Datasheet Roller Shutter Z-Wave

RSH-202-Z-01

Grenton Roller Shutter Z-Wave module allows for the control of blinds or roller shutter drives (e.g. external blinds, internal blinds, curtains, awnings), enables the connection of 2 digital inputs to the system, and supports the connection of one digital 1-Wire temperature sensor.

1. Parameters -ZWAVE ROLLER SHUTTER

Features:	
State	Output state: 0 - no movement, 1 - moving upwards, 2 - moving downwards, 3 - blocked
Position	Percentage value of the shutter opening: 0% - fully closed, 100% - fully open
LamelPosition	Roller shutter lamel position: 90 - fully closed, 0 - fully open
LamelMoveTime	The time in milliseconds it takes to fully open / close the lamel
MechanicalOffset	The time of compensation for start of the drive
BlindsUpMoveTime	The time in milliseconds it takes to fully open the blind
BlindsDownMoveTime	The time in milliseconds it takes to fully close the blind
ReversePosition	The function for inverting position range (0-100% for 100-0%) : 0 - No, 1 - Yes
Methods:	
Up	Roller shutter up
Down	Roller shutter down
Start	Roller shutter up if the preceding motion was down or roller shutter down if the preceding motion was up
Stop	STOP if moving
Hold	Hold with direction change
HoldUp	Hold always up
HoldDown	Hold always down
SetPosition	Shutter opening percentage setting: 0% - fully closed, 100% - fully open
SetLamelPosition	Sets the position of the slats
SetLamelMovetime	Sets the cycle time of the shutter
SetMechanicalOffset	Sets the time of compensation for start of the drive
SetBlindsUpMaxTime	Sets the shutter opening time
SetBlindsDownMaxTime	Sets the shutter closing time
SetRollerBlocked	Enables / disables the ability to control the roller shutter
LamelStart	Changes the position of the slats by 45°
Events:	
OnChange	Result from a change in the state of any of the outputs
OnUp	Occurs when changing the Stop state to the Up state
OnDown	Occurs when changing the Stop state to the Down state
OnStart	Occurs when Start is requested
OnStop	Occurs when Stop is requested
OnLamelClosed	Occurs when the slats are closed (value 90°)
OnLamelOpen	Occurs when the slats are opened (value 0°)
OnPositionChange	Occurs when the roller shutter position has changed
OnLamelPositionChange	Occurs when the position of the slats has changed

2. Parameters - ZWAVE DIN

Features:	
HoldDelay	Time in milliseconds after which, when pressing and holding a button, the OnHold event occurs
HoldInterval	Cyclical interval in milliseconds after which, when pressing and holding a button, the OnHold event occurs
Value	Returns input state as 0 or 1
StatisticState	Enables measurement reporting to the statistics module: Off - turned off, Continuous - load measurement for the whole device's period operation, Pulse - load measurement counted at the moment of a high state appearing on the input
Load	The measured value multiplier. For StatisticState: Continuous - load measurement value in the unit of time, Pulse - load measurement value for the single impulse (e.g. 1kW)
Methods:	
SetHoldDelay	Sets HoldDelay value
SetHoldInterval	Sets HoldInterval value
Events:	
OnValueChange	Occurs when a change in the input state takes place (regardless of the value)
OnSwitchOn	Occurs when the high state is set at input
OnSwitchOff	Occurs when the low state is set at input
OnShortPress	Occurs after pressing the button for 500 - 2000ms
OnLongPress	Occurs after pressing the button for at least 2000ms
OnHold	Occurs for the first time after HoldDelay time and then cyclically every HoldInterval value
OnClick	Occurs after pressing the button for less than 500ms

3. Parameters - ZWAVE 1-WIRE SENSOR

Features:	
Value	Input value
MinValue	Minimum value of the Value characteristic after exceeding which the OnOutOfRange event is generated
MaxValue	Maximum value of the Value characteristic after exceeding which the OnOutOfRange event is generated
Status	Sensor status: 0 - disconnected; 1 - connected
StatisticState	Enables measurement reporting to the statistics module
Events:	
OnValueChange	Event resulting from changing input state
OnValueRise	Event resulting from exceeding the upper threshold of hysteresis
OnValueLower	Event resulting from exceeding the lower threshold of hysteresis
OnOutOfRange	Event resulting from exceeding any range
OnInRange	Event occurring when setting a value which is lower than the maximum value or higher than the minimum value
OnConnect	Event resulting from connection with sensor
OnDisconnect	Event resulting from disconnection with sensor

