounting plate from the device.
3. Remove all protection foil from the device.
4. Turn your controller into inclusion mode with a short single click on the internal Z-Wave button (ill.2 (B)).

Once included the enclosure of the siren is closed using the 6 screws. Finally, the siren is placed on the mounting plate.

Attention: As soon as the siren is placed on the mounting plate the tamper protection is activated. The siren must not be removed from the plate anymore. The behavior in this moment is defined by the configuration parameter No 1.
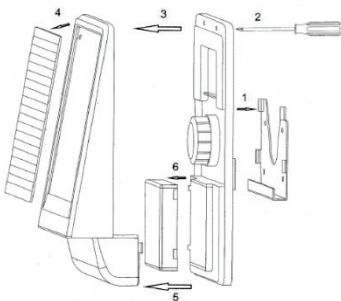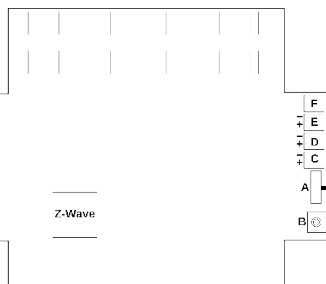
(A) Power Button
(B) Z-Wave Button
(C) Battery Con
(D) Solar Module Connection
(E) Charge Connection (12V DC)
(F) Speaker Connection

ill. 1   ill. 2

The Siren comes pre-charged and can be used right away outside your home. If – for whatever reason – the device gets fully discharged, you need to charge it again for about 30 minutes before its operational again. During this time of initial charging the siren may issue some minor noise. This is not a malfunction.

Behavior within the Z-Wave Network

On factory default the device does not belong to any Z-Wave network. The device needs to join an existing wireless network to communicate with the devices of this network. This process is called **Inclusion**. Devices can also leave a network. This process is called

Exclusion. Both processes are initiated by the primary controller of the Z-Wave network. This controller will be turned into exclusion respective inclusion mode. Please refer to your primary controller's manual on how to turn your controller into inclusion or exclusion mode. Only if the primary controller is in inclusion or exclusion mode, this device can join or leave the network. Leaving the network – i.e. being excluded – sets the device back to factory default.

Operating the Device

The siren can be turned on and off using wireless commands. To protect this communication from misuse is strongly recommended to operate the siren in secure communication mode. The secure communication is activated on default during inclusion unless explicitly suppressed. When activated the siren will generate a 105 dB alarm sound and a flash light. This behavior can be configured as well using configuration parameter 5. Make sure to deactivate the tamper protection before removing an included siren from the mounting plate.

Back to Factory Default

To reset the device keep the Z-Wave button pushed for 10 seconds. After 5 seconds the LED starts flashing and after another 5 seconds there is a short beep signaling the successful reset back to factory defaults. Use this procedure only when the network primary controller is missing or otherwise inoperable.

Node Information Frame

The Node Information Frame (NIF) is the business card of a Z-Wave device. It contains information about the device type and the technical capabilities. The inclusion and exclusion of the device is confirmed by sending out a Node Information Frame. Beside this it may be needed for certain network operations to send out a Node Information Frame.

Every click on the Z-Wave button (ill. 2 (B)) issues a Node Information Frame.

Associations

Z-Wave devices control other Z-Wave devices. The relationship between one device controlling another device is called association. In order to control a different device, the controlling device needs to maintain a list of devices that will receive controlling commands. These lists are called **association groups** and they are always related to certain events (e.g. button pressed, sensor triggers, ...). In case the event happens all devices stored in the respective association group will receive a common wireless command.

Associations

1	Lifeline (max. nodes in group: 10)

Configuration Parameters

Z-Wave products are supposed to work out of the box after inclusion, however certain configuration can adapt the function better to user needs or unlock further enhanced features.

IMPORTANT: Controllers may only allow configuring signed values. In order to set values in the range 128… 255 the value sent in the application shall be the desired value minus 256. For example: to set a parameter to 200 it may be needed to set a value of 200 minus 256 = minus 56. In case of a two-byte value the same logic applies: Values greater than 32768 may needed to be given as negative values too.

