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Quick start: **Panic Watch EU**

Technical specs

Normal operating voltage	1x CR2032 3V battery
Frequency range	868.42 MHz
Wireless Range	Min 150 meters in a mesh network

Basic operations

- The *Panic Watch* can trigger any rule or lifestyle.
- The *Panic Watch* can be configured to your needs.
- The *Panic Watch is easy to install and configured*.
- Indoor use only.
- Water resistant
- Big red button with time configurable activation time

How it operates

After a successful inclusion the *Panic Watch* can be used.

When pressing a button the led will blink to notice the customer of successful alarm message is sent.

With a controller you can make all different kind of rules and lifestyle changes.

It also possible sent the alarm directly to a Z-Wave based alarm device.

Use

1. Before use, the *Panic Watch* should be included into a Z-Wave network **and associated**.
2. You can Test you *Panic Watch* by pressing the button for 1sec untill the led is turned on. (press time is configurable)
3. Don't forget to update and syncronize your rules in the Internet Gateway.

Include or Exclude in Z-Wave network [1]

1. Press and hold the **SOS** Push Button until the indicator light starts blinking then release the button to start the inclusion or exclusion process.
   (Note: Normally button should be pressed for 2 seconds but in case the product is already included it can take up to 12 seconds before the indicator light will start blinking.)
2. When classic inclusion failed, the product will start Network Wide Inclusion automatically.

Force Wakeup Notification

1. When included press and hold the **SOS** Push Button for approx. 4 seconds.

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[1] Make sure your Z-Wave controller is in the correct operation mode (include or exclude).

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Technical Manual: **Panic Watch EU**

Caution:
- This device is using a radio signal that passes through walls, windows and doors. The range is strongly influenced by local conditions such as large metal objects, house wiring, concrete, furniture, refrigerators, microwaves and similar items. On average, the indoor range is approximately 30 meters.
- Do not expose this product to excessive heat or moisture.
- Prevent long term exposure to direct sunlight.
- Do not attempt to repair this product. If the product is damaged or if you are in doubt about the proper operation, take the product back to the place of purchase.
- Do not clean the product with any chemical liquid.
- Indoor use only.

Technical details

Normal operating voltage	1x CR2032 3V battery do not use rechargeable batteries
Battery lifetime	>3 Years
Frequency range	868.42 MHz
Wireless Range	Approx. 100 meters in line of sight. Min 150 meters with good mesh network (max 4 hops).
Storage temperature	-5°C to +65°C
Storage humidity	10% to 70%
Operating temperature	0°C to 50°C
Operating humidity:	30% to 80%

Product dimensions (Length x Width x Height)

Panic Watch = 46 x 46 x 15 mm

Indication mode

The indicator light gives various statuses of the device as follows:
1. Ready for learn mode: indicator light blinks every second.
2. Learn in progress (add):   indicator light 2 times every second.
3. Learn in progress (remove):   indicator light 3 times every 1.5 second.
4. Learn mode success: indicator light is on for one second.
5. RF message send success   indicator light is on for one second.
6. RF message send failed   indicator light blinks 6 times rapidly
7. No association is set   indicator light blinks 6 times rapidly

Supporting Command Classes:

Basic type: BASIC_TYPE_ROUTING_SLAVE
Generic type: GENERIC_TYPE_SENSOR_BINARY
Specific type: SPECIFIC_TYPE_NOT_USED
Listening: False, Z-Wave Lib: 4.54

Products that speak Z-Wave

class: 0x30 COMMAND_CLASS_SENSOR_BINARY

class: 0x85 COMMAND_CLASS_ASSOCIATION

class: 0x84 COMMAND_CLASS_WAKE_UP

class: 0x86 COMMAND_CLASS_VERSION

class: 0x72 COMMAND_CLASS_MANUFACTURER_SPECIFIC

class: 0x70 COMMAND_CLASS_CONFIGURATION

class: 0x80 COMMAND_CLASS_BATTERY

class: 0x71   COMMAND_CLASS_ALARM

class: 0xEF COMMAND_CLASS_MARK

class: 0x20 COMMAND_CLASS_BASIC

Not listening Routing SLAVE

This Z-Wave product will be used as routing slave. Slave nodes are nodes in a Z-Wave network that receive commands and perform actions based on the command. This device will always be in sleep mode because it works on batteries. In sleep mode the device is not active listening, the device will wake up according to the wakeup command class.

Include Initiator

The include initiator is used when Primary and Inclusion Controllers include nodes into the network. When both the include initiator have been activated simultaneously the new node will be included to the network (if the node was not included previously).

Exclude Initiator

The exclude initiator is used by Primary Controllers to exclude nodes from the network. When the exclude initiator and a slave initiator are activated simultaneously, it will result in the slave being excluded from the network (and reset to Node ID zero). Even if the slave was not part of the network it will still be reset by this action.

Z-Wave compatibility

Because this is a Z-Wave device, it means it can co-operate with other Z-Wave devices of other manufacturers. It can co-exist in a Z-Wave network existing with product from other manufacturers.

