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Grenton Z-Wave[®] Relay User Manual

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1. Introduction

Grenton Z-Wave® Relay is a device for controlling electronic devices (like lamps etc.) via the Z-Wave Plus® network.

Additionally it allows to:

- use programmable inputs and outputs,
- make internal connections between inputs and outputs,
- control external devices via association groups,
- measure the temperature with a 1-wire bus.

This product can be operated in any Z-Wave® network with other Z-Wave® certified devices from other manufacturers. All mains operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

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2. Overview

2.1. Supported command classes

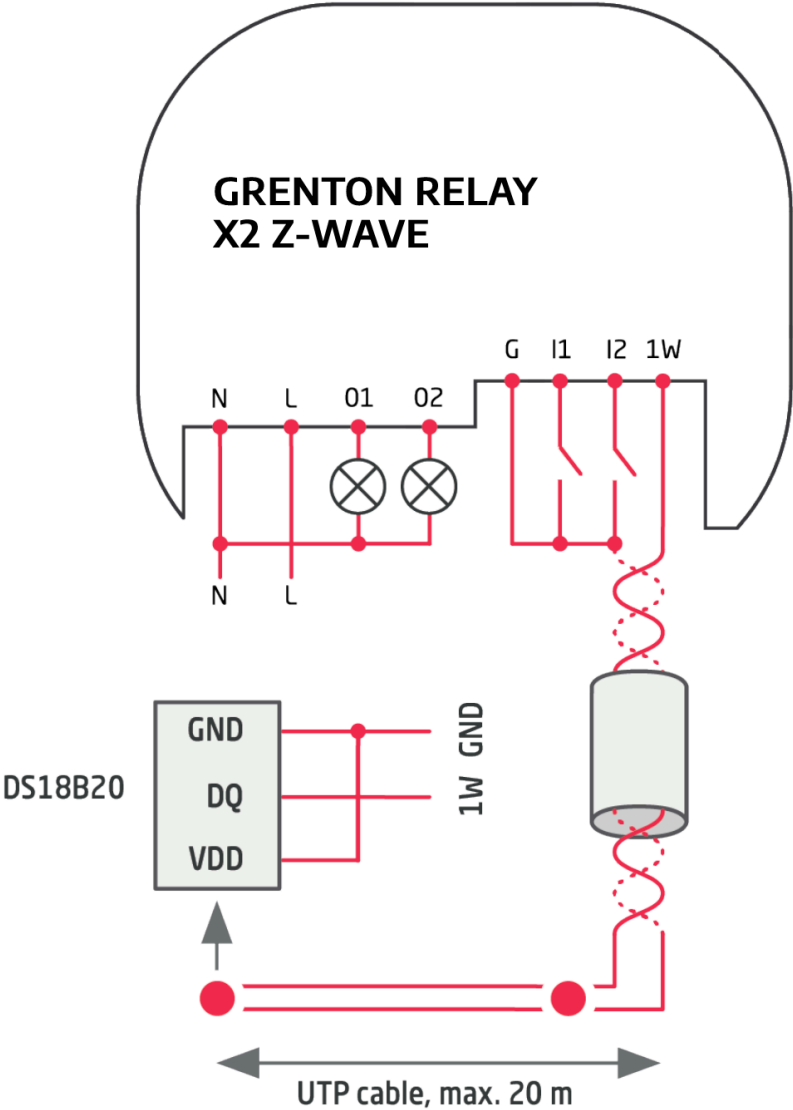
Command Class	Version
Root endpoint (Binary Switch DT)	
Z-Wave® Plus Info (0x5e)	2
Transport Service (0x55)	2
Security 0 (0x98)	1
Security 2 (0x9f)	1
Supervision (0x6c)	1
Version (0x86) (secure)	3
Association (0x85) (secure)	2
Multi Channel Association (0x8e) (secure)	3
Multi Channel (0x60) (secure)	4
Association Group Info (0x59) (secure)	3
Manufacturer Specific (0x72) (secure)	2
Device Reset Locally (0x5a) (secure)	1
Indicator (0x87) (secure)	3
Powerlevel (0x73) (secure)	1
Basic (0x20) (secure)	2
Binary Switch (0x25) (secure)	2
Configuration (0x70) (secure)	4
Central Scene (0x5b) (secure)	3
Firmware Update Meta Data (0x7a) (secure)	5
Endpoint 1 (Binary Switch DT)	
Z-Wave® Plus Info (0x5e)	2
Supervision (0x6c)	1

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Security 0 (0x98)	1
Security 2 (0x9f)	1
Basic (0x20)	2
Binary Switch (0x25)(secure)	2
Association (0x85)(secure)	2
Association Group Info (0x59)(secure)	3
Multi Channel Association (0x8e)(secure)	3
Endpoint 2 (Binary Switch DT)	
Z-Wave® Plus Info (0x5e)	2
Supervision (0x6c)	1
Security 0 (0x98)	1
Security 2 (0x9f)	1
Basic (0x20)	2
Binary Switch (0x25)(secure)	2
Association (0x85)(secure)	2
Association Group Info (0x59)(secure)	3
Multi Channel Association (0x8e)(secure)	3
Endpoint 3 (Multilevel Sensor DT)	
Z-Wave® Plus Info (0x5e)	2
Supervision (0x6c)	1
Security 0 (0x98)	1
Security 2 (0x9f)	1
Multilevel Sensor (0x31)(secure)	11
Association (0x85)(secure)	2
Association Group Info (0x59)(secure)	3
Multi Channel Association (0x8e)(secure)	3

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3. Installation



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4. Functionalities

4.1. Inclusion

To add the device to the Z-Wave® network:

1. Set your Z-Wave® controller into inclusion mode.
2. Identify IN1 switch.
3. Quickly, six times press the IN1 switch. The status LED starts blinking with a period of 500ms.
4. Wait for the adding process to end.

