

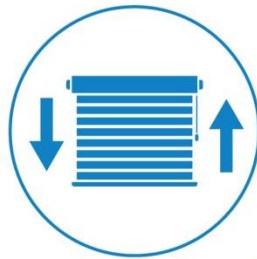


qubino®

Your little magic for the smartest home.

USER MANUAL **EN**

QUBINO FLUSH SHUTTER DC



The Qubino Flush Shutter DC device is ideal for remotely controlling 12–24V DC motors of blinds, rollers, shades, venetian blinds and similar sunscreens.

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About Qubino

Qubino is a family of innovative Z-Wave devices, many of them the smallest of their kind. Numerous breakthrough innovations, 100% quality control, and responsive customer service make Qubino the number one choice for making your life more comfortable.

Qubino enables you to transform – inexpensively and invisibly – any traditional electric device into a smart, connected one that you can control with your smart phone. Qubino devices are simple to install and use, but also extremely versatile - they offer a wealth of additional features and parameters for you to play with.

We love helping people who enjoy creating new ideas for their home and then using their hard work and skill to turn those ideas into reality. We admire their passion and resourcefulness. We do our best to supply you with products that will enable you to create a unique and special home for yourself. We innovate so that you can be free to make the smartest home possible. With just a touch of magic.

"Simple is smart." We believe it is smart to make complex things simple. But only when this means simple for our customers, not for ourselves. We think a lot so that you won't have to when it comes to installing or using our devices.

For more information visit: www.qubino.com



About Z-Wave:

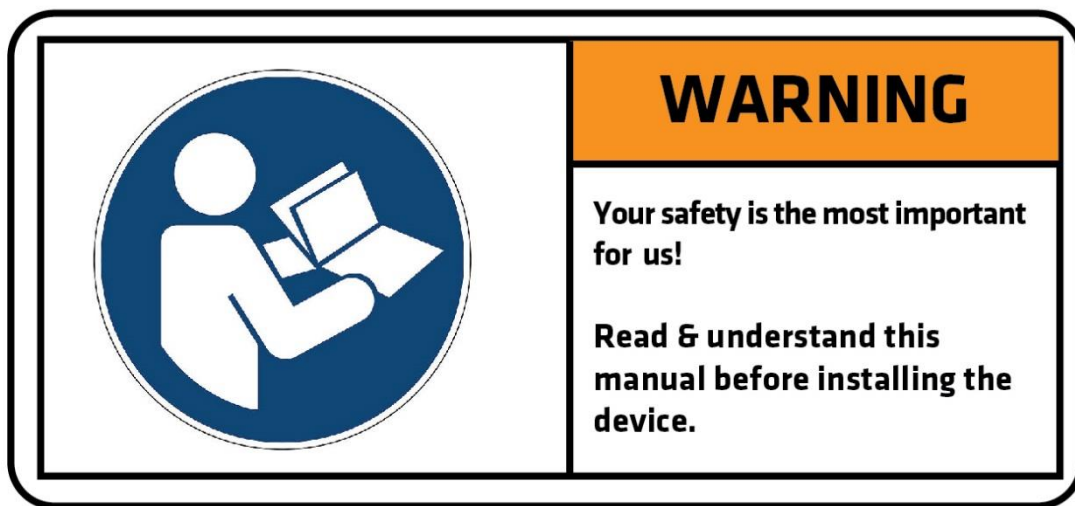
The Z-Wave protocol is an interoperable, wireless, RF-based communications technology designed specifically for control, monitoring, and status reading applications in residential and light commercial environments. Mature, proven, and broadly deployed (with over 50 million products sold worldwide), Z-Wave is by far the world market leader in wireless control, bringing affordable, reliable, and easy-to-use 'smart' products to millions of people in every aspect of daily life.

Source: www.z-wavealliance.org

Safety Information

For Qubino, safety is first, so we have prepared lots of safety tips and information that can be found throughout this manual.

To ensure your safety, please read this manual carefully before installing the device; follow the instructions exactly. The manufacturer (GOAP d.o.o. Nova Gorica) shall not be legally responsible for any equipment damage or personal injury caused by incorrect installation or operation other than that covered in this manual.



i Please check the Technical Specifications and Electrical Diagram chapters, as well as fuse requirements in the Installation chapter before installing the device.

Flush Shutter DC - Available Frequencies

ORDERING CODE (MODEL NUMBER)	Z-WAVE FREQUENCY*
ZMNHOD1	868,4 MHz
ZMNHOD2	921,4 MHz
ZMNHOD3	908,4 MHz
ZMNHOD4	869,0 MHz
ZMNHOD5	916,0 MHz
ZMNHOD6	868,4 MHz
ZMNHOD7	919,8 MHz
ZMNHOD8	865,2 MHz
ZMNHOD9	922,5 MHz
ZMNHODA	919,7 – 921,7 – 923,7 MHz
ZMNHODB	868,1 MHz
ZMNHODC	868,1 MHz
ZMNHODD	919,8 MHz
ZMNHODE	920,9 MHz

*You can check the Z-Wave frequency in your country here:

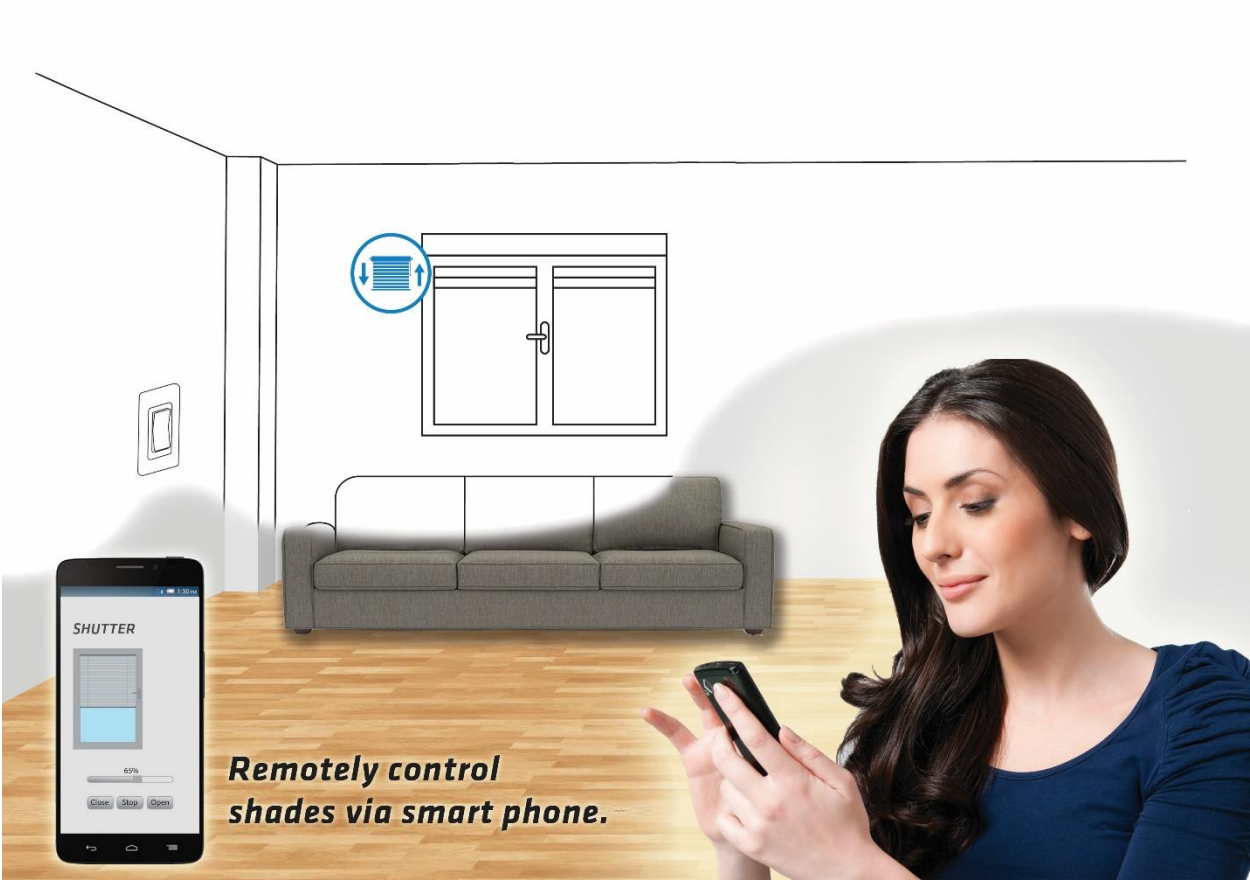
https://z-wave.sigmadesigns.com/wp-content/uploads/Z-Wave_Frequency_Coverage-.pdf

Where To Buy

To find your nearest Qubino dealer visit: <http://qubino.com/where-to-buy/>

1. Introduction

The Flush Shutter DC controls 12–24V DC motors of blinds, rollers, shades, venetian blinds and similar sunscreens. It can be paired with a digital temperature sensor (sold separately).