Hops & Retries

The Z-Wave range has a range of up to 30 meters in line of sight. This signal is not limited to the 30 meter range due to routing the Z-Wave message to other nodes in the network. This way the range of the Z-Wave network can be expanded to 150 meters indoors (limit of 4 hops).

class: 0x20 COMMAND_CLASS_BASIC

When a button is pressed for 1sec a basic set frame with the value 255 is sent to the associated nodes.

The supporting role of the basic command class is mapped to the sensor binary command class.

class: 0x25 COMMAND_CLASS_SENSOR_BINARY

The Sensor Binary Command Class can be used to check the status of the *Panic Watch* (triggered or idle). Where "255" is triggered, and "0" is idle.

class: 0x86 COMMAND_CLASS_VERSION

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This Command Class is used to obtain information about the *Panic Watch*. The Z-Wave library type, the Z-Wave protocol version and the application version will be reported.

class: 0x72 COMMAND_CLASS_MANUFACTURER_SPECIFIC

This will report information about the manufacturer. This product will contain the manufacturer ID of *BeNeXt*. Manufacturer ID of *BeNeXt* is 138, the ID of this product is 21.

class: 0x70 COMMAND_CLASS_CONFIGURATION

Configure parameters:

0. **not used**
1. **Set to default**
Description:	Set all config values to default values (factory settings). Read more in chapter Configuration Reset.
Size:	1 byte*
Param1:	if 0xFF then set to default
Param2,3,4:	not used

2. **Time to press the Panic Watch**
Description:	The time that the panic pushbutton must be pressed before a (panic) message is sent out to the controller.
Default:	0x64 (*10ms = 1sec)
Size:	1 byte*
Param1:	if 0x00: send directly the panic message when pressed
	If 0x01 - 0xFF: send a panic message after you keep holding the button pressed for this value x 10ms.

3. **Min led feedback time panic**
Description:	Minimum time that led feedback is shown after a panic message
Default:	0x64 (*10ms = 1sec)
Size:	1 byte*
Param1:	if 0x00: led only stays on during the "send time".
	If 0x01 - 0xFF: led stays on during send time + this value*10ms.

4. **Buttons mapped**
Description:	With this config parameter you can map the buttons to send different Z-Wave messages.
Default:	0x00 (*10ms = 500ms)
Size:	1 byte*
Param1:	if 0x00:
	SOS button sends an ALARM_REPORT to nodes group 1
	if 0x01 – 0xFF:
	SOS button sends an BASIC_SET,0xFF to nodes group 1

5. **Not used**
6. **Not used**
7. **Do not use**
Description:	Is not used for special benext tests
Size:	1 byte*

* if a size is other then given size the frame is ignored totally so configuration values are **not** changed

class: 0x85 COMMAND_CLASS_ASSOCIATION

The Association Command Class is used to associate other devices with the *Panic Watch*. The devices that are associated can be controlled on application level.

The *Panic Watch* can be associated into a grouping. If so, the *Panic Watch* can control other Z-Wave device (does not have to be a controller).

The Panic Watch has 2 association groups

Group 1
Maximum supported nodes: 8

If configuration parameter 4 configured with value 0 then this group is used
- SOS button: send ALARM_REPORT.

If configuration parameter 4 configured with value other then 0 (1-255) then this group is used
- SOS button: send BASIC_SET, 0xFF.

Group 2
Maximum supported nodes: 8

Not used on application

Class: 0x80 COMMAND_CLASS_BATTERY

This class is used to request and report battery levels for a given device.
When battery level is lower then 20% the Panic Watch will send a battery warning (value 255) after every wake up notification. A battery get will report the actual value even if below 20 %.

When the batteries are placed a unsolicited battery report is sent (when included).

class: 0x84 COMMAND_CLASS_WAKE_UP

The Wake Up Command Class is used at battery-operated devices. This class allows the *Panic Watch* to wake up occasionally to notify others devices, that the *Panic Watch* is ready to receive commands. After receiving the commands the *Panic Watch* will go into sleep mode again. The wake up interval can be set using the WAKE_UP_INTERVAL_SET command.

The default value is 0x15180 = 86400 sec = 24 hour
The default node is 0xFF = 255 (broadcast)

It is possible to send a **wake up notification** on user interaction. To do this press and hold the Panic Watch for 11 seconds. Ignore the blinking of the led and keep the button pressed for at least 15 seconds.

It is possible to send a **wake up notification** on user interaction. To do this press and hold the Panic Watch for4 seconds.

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Operating modes

The Panic Watch supports 2 different modes.

Mode 1: Alarm mode
This mode is mainly used to notify a controller of an alarm or trigger an alarm on a Z-Wave supported alarm device.

Product can act on 2 types of handles.
When single pressed (and hold): Press and hold the button, the duration to hold depends on the configured values (parameter 2)
When double pressed: quickly (within 500 msec) double press the button.