If you are connecting this unit to a Z-Wave® Controller that utilizes the S2 security protocol, you may be asked to enter the first 5 digits of Device Specific Key (DSK). You can find it on the label with QR code on the back of the unit.

The device supports SmartStart function. SmartStart enabled products can be added into a Z-Wave® network by scanning the Z-Wave® QR Code present on the product with a controller providing SmartStart inclusion. No further action is required and the SmartStart product will be added automatically within 10 minutes of being switched on in the network vicinity. The device provides DSK representation on the product, so you can add it manually to the controller.

4.2. Exclusion

To remove the device from the Z-Wave® network:

1. Set your Z-Wave® controller into exclusion mode.
2. Identify IN1 switch.
3. Quickly, six times press the IN1 switch. The status LED starts blinking with a period of 500ms.
4. Wait for the removing process to end.

4.3. Factory reset

To add the device to the Z-Wave® network:

1. Identify IN2 switch
2. Quickly, six times press the IN2 switch. The status LED turns on.
3. Identify IN1 switch
4. Quickly, six times press the IN1 switch. The status LED turns off.

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4.4. Standalone mode

To enable/disable standalone mode:

1. Identify IN2 switch
2. Quickly, six times press the IN2 switch. The status LED turns on.
3. Identify IN1 switch.
4. Quickly, four times press the IN1 switch. The status LED turns off.

4.5. Basic commands

Command	Description
Root endpoint	
Basic Get	Request current value of output 1
Basic Report	Report with current value of output 1
Basic Set	Set the state of the output 1 (0xff - ON, 0x0 - OFF)
Endpoint 1	
Basic Get	Request current value of output 1
Basic Report	Report with current value of output 1
Basic Set	Set the state of the output 1 (0xff - ON, 0x0 - OFF)
Endpoint 2	
Basic Get	Request current value of output 2
Basic Report	Report with current value of output 2
Basic Set	Set the state of the output 2 (0xff - ON, 0x0 - OFF)
Endpoint 3	
Basic Get	Not supported
Basic Report	Not supported
Basic Set	Not supported

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4.6. Identification

The device has an identity function. Indicator ID (0x50) of Indicator Command Class has been directly mapped to status LED.

4.7. Associations

No	Name	Description	Max nodes
Root endpoint			
1	Lifeline	This group sends device reports to associated nodes. Supports the following command classes: <ul style="list-style-type: none"> - Device Reset Locally: triggered upon reset, - Binary Switch Report: Triggered when the switch changes state, - Multilevel Sensor Report: Triggered when the temperature changes. - Central Scene: triggered by button press. 	5
2	On/Off IN1	Mirror of endpoint 1, group 2.	5
3	On/Off IN2	Mirror of endpoint 2, group 2.	5
Endpoint 1			
1	Lifeline	This group sends device reports to associated nodes. Supports the following command classes: <ul style="list-style-type: none"> - Binary Switch Report: Triggered when the switch changes state. 	0
2	On/Off IN1	This group sends Basic Set command according to the state of IN1	5
Endpoint 2			
1	Lifeline	This group sends device reports to associated nodes. Supports the following command classes: <ul style="list-style-type: none"> - Binary Switch Report: Triggered when the switch changes state. 	0
2	On/Off IN2	This group sends Basic Set command according to the state of IN2	5
Endpoint 3			
1	Lifeline	This group sends device reports to associated nodes. Supports the following command classes: <ul style="list-style-type: none"> - Multilevel Sensor Report: Triggered when the temperature changes. 	0

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4.8. Configuration

No	Name	Information	Allowed	Default	Size
1	IN1 Type	Type of IN1 Input	0 - monostable 1 - bistable	0	1
2	IN2 Type	Type of IN2 Input	0 - monostable 1 - bistable	0	1
3	Internal Connection IN1	Sets internal connection between IN1 Input and specified Output	0 - NONE 1 - OUT1 2 - OUT2	1	1
4	Internal Connection IN2	Sets internal connection between IN2 Input and specified Output	0 - NONE 1 - OUT1 2 - OUT2	2	1
5	Polarization OUT1	Defines polarization of OUT1 Output	0 - normal 1 - inverted	0	1
6	Polarization OUT2	Defines polarization of OUT2 Output	0 - normal 1 - inverted	0	1
7	Zero Cross Detection OUT1	Enables or disables Zero Cross Detection on OUT1 Output	0 - disabled 1 - enabled	1	1
8	Zero Cross Detection OUT2	Enables or disables Zero Cross Detection on OUT2 Output	0 - disabled 1 - enabled	1	1
9	Stand Alone Mode	Enables or disables internal connections from device inputs	0 - disabled 1 - enabled	1	1

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4.9. Operating the device

4.9.1. IN1 (Input 1)

Input 1 controls output that is set in parameter 3 (available in standalone mode).

Allowed actions:

- 1 click - switch state of OUTX

4.9.2. IN2 (Input 2)

Input 2 controls output that is set in parameter 4 (available in standalone mode).

Allowed actions:

- 1 click - switch state of OUTX