The connection of a digital temperature sensor means you can create complex scenes and control any device relative to a set temperature range. The Qubino Flush Shutter DC also acts as a Z-Wave repeater to improve the range and stability of the Z-Wave network.

Flush Shutter DC supported functions:

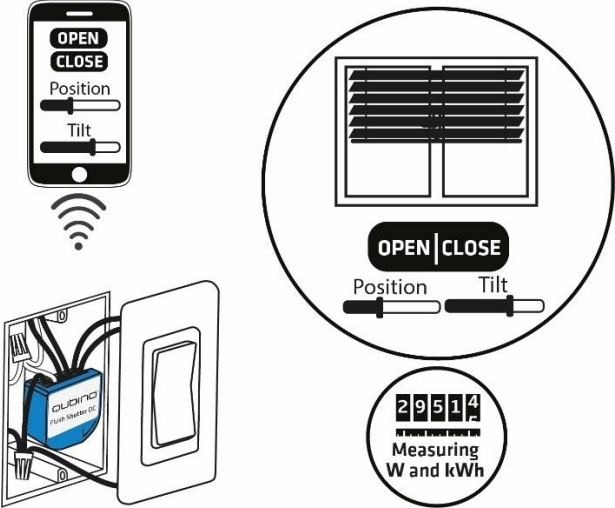
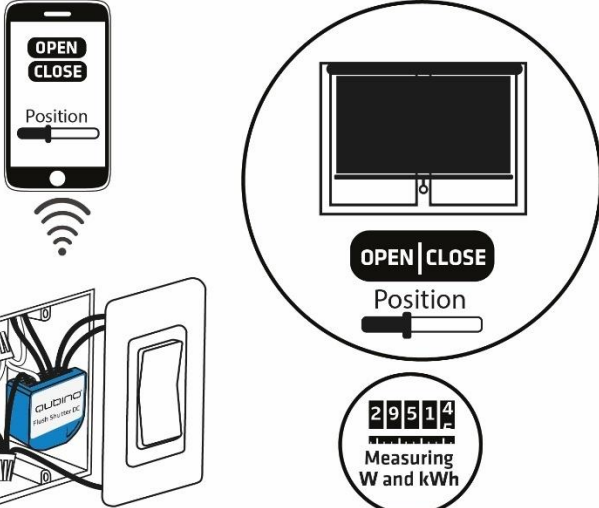
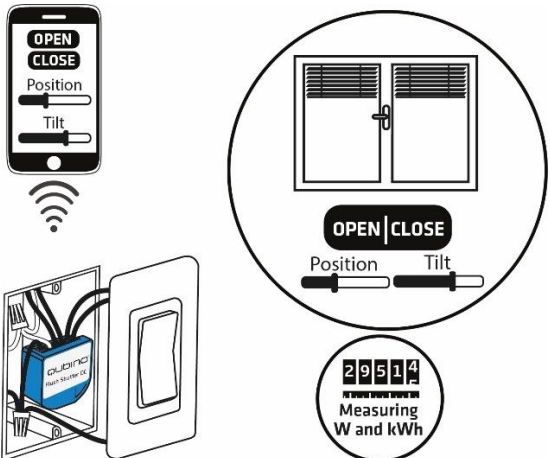
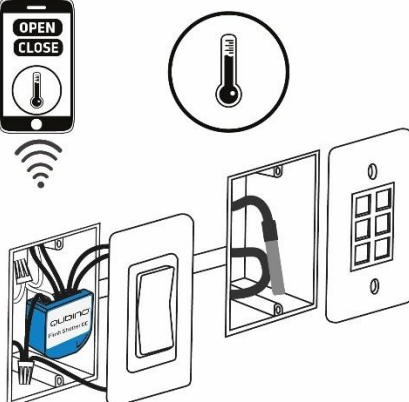
Controls position of blinds, rollers, shades, venetian blinds, etc.	Controls tilt position of the slats of venetian blinds.	Temperature Sensor	W Measurement	kWh Measurement	Associations	Z-Wave Repeater	Auto-inclusion
✓	✓	✓	✓	✓	✓	✓	✓



2. Use Cases

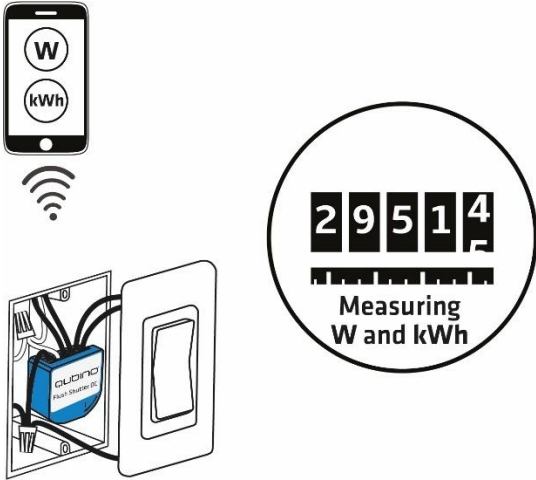
The Flush Shutter DC can be used in many different scenes, which can help make your life more comfortable. We have prepared a few of them for you—so you can get an idea for your next smart home project. Of course, there are countless of other options for how to use Qubino Flush Shutter DC to remotely control devices via your smartphone.

2.1. Installation examples where Flush Shutter DC is installed behind a wall switch

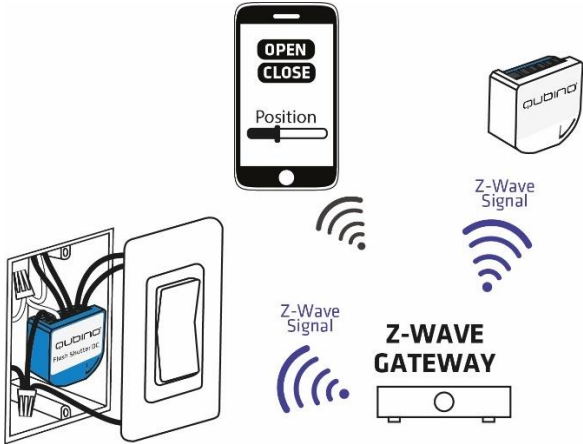
<ul style="list-style-type: none">• Remotely control indoor venetian blinds 	<ul style="list-style-type: none">• Remotely control indoor screens 
<ul style="list-style-type: none">• Remotely control integral venetian blinds (blinds between glass) 	<ul style="list-style-type: none">• Remotely measure room temperature (*The temperature sensor is sold separately - for more info, please see Qubino catalogue. Product ordering code (model number): ZMNHEA1) 

2.2. Additional features of Flush Shutter DC which can make your life easier

- Do you know how much energy you consume?
- The Flush Shutter DC monitors and reports energy consumption of connected devices in real time to your smart home app (your gateway (hub) needs to support this feature).



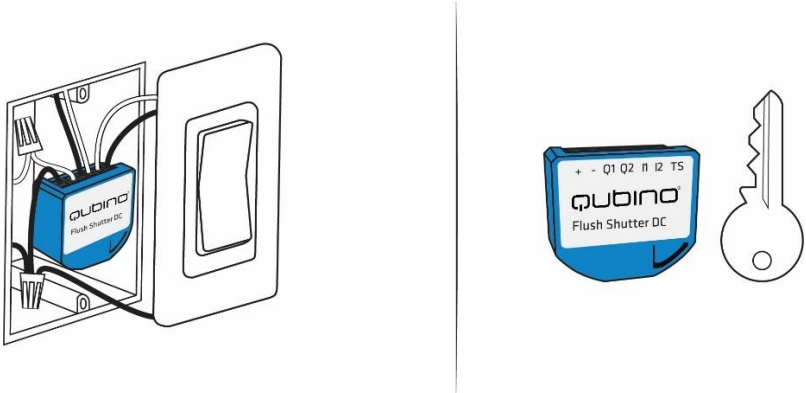
- Want to control other devices in your Z-Wave network with the Flush Shutter DC?
- Connect the Flush Shutter DC with other devices in your network to remotely and automatically trigger another Z-Wave device. And have other Z-Wave devices trigger your Qubino Flush Shutter DC.