This mode can be configured with the following frame:
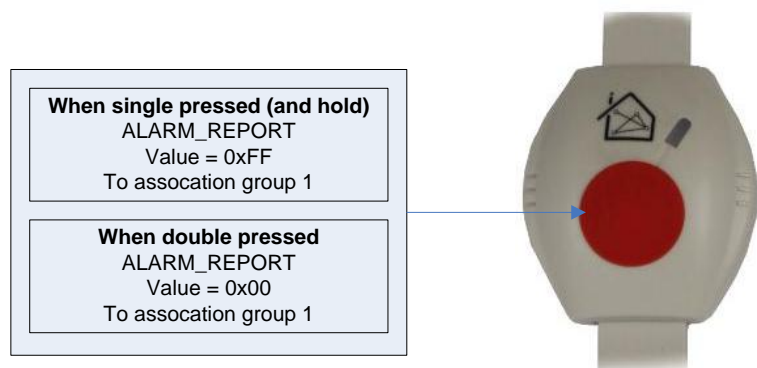CONFIGURATION_SET

Parameter: 0x04

Size: 0x01 (can't be different from 1)

Value: 0x00

Below figure shows an overview of the Z-Wave frames, values and association groups.

When single pressed (and hold)
ALARM_REPORT
Value = 0xFF
To association group 1

When double pressed
ALARM_REPORT
Value = 0x00
To association group 1

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Mode 2: Control mode

This mode is mainly used to control a Z-Wave other device by directly sending a BASIC_ON or BASIC_OFF.

Product can act on 2 types of handles.

When single pressed (and hold): Press and hold the button, the duration to hold depends on the configured values (parameter 2) .

When double pressed: quickly (within 500 msec) double press the button.

This mode can be configured with the following frame:
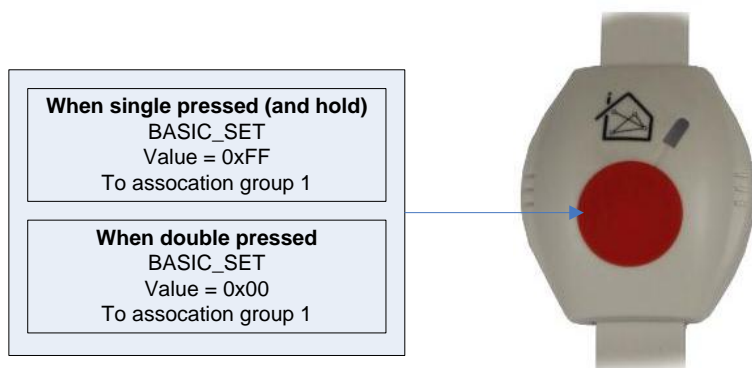
CONFIGURATION_SET

Parameter: 0x04

Size: 0x01 (can't be different from 1)

Value: 0x01 – 0xFF

Below figure shows an overview of the Z-Wave frames, values and association groups.

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Configuration Reset

The Panic Watch Supports a configuration resets function. Configuration reset means
- All configuration values are defaulted.

This function can be activated by sending a configuration set frame:

CONFIGURATION_SET
Parameter: 0x01
Size: 0x01 (can't be different from 1)
Value: 0xFF (can be any value except for 0x55 or 0xAA)

When the value of configuration value is requested 2 possible values can be returned

CONFIGURATION_REPORT
Parameter: 0x01
Value 0x55:   Device doesn't have all his configuration settings anymore.
                Even when a configuration parameter is changed back to the default value
Value 0xAA: Devices still has all his factory settings.
                This are only configuration parameters, wake up interval can be changed.

~~Always awake mode~~

~~The always awake mode is used to request different values from the device e.g. version and manufacturer specific.~~

~~The always awake mode can be activated by:~~

~~CONFIGURATION_SET~~
~~Parameter: 0x05~~
~~Size: 0x01 (can't be different from 1)~~
~~Value: 0x03 (mode 3)~~

~~The always awake mode can be deactivated by:~~

~~CONFIGURATION_SET~~
~~Parameter: 0x05~~
~~Size: 0x01 (can't be different from 1)~~
~~Value: Any value except 3~~

~~A second option to deactivate mode 3 is~~
1. ~~Remove batteries.~~
2. ~~Wait ca 10 seconds.~~
3. ~~Replace batteries~~

~~**Note:** in always awake mode the batteries will be drain very fast, we do not recommend to use this mode.~~

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Troubleshooting

Frequently Asked Questions

Q: I can't have my *Panic Watch* included into my Z-Wave network, what am I doing wrong?

A: **1**. Is the controller ready to include any device into the Z-Wave network? If the controller is not in Include or exclude mode, the *Panic Watch* will not be included or excluded.

    2. The *Panic Watch* is already included in a Z-Wave network (check your led feedback!). Exclude the *Panic Watch* and try again.

Q: I have configured a value but when I request it, it is not changed?

A: It is mandatory that the correct size is used while configure a parameter; go to the documentation about the configuration command class to check if the right size is used during configuration. If the wrong size is used the frame is ignored totally.

Q: I have configured a new value and when I request it the correct value is returned but the behavior is still the same?

A: Some configuration parameters have limits of what they can do, go to the documentation about configuration to check if the value of the configured parameter is out off limit.

Q: how to force a wakeup notification?

A: keep the pushbutton pressed for more than 18 seconds.