

# 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  |
| Methods:        |  |
| SetHoldDelay    | Sets HoldDelay value   |
| SetHoldInterval | Sets HoldInterval value  |
| Events:         |  |
| OnChange        | 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  |
| Events:      |   |
| OnChange     | Event resulting from changing input state   |
| OnRaise      | Event resulting from exceeding the upper threshold of hysteresis  |
| OnLower      | 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

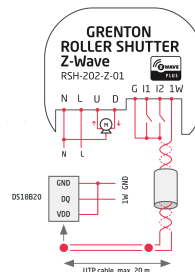
| Features:      |  |
|----------------|--|
| Register       | Register (parameter) number  |
| Value          | Register (parameter) value   |
| NodeID         | Module's number (node) in the Z-Wave network   |
| Banned         | Returns information about communication with module: 0 - communication 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   |
| 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   |
| Events:        |  |
| OnBanned       | Occurs when Z-Wave device is banned  |

<sup>1</sup> less than 200ms transition

### 5. Technical data

|   |   |
|---|---|
| Device power supply                               | 100-265V <sub>ac</sub> 50/60Hz  |
| Maximum power consumption                         | 0.8W  |
| Maximum load voltage                              | 265V <sub>ac</sub>  |
| <b>Maximum power 1 phase motor (UL 508)</b>       | <b>1.0Hp / 265V<sub>ac</sub> / channel</b>  |
| Maximum current for resistive load AC1            | 16A / 265V <sub>ac</sub> / summary,<br>16A / channel 1 (U),<br>8A / channel 2 (D) |
| Insulation Low-High (230V <sub>ac</sub> ) voltage | 3kV   |
| Maximum wire cross section                        | 2.5mm <sup>2</sup>  |
| Z-wave frequency                                  | EU: 868.4MHz  |
| Weight  | 40g   |
| Fixing  | flush mounted   |
| Dimensions (H/W/D)                                | 22/46/37mm  |
| 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 (COM = L)                   |
| D  | DOWN output (COM = L)                 |
| 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<sup>1</sup> 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<sup>1</sup> 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<sup>1</sup> 6 pulses on I2 input. The status LED turns ON.
3. Generate quickly<sup>1</sup> 6 pulses on I1 input. The status LED turns OFF.

### 10. Standalone Mode

To enable / disable standalone mode:

1. Connect the module according to the diagram above.
2. Generate quickly<sup>1</sup> 6 pulses on I2 input. The status LED turns ON.
3. Generate quickly<sup>1</sup> 4 pulses on I1 input. The status LED turns OFF.

### 11. Warnings and cautionary statements



ATTENTION!

- Before proceeding with the assembly, read the installation schematics and full instructions available at [www.grenton.com](http://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.pl](http://www.support.grenton.pl)



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 licenses.
- 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 Directive on the electromagnetic compatibility (EMC - 2014/30/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](http://www.grenton.com/warranty)

## 14. Manufacturer contact details

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