3. Qubino Flush Shutter DC Advantages and Highlights

3.1. Advantages

- The Qubino Shutter DC allows the **easiest and quickest installation possible**. Because of its small size, it allows a smooth installation even in cases where there are lots of electrical cables and where **every millimetre counts**. All this is possible because the Qubino Flush Shutter DC is **the smallest Z-Wave shutter in the world**.



- The Qubino Flush Shutter DC has the **option to connect a temperature sensor***, through which users can monitor the ambient air or water temperature. It's the only Z-Wave shutter in the world which offers this option. With a connected sensor, the user can monitor accurate measurements of the room temperature, pool water temperature, etc., and remotely change conditions as desired. Qubino shutter, along with the temperature sensor, is connected directly to the power supply. Install it and forget it – no need to worry about dying batteries, like with battery-powered sensors.

*The temperature sensor is sold separately - for more info, please see Qubino catalogue. Product ordering code (model number): ZMNHEA1



(i) Please do not put the temperature sensor directly into the water! The temperature sensor is designed to measure the water temperature by being mounted to the water pipe.

- Qubino guarantees **100% device quality**. Such high quality can be delivered because every Qubino goes through rigorous quality control standards throughout the production process. Every device has a unique serial number and a part number, which are assigned to the device only after it goes through a strict testing procedure.



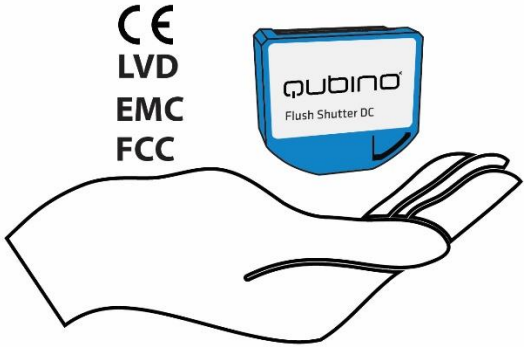
- By scanning the QR code on the back of your Qubino device, the serial and part numbers will be automatically copied on your mobile phone; they also provide **direct access to Qubino's technical support team**. The serial and part numbers of your device are given automatically every time you open an inquiry with our support team: this instantly shares the relevant device information we need to provide the best technical support possible. For details, please see the Device Information and Support chapter.



- The Qubino Flush Shutter DC is **engineered and manufactured in the EU**, and contains only the highest quality components.



- The Qubino Flush Shutter DC is certified by an independent European Institute and has CE, FCC, LVD and EMC certificates to ensure the highest safety standards.



3.2. Highlights

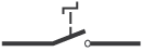

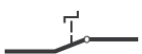


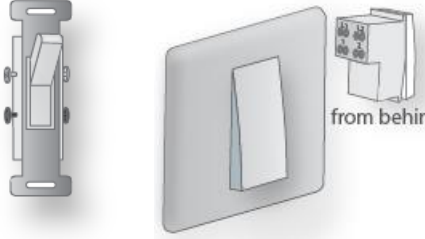
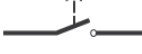
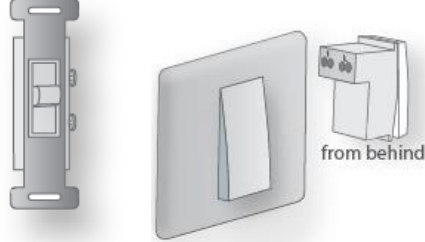
- Remote (via smartphone or PC) and local control of 12-24V venetian blinds (indoor), screens (indoor), integral venetian blinds etc.
- Allows control of venetian blinds and changing vertical position and angle of the shades
- Works with push-button (momentary switch) and toggle switch
- Capable of measuring the power consumption of the connected device in real time via smartphone, which allows you to save on electricity bills*
- Features one of the easiest and quickest installations of devices of this kind; fits in even the smallest flush mounting boxes
- Saves and restores the last status after a power failure.
- Supports auto-inclusion mode for quick set up
- Supports additional parameters for expert users, which allows for advanced configuration*
- Acts as a signal repeater which improves the range and stability of your Z-Wave network
- Can be used to remotely control and trigger other devices in your Z-Wave network

*Your gateway (hub) needs to support advanced configuration and parameter input if you wish to use this feature

4. Package Contents

- Flush Shutter DC Device
- Installation Manual

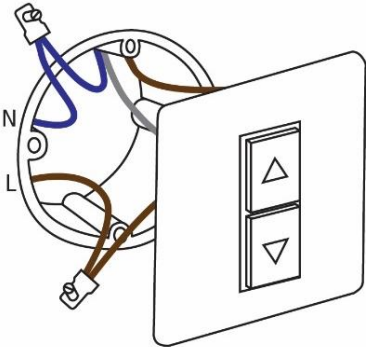
5. Technical Terms for Switches

Symbol	Switch example images	Definition	EU	USA	Qubino	Other names
		Single pole, single throw (SPST) - One switch controlling one light / circuit of lights	One-way switch	Two-way switch (regular switch)	Toggle switch	Switch; Bi-stable switch
		Single pole, double throw (SPDT) - Two switches controlling the same light / circuit of lights	Two-way switch	Three-way switch	Two-way switch	
		Used when you have three or more switches controlling the same light	Intermediate switch	Four-way switch	Intermediate switch	Crossover switch; Cross connection
		After being released, it goes back to its original state	Momentary switch		Momentary switch	Monostable switch; Push button

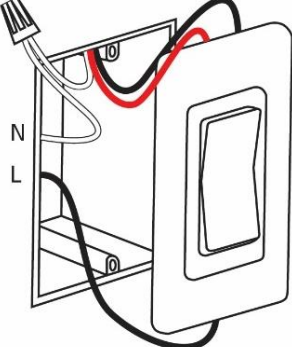
Qubino devices are installed into flush mounting boxes behind the switches. You can see some examples below:

For more information on how to install your device, please refer to the Installation chapter.

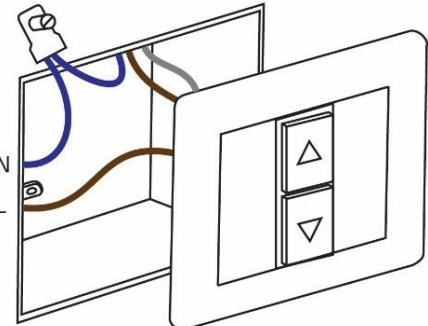
EU example:



USA example:



ITA/Brasil example:



6. Compatibility with Z-Wave Gateways (hubs)

Please check compatibility with your Z-Wave gateway (hub) before you purchase this device. If you don't see your gateway (hub) in the table below, please contact us at: <http://qubino.com/support/#email>.


i Please note that the gateway (hub) compatibility was tested on 1.7.2017 and it may not include the latest testing data.

Flush shutter DC	Tilt	Q1	Q2	W	kWh	Temp	Comments
Domoticz V3.5877	T	✓	✓	✓	T	T	
Fibaro HC Lite v 4.130	✓	✓	✓	✓	T	✓	
Vera Edge v 1.7.2406	T	T	T	T	T	T	
Zipato	T	T	T	T	T	T	
Z-Wave Me	T	T	T	T	T	T	
Homeseer	T	T	T	T	T	T	
Open Z-Wave	T	T	T	T	T	T	
Piper	T	T	T	T	T	T	
SmartThings	✓	✓	✓	✓	✓	O	Temp sensor support will be added in the future
NETIChome	✓	✓	✓	✓	✓	✓	
Homey	T	T	T	T	T	T	
Eedomus	✓	✓	✓	✓	×	✓	
Jeedom	✓	✓	✓	✓	✓	✓	
Zipatile	T	T	T	T	T	T	
Devollo	✓	✓	✓	✓	T	X	
Verbund	T	T	T	T	T	T	
Indigo 7	O	✓	✓	✓	T	✓	No separate slat tilt control in UI.
ImperiHome	✓	✓	✓	×	×	✓	
OpenHab	✓	✓	✓	×	T	X	

Symbol	Explanation
✓	Works fully
×	Not working
O	See comment
T	Testing in progress

7. Installation

Before installing the device, please read the following carefully and follow the instructions exactly:

 Danger of electrocution!