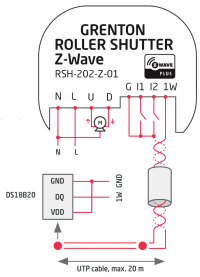
4. Parameters - ZWAVE CONFIG

Features:	
Register	Register (parameter) number
Value	Register (parameter) value
NodeID	Module's number (node) in the Z-Wave network
Banned	Returns information about communication with module: 0 - communication with the module is not blocked, 1 - blocked communication with the module (module banned)
FailCount	The number of failed communication attempts with the Z-Wave module
Repeaters	Number of devices intermediating communication between the CLUZ and a given module
RepeatersList	List of devices (NodeID) intermediating in communication between CLUZ and the module
Standalone	Setting the internal connection between the device's inputs and outputs
Methods:	
Set	Sets the value of the register (parameter)
Get	Gets the value of a given register (parameter)
SetDefault	Sets the default value for register (parameter)
RemoveBan	Removes the blockade of communication with the Z-Wave module
ClearFailCount	Cleans the number of failed communication attempts
UpdateNeighbours	Triggers the action of updating and rebuilding the Z-Wave network (number of neighbouring modules, method of communication with CLUZ) for a given module
Events:	
OnBanned	Occurs when Z-Wave device is banned

5. Technical data

Device power supply	100-265V_{ac} 50/60Hz
Maximum power consumption	0,8W
Maximum load voltage	265V_{ac}
Max AC motor load	745W
Insulation Low-High (230Vac) voltage	3kV
Maximum wire cross section	2,5mm^2
Z-wave frequency	EU: 868,4MHz
Weight	40g
Fixing	flush mounted
Dimensions (H/W/D)	19/45/36mm
Operating temperature range	0 to +45°C

6. Wiring diagram



- The brand new device has Standalone Mode enabled. The inputs I1, I2 control the outputs U, D.
- Low voltage G, I1, I2, 1W lines galvanically separated from high voltage N, L lines.

N	"Neutral" signal
L	"Line" signal
U	UP output
D	DOWN output
G	GND for 1-Wire and digital inputs
I1	first digital input (potential-free)
I2	second digital input (potential-free)
1W	1-Wire bus input

- The 'L' signal powers U and D outputs.

7. Module Inclusion

To add the device to the Z-Wave network:

1. Connect the module according to the diagram above.
2. Set your Z-Wave controller into inclusion mode.
3. Generate quickly[1] 6 pulses on I1 input. The status LED starts blinking with a period of 500ms.
4. The status LED turns off at the end of the Inclusion process.

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.

8. Module Exclusion

To remove the device from the Z-Wave network:

1. Connect the module according to the diagram above.
2. Set your Z-Wave controller into exclusion mode.
3. Generate quickly[1] 6 pulses on I1 input. The status LED starts blinking with a period of 500ms.
4. The status LED turns off at the end of the Exclusion process.

9. Factory Reset

To restore factory configuration:

1. Connect the module according to the diagram above.
2. Generate quickly[1] 6 pulses on I2 input. The status LED turns on.
3. Generate quickly[1] 6 pulses on I1 input. The status LED turns off.

10. Standalone Mode

Standalone mode is the default operating mode of the module, in which the button (monostable) connected to the input I1 causes an upward movement upon clicking or holding the button, and the button connected to the input I2 similarly causes a downward movement. This mode can be enabled / disabled using the Standalone feature of the ZWAVE_CONFIG object.

To manually enable / disable standalone mode:

1. Connect the module according to the diagram above.
2. Generate quickly[1] 6 pulses on I2 input. The status LED turns on.
3. Generate quickly[1] 4 pulses on I1 input. The status LED turns off.

[1] less then 200ms transition

11. Warnings and Cautionary Statements

ATTENTION !

● Before proceeding with the assembly, read the installation schematics and full instructions available at www.grenton.com. Failure to follow the guidelines contained in the instructions and other requirements of due care valid as a result of the nature of the equipment (device) may be dangerous to life / health, damage the device or installation to which it is connected, damage other property or violate other applicable regulations. The manufacturer of the device, Grenton Sp. z o. o. does not bear any responsibility for the damage (property and non-property related) resulting from the assembly and / or use of the equipment not in accordance with the instructions and / or due diligence in handling the equipment (device).
● Device power supply, permissible load or other characteristic parameters have to be in accordance with the device specification, described in particular in the "Technical data" section.
● The product is not intended for children and animals.
● If you have technical questions or comments about the device operation, contact Grenton Technical Support.
● Answers to frequently asked questions can be found at: www.support.grenton.com.

DANGER !

● Danger to life caused by electric current!
● The components of the installation (individual devices) are designed to work in a home electrical installation or directly in its vicinity. Incorrect connection or use may cause a fire or electric shock.
● All work related to the installation of the device, in particular works involving interference in the electrical installation, may be performed only by a person with appropriate qualifications or licences.
● When installing the device, make sure that the power supply voltage is disconnected from the circuit in which the device is connected or near which the assembly takes place.

12. CE Marking

The manufacturer declares that the device is in full compliance with the requirements of EU legislation that includes the directives of a new approach appropriate for this equipment. In particular, Grenton Sp. z o. o. declares that the device fulfills the requirements on safety, specified by law, and that it conforms to the national regulations that implement the appropriate directives: The Radio Equipment Directive (RED - 2014/53/UE), the Low Voltage Directive (LVD 2014/35/UE) and the Directive on the limitation of the use of specific substances in electrical and electronic equipment (RoHS II - 2011/65/UE).

13. Warranty

Warranty available at www.grenton.com/warranty.

14. Manufacturer Contact Details

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