Siren triggering mode (Parameter Number 1, Size 1)
Sets the tamper triggering mode when removed from the holder

Value	Description
0	The Siren triggers automatically when it's removed from the holder. Must be turned off, using the controller (Default)
1	The Siren triggers automatically when it's removed from the holder and turns off, when placed back on the holder
2	Siren doesn't trigger at all, when removed from the holder. Service Mode

Temperature adjustments (Parameter Number 2, Size 1)
Temperature correction. For positive value 10 = 1 °C, for negative value x = 256 - (T°C * 10). Example, if need shift -2.6°C, value calculate: 256 - (2.6 * 10) = 230.

Value	Description
0	Disabled (Default)
1 – 127	In 0.1°C (Default 0)
128 – 255	-0.1°C

Send unsolicited temperature report (Parameter Number 3, Size 1)
Threshold temperature to send unsolicited report. 10 = 1°C

Value	Description
0 – 255	In 0.1°C (Default 10)

Send unsolicited temperature report after N wake up (Parameter Number 4, Size 2)
If the value is set, after N wake up number (measurement is every 4 minutes) the temperature report will be sent. By default, it's 15 = every 1 hour

Value	Description
0	Disabled
1 – 65535	Each Nth wake up time (Default 15)

Switch mode: siren only, flash only, flash + siren (Parameter Number 5, Size 1)

Value	Description
0	Siren only
1	Flash only
2	Flash + Siren (Default)

Added Auto OFF (Parameter Number 6, Size 1)
If the value is set, the siren will be switched off automatically after a defined alarm time.

Value	Description
0	No auto off
1-…	Minutes (Default 5)

Command Classes
Supported command classes

BASIC	Version 1
DEVICE RESET LOCALLY	Version 1
Z-WAVE PLUS INFORMATION	Version 2
MANUFACTURER SPECIFIC	Version 2
POWERLEVEL	Version 1
FIRMWARE UPDATE META DATA	Version 3
BATTERY	Version 1
VERSION	Version 2
SECURITY	Version 1
BINARY SWITCH	Version 1
BINARY SENSOR	Version 2
MULTILEVEL SENSOR	Version 5
ASSOCIATION GROUP INFORMATION	Version 1
CONFIGURATION	Version 1
ALARM	Version 5
ASSOCIATION	Version 2

Technical Data

IP Rating	IP 56
Battery Type	1 * Solar/ Storage battery: 7.4 V, 2,300 mA
Frequency	868.42 MHz (SRD Band)
Wireless Range	Up to 100 m outside, on average up to 20 m inside buildings
Explorer Frame Support	No
Device Type	Slave with routing capabilities
Generic Device Class	Binary Switch
Routing	No
FLiRS	Yes
Firmware Version	1.0

Explanation of Z-Wave specific Terms

- **Controller** is a Z-Wave device with capabilities to manage the network. Controllers are typically gateways, remote controls or battery operated wall controllers.
- **Slave** is a Z-Wave device without capabilities to manage the network. Slaves can be sensors, actuators and even remote controls.
- **Primary Controller** is the central organizer of the network. It must be a controller. There can be only one primary controller in a Z-Wave network.
- **Inclusion** is the process of bringing new Z-Wave devices into a network.
- **Exclusion** is the process of removing Z-Wave devices from the network.
- **Association** is a control relationship between a controlling device and a controlled device.
- **Wake up Notification** is a special wireless message issued by a Z-Wave device to announce that is able to communicate.
- **Node Information Frame** is a special wireless message issued by a Z-Wave device to announce its capabilities and functions.

Disposal Guidelines

The product contains batteries. Please remove the batteries when the device is not used.

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. Contact your local government for information regarding the collection systems available. If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging health and well-being.

Support

Should you encounter any problem, please give us an opportunity to address it before returning this product. Most questions regarding Z-Wave wireless communication standard can be answered through the international community at www.z-wave.info.

If your question can't be answered there, please use www.popp.eu/support or contact us by email: info@popp.eu

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