Installation of this device requires a great degree of skill and may be performed only by a licensed and qualified electrician. Please keep in mind that even when the device is turned off, voltage may still be present in the device's terminals.

 Note!

Do not connect the device to loads exceeding the recommended values. Connect the device exactly as shown in the provided diagrams. Improper wiring may be dangerous and result in equipment damage.

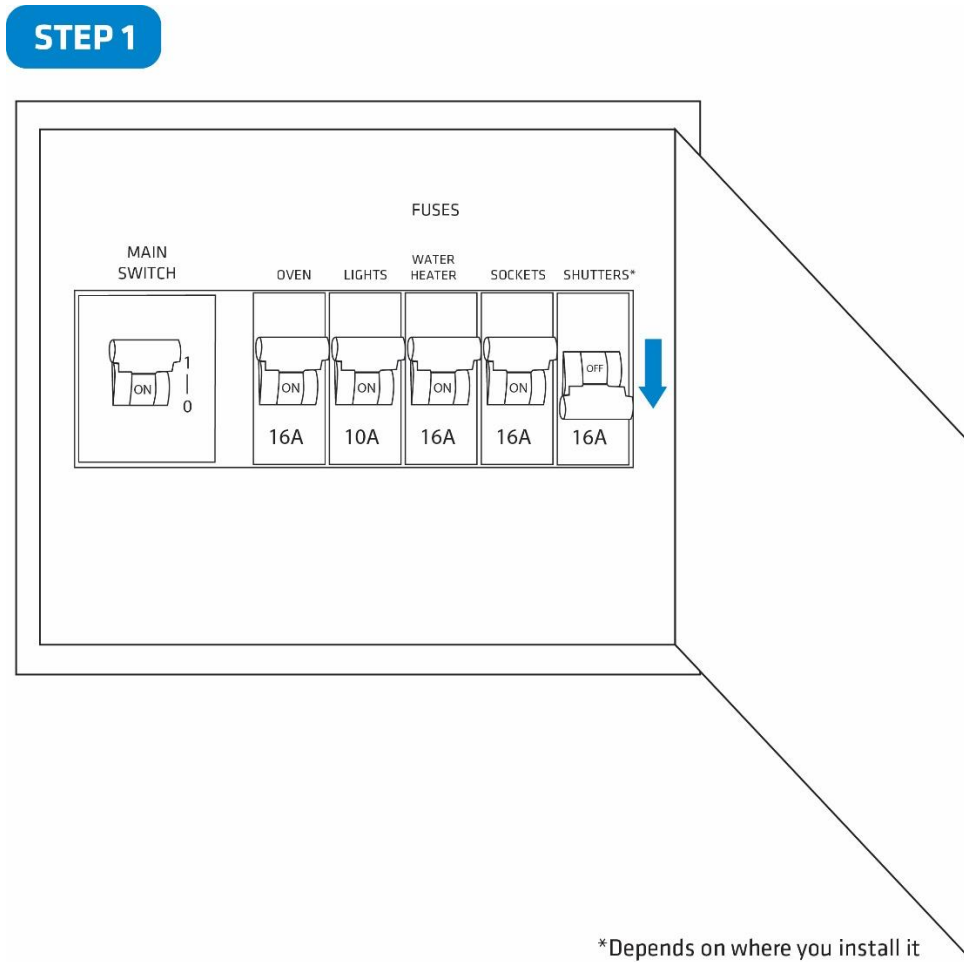
Electrical installation must be protected by directly associated overcurrent protection fuse F (ESKA 522.724 5A 250V) must be used according to wiring diagram to achieve appropriate overload protection of the device. The fuse must be installed according to the standard IEC60669-2-1.

7.1. Installing the device behind a light switch

The installation process, tested and approved by professional electricians, consists of the following simple steps:

Step 1 – Turn OFF the fuse:

- To prevent electrical shock and/or equipment damage, disconnect electrical power at the main fuse or circuit breaker before installation and maintenance.
- Be aware that even if the circuit breaker is off, some voltage may remain in the wires — before proceeding with the installation, be sure no voltage is present in the wiring.
- Take extra precautions to avoid accidentally turning the device on during installation.

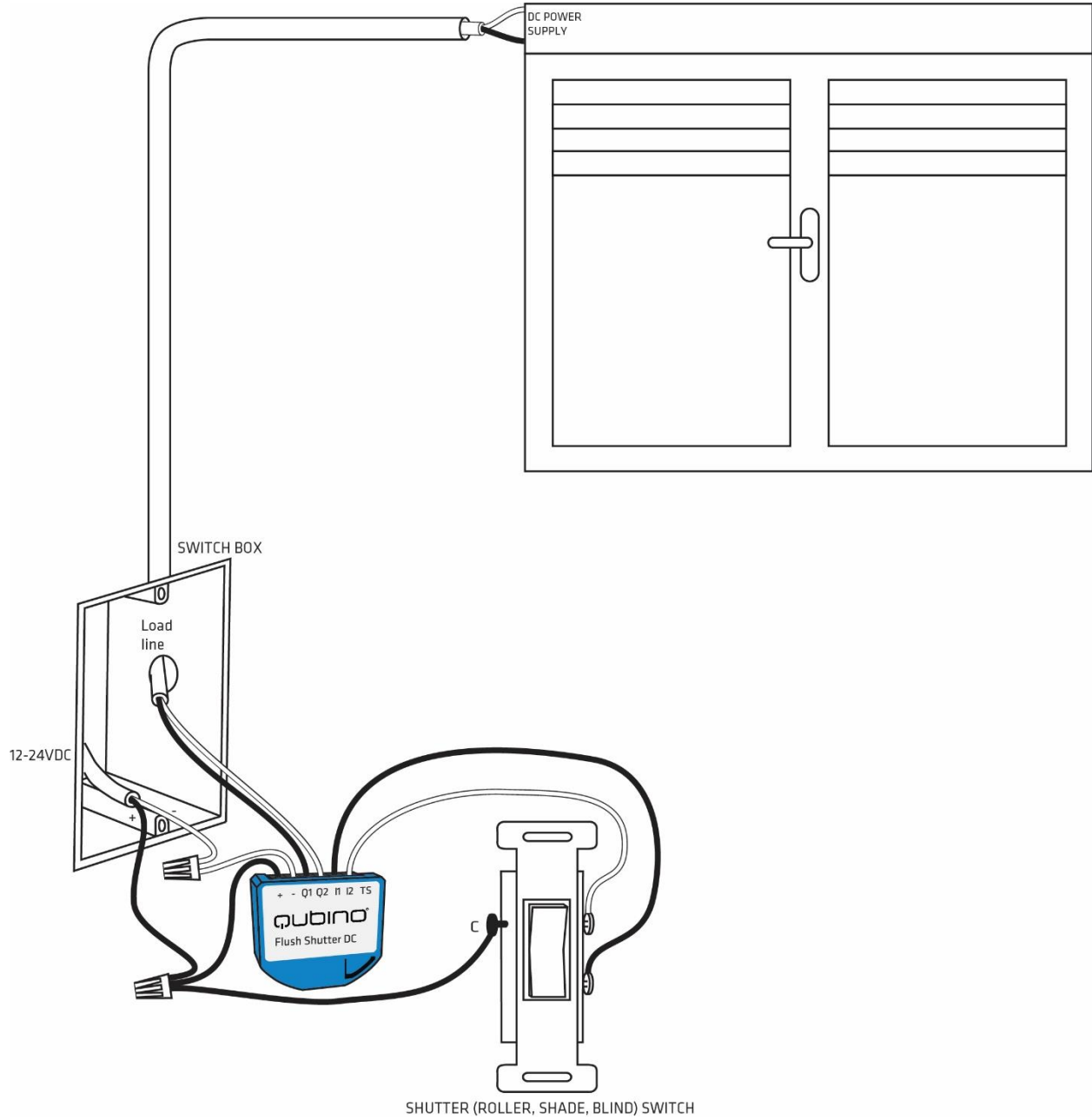


Step 2 – Installing the device:

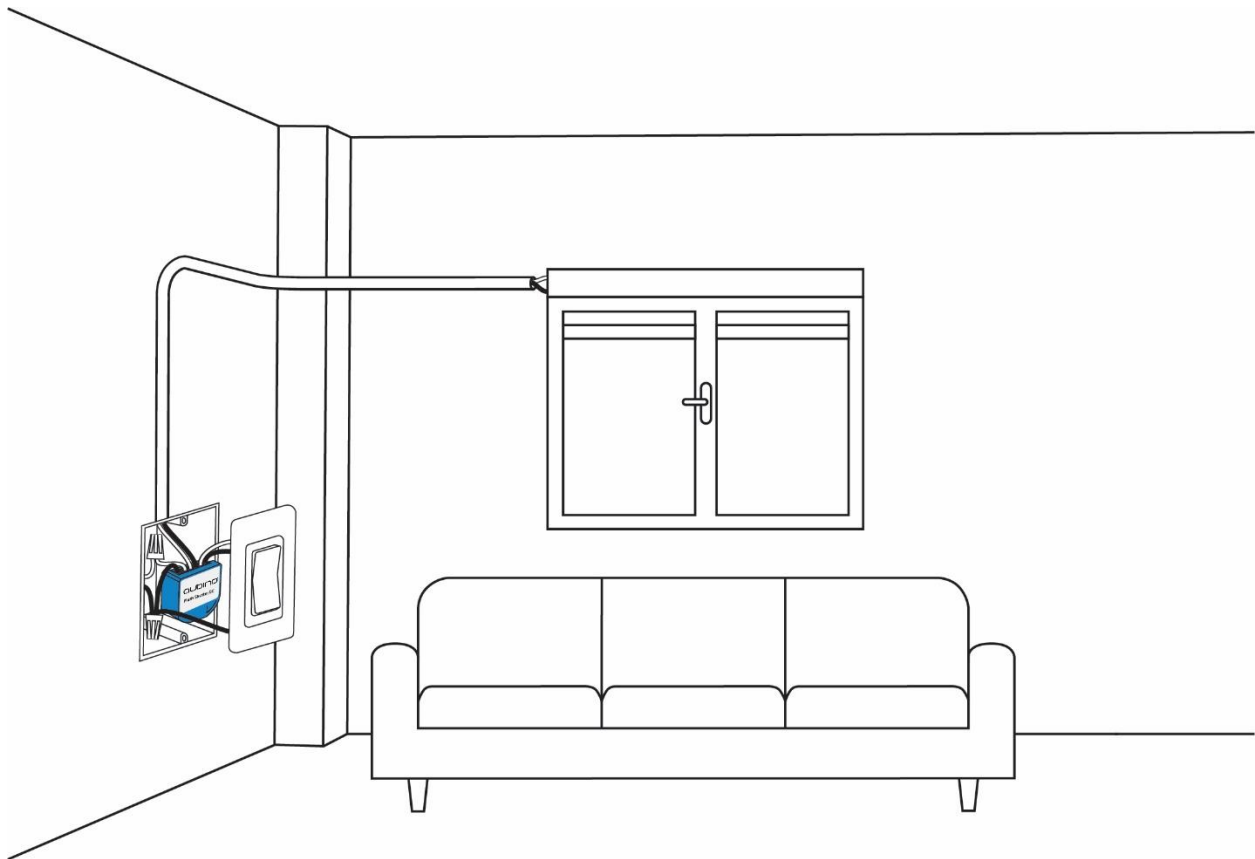
- Connect the device exactly according to the diagrams shown below

STEP 2

Installation example:



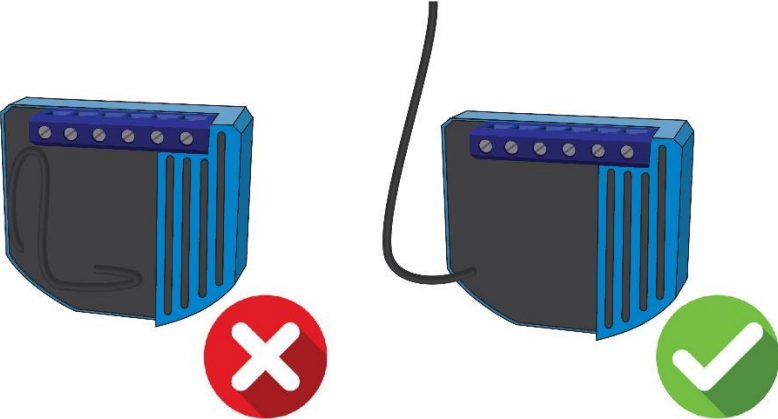
After Qubino installation:



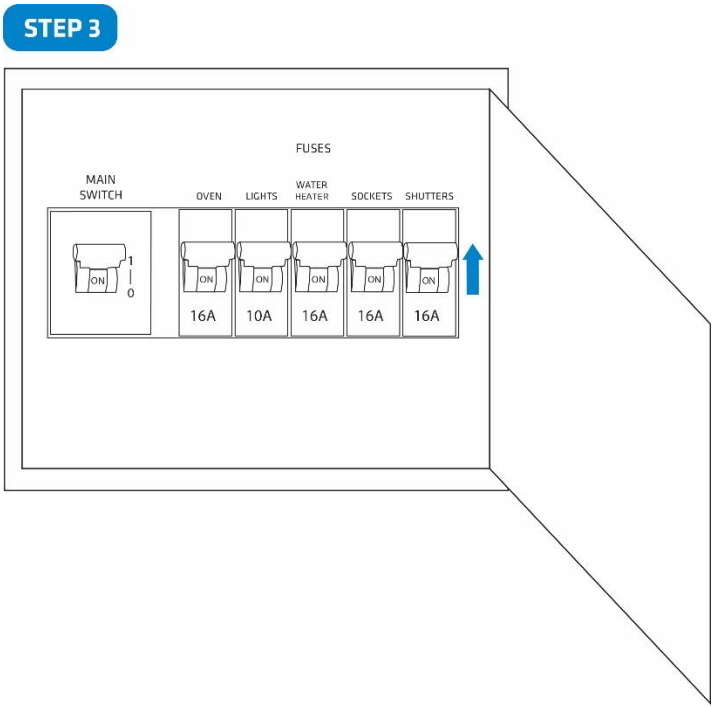
Note!

- Place the antenna as far as possible from metal elements as they may cause signal interference.
- Do not shorten the antenna.

The device’s antenna should be as upright as possible. This ensures the device’s operational range is maximized (up to 98 feet (30 m) line of sight).

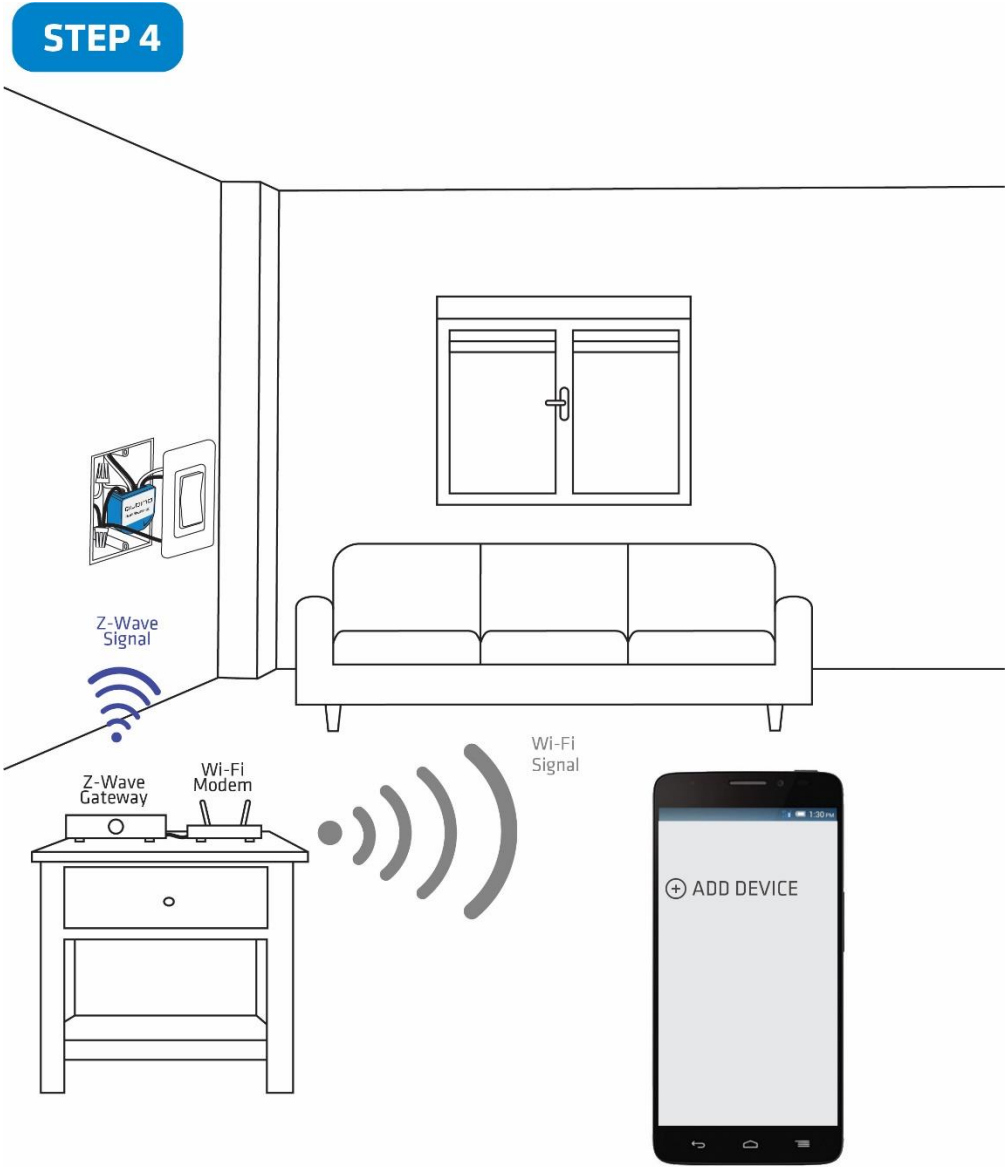


Step 3 – Turn ON the fuse:



Step 4 – Add the device to your Z-Wave network:

- For more details on how to include the device, please refer to the Z-Wave Inclusion chapter.



Step 5 – The Installation is now complete. It’s time to make your life more comfortable with the help of the Qubino Flush Shutter DC

STEP 5

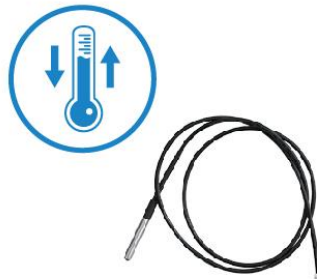


7.2. Installing the Qubino Temperature Sensor

The temperature sensor is a Qubino accessory and is sold separately - for more info, please see the Qubino product catalogue or website: <http://qubino.com/products/accessories/>

Product ordering code: ZMNHEA1

Qubino Z-Wave devices have the option to connect a temperature sensor (sold separately), which allows you to **remotely monitor ambient or water temperature**. Qubino devices are the only Z-Wave devices of its kind to offer this unique capability. With the sensor connected to the device, you can carry out accurate measurements of room temperature, pool water temperature, etc. and build automation rules around them. Qubino device with a temperature sensor is connected directly to power supply. Install it and forget it, there is no need to worry about changing the batteries like with most other Z-Wave temperature sensors which run on batteries. The temperature sensor's range is between -50°C and 125°C (-58°F and 257°F).



The digital Temperature sensor comes with a 1 m (3.3 ft) cord and a connector to attach it directly to a Qubino device.

1. To prevent electrical shock, make sure that no voltage is present on the temperature sensor cable.
2. When connected to Qubino device, the temperature sensor is under high voltage, which is very dangerous.
3. Goap d.o.o. does not take responsibility for any damage or electrical shock due to incorrect sensor assembly.
4. The above instructions and description apply to a temperature sensor compatible with Qubino products only.

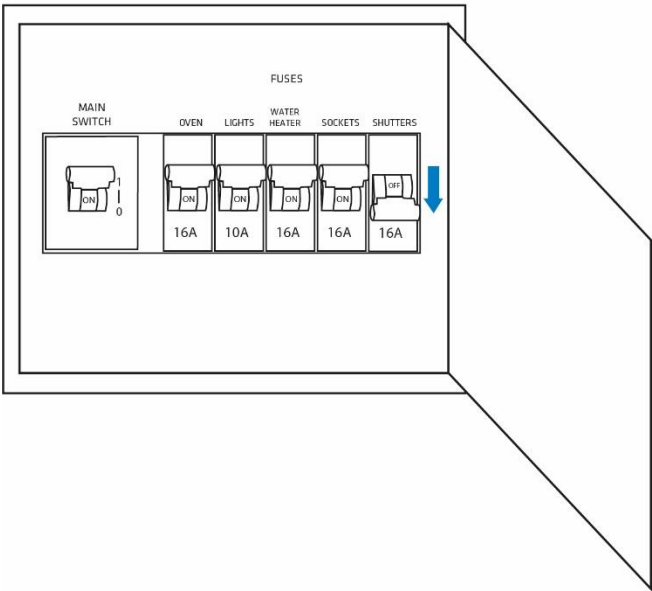
Temperature sensor installation example:

Step 1 – Exclude the device (if it is already connected to your Z-Wave system)



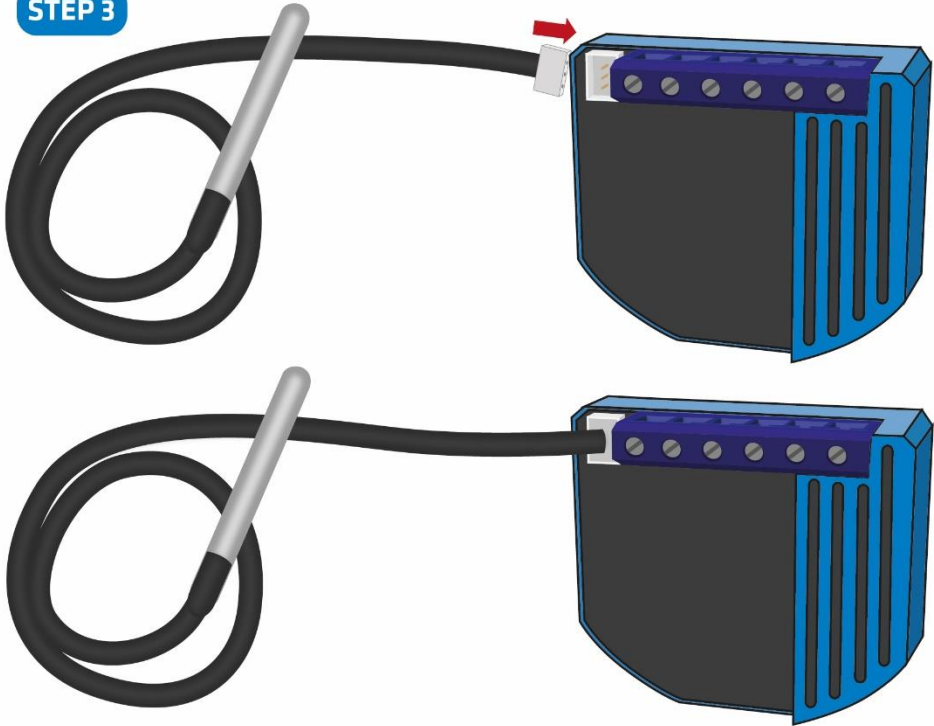
Step 2 – Switch of the power supply

STEP 2

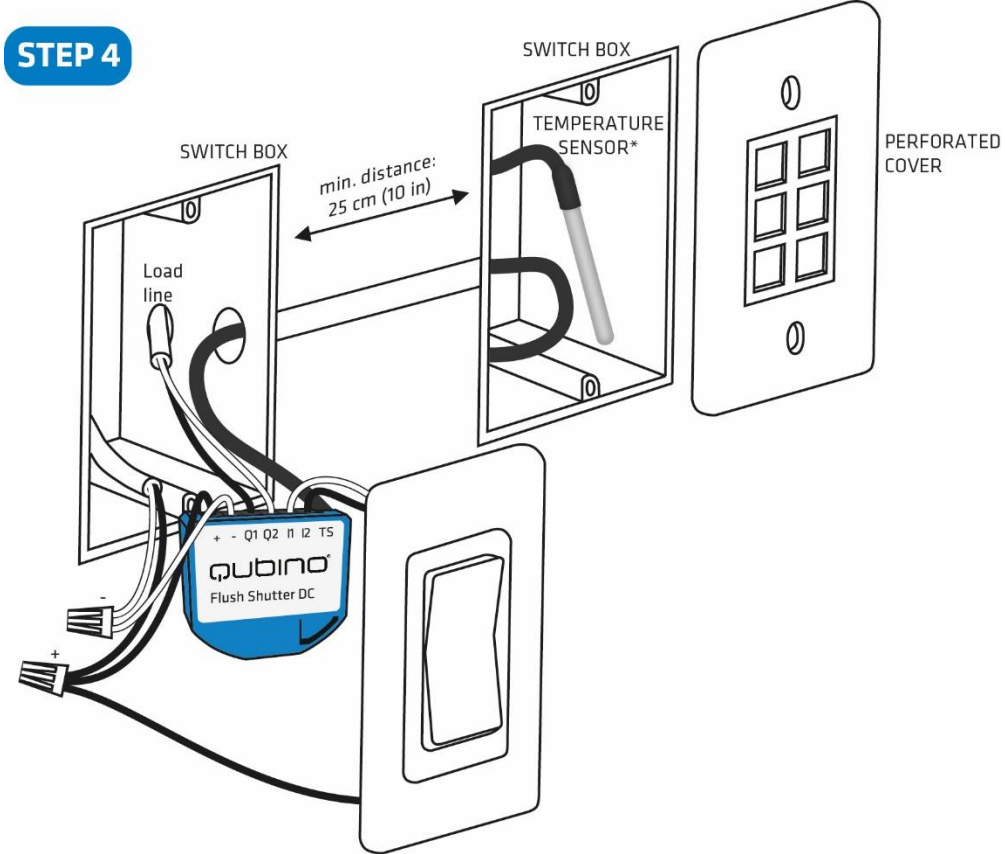


Step 3 – Connect the temperature sensor as shown below

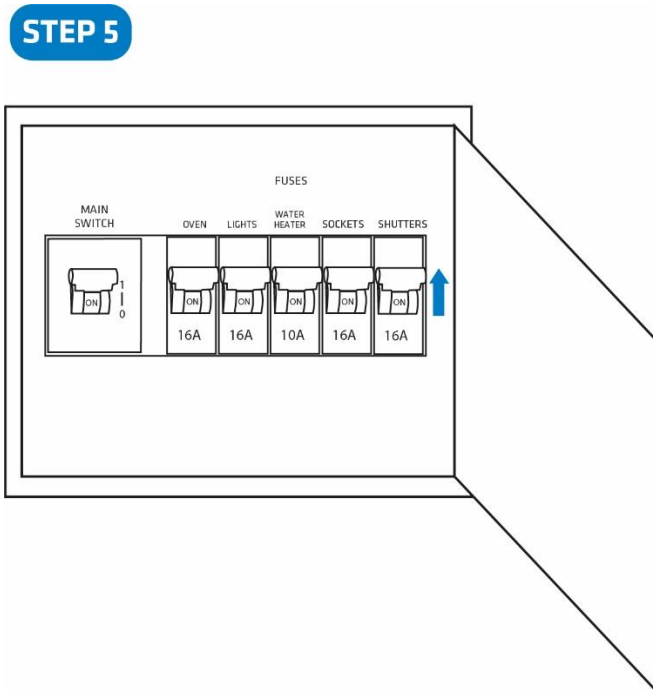
STEP 3



Step 4: Place the temperature sensor in the switch box



Step 5 – Turn the fuse on



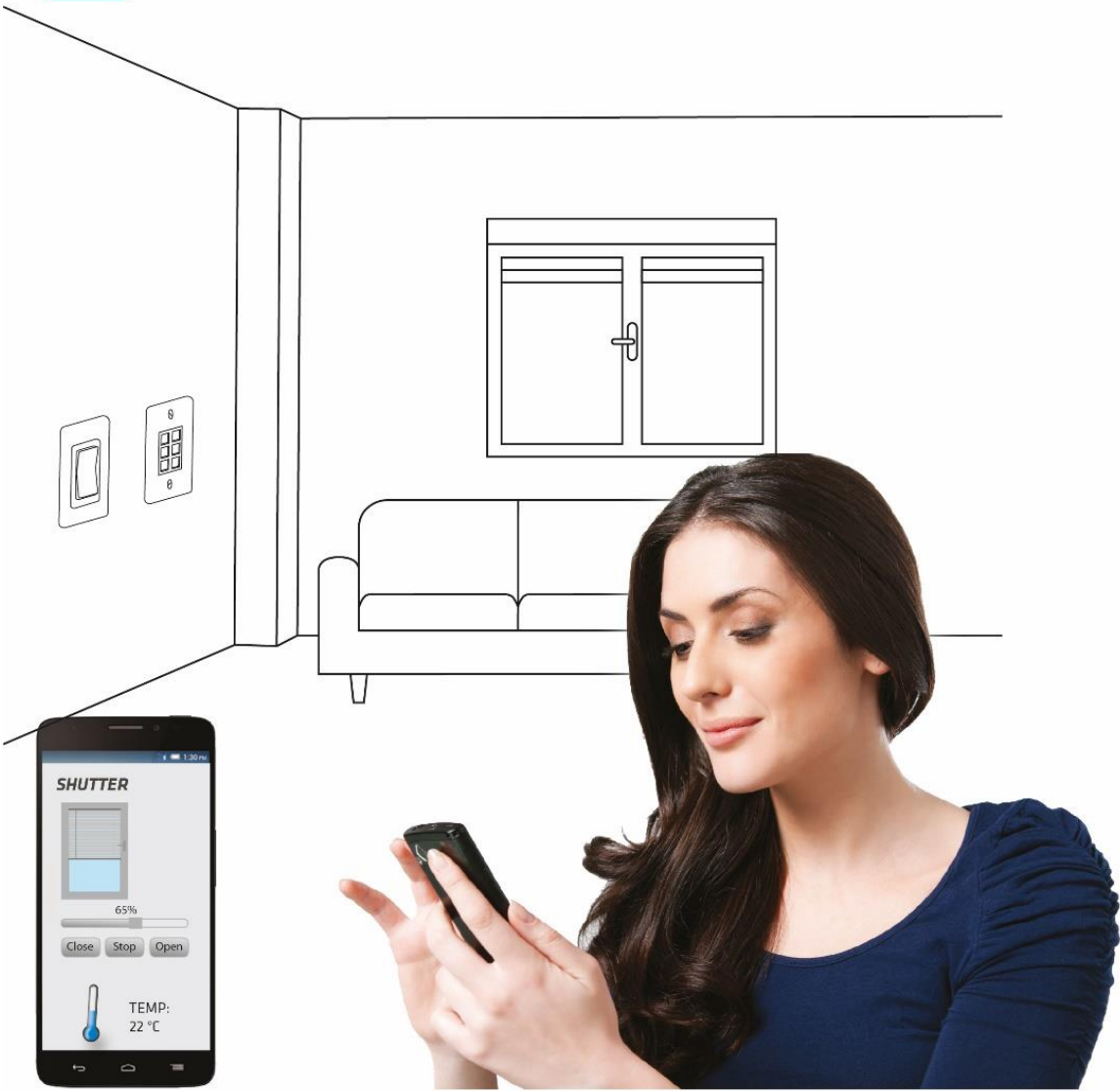
Step 6 – Re-include the device to your network

STEP 6



Step 7 – Start using the temperature sensor in connection with your device

STEP 7



8. Device Information and Support

Did you know that Qubino offers Z-Wave devices with 100% quality control guaranteed throughout the production process? Every single unit is tested and examined before being approved for sale – a truly unique pledge in the industry.

Why is this important?

Every device has a dedicated serial number and part number, which is assigned to the device only after it goes through a strict testing procedure.

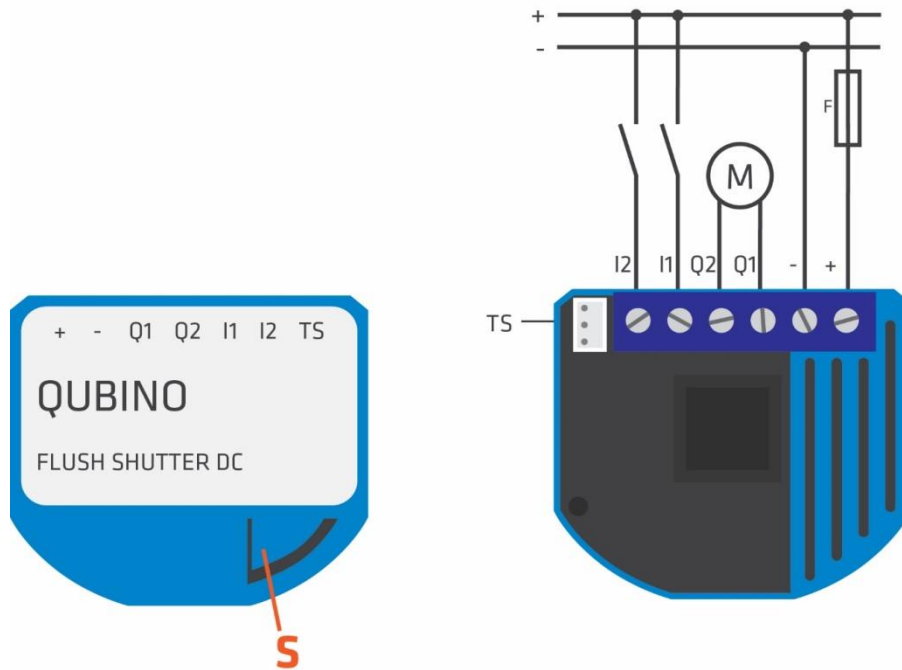
By scanning the QR code on the back of your Qubino, its device title, serial number, and part number are automatically copied to your mobile phone. You can also use the code for direct access to the device page for more information. If you still don't find what you're looking for, click on the link to Qubino technical support team. They will be able to automatically read the serial and part number from your device and quickly review the production log file containing the production date as well as any relevant device parameters and information. This process allows our team to immediately identify and address issues, giving you the best support possible.

GET SUPPORT IN 3 SIMPLE STEPS:



Based on customer and business partner feedback, we're proud to boast Qubino's support team as the best and fastest on the market. If you don't find the answers to your questions in this document, please contact our support team by scanning the QR code on your device or through our website: <http://qubino.com/support/#email>. We will try to help you as soon as possible.

9. Electrical Diagram (12-24 VDC)



Notes for diagram:

+	+VDC (12-24 VDC)
-	-VDC (0V)
Q1†	Output for motor UP (open)
Q2†	Output for motor DOWN (close)
I2	Input for switch/push button DOWN (close)
I1	Input for switch/push button UP (open)
TS	Temperature sensor terminal
S	Service button (used to add or remove device from the Z-Wave network)

10. Adding the device to a Z-Wave network (Inclusion)

AUTOMATICALLY ADDING THE DEVICE TO A Z-WAVE NETWORK (AUTO INCLUSION)

1. Enable add/remove mode on your Z-Wave gateway (hub)
2. Connect the device to the power supply (with the temperature sensor already connected – sold separately*).
3. Auto-inclusion will be initiated within 5 seconds of connection to the power supply and the device will automatically enrol in your network

MANUALLY ADDING THE DEVICE TO A Z-WAVE NETWORK (MANUAL INCLUSION)

1. Enable add/remove mode on your Z-Wave gateway (hub)
2. Connect the device to the power supply (with the temperature sensor already connected*)
3. Toggle the switch connected to the I1 terminal 3 times within 3 seconds

OR

Press and hold the S (Service) button for at least 2 seconds

4. A new multi-channel device will appear on your dashboard

*If connecting the temperature sensor, switch off the power supply and make sure the device is excluded from your network BEFORE connecting the sensor.



Make sure the device is excluded from your network before connecting the temperature sensor. Switch off the power supply, connect the temperature sensor, and re-include the device to your network.

11. Removing the device from a Z-Wave network (Exclusion)

REMOVAL FROM A ZWAVE NETWORK (Z-WAVE EXCLUSION)

1. Connect the device to the power supply
2. Make sure the device is within direct range of your Z-Wave gateway (hub) or use a hand-held Z-Wave remote to perform exclusion
3. Enable add/remove mode on your Z-Wave gateway (hub)
4. Toggle the switch connected to the I1 terminal 3 times within 3 seconds

OR

Press and hold the S (Service) button between 2 and 6 seconds


5. The device will be removed from your network but any custom configuration parameters will not be erased

FACTORY RESET

1. Connect the device to the power supply
2. Within the first minute (60 seconds) the device is connected to the power supply, toggle the switch connected to the I1 terminal 5 times within 3 seconds (5 times change switch state)

OR

Press and hold the S (Service) button for at least 6 seconds

 By resetting the device, all custom parameters previously set on the device will return to their default values, and the owner ID will be deleted. Use this reset procedure only when the main gateway (hub) is missing or otherwise inoperable.

12. Associations

Use associations for direct communication between the Flush Shutter DC and other devices within your Z-Wave network without the need of your primary gateway (hub).

Use associations for direct communication between the Flush Shutter device and other devices within your Z-Wave network without the need to use the primary gateway (hub).

Association Groups:

Root device:

- Group 1: Lifeline group (reserved for communication with the primary gateway (hub)), 1 node allowed.
- Group 2: Basic on/off (Triggered at change of input I1) up to 16 nodes.
When switch wired to input I1 is pressed Flush Shutter DC will send Basic set ON command to associated device and this device will turn ON, when it is released Flush shutter DC sends Basic set OFF command to associated device and this device will turn OFF.
- Group 3: Basic on/off (Triggered at change of input I2) up to 16 nodes.
When switch wired to input I2 is pressed Flush Shutter DC will send Basic set ON command to associated device and this device will turn ON, when it is released Flush shutter DC sends Basic set OFF command to associated device and this device will turn OFF.
- Group 4: Basic on/off (Triggered at sensing moving direction of roller: up= FF, down = 00) up to 16 nodes.
When blinds are moving up, Flush Shutter DC will send Basic set ON command to associated device and associated device will turn ON. When blinds are moving down, Flush Shutter DC will send Basic set OFF command to associated device and the device will turn OFF.
- Group 5: Basic on/off (Triggered at reaching roller position: bottom=FF, top=0) up to 16 nodes.
When blinds reach upper position Flush Shutter DC will send Basic set OFF command to associated device and the device will turn OFF. When blinds reach down position Flush Shutter DC will send Basic set ON command to associated device and the device will turn ON.

- Group 6: Basic on/off (triggered at reaching roller position: bottom=FF, not bottom=0) up to 16 nodes
When blinds reach down position, Flush Shutter DC will send Basic set ON command and the device will turn ON. When blinds are in any position which is not down (0%) Flush Shutter DC will send Basic set OFF to associated device and the device will turn OFF.
- Group 7: Multilevel set (Triggered at change of value of the Flush Shutter DC position), up to 16 nodes.
Flush shutter DC will set Switch multilevel command to associated device, the command is actual position of blinds so the associated device will turn on same level as blinds are. Example with association between Flush Shutter DC and dimmer, when shutters blinds reach middle position 50% it will send switch multilevel set 50% command and dimmer will turn on 50%.
- Group 8: Multilevel set (Triggered at changes of value of slats tilting position), up to 16 nodes. Flush Shutter DC device will send Switch multilevel set command to associated device, the command is actual position of tilts.
Example with association between Flush shutter DC and dimmer
When shutters tilts rotate to middle position 50% it will send switch multilevel set 50% command and dimmer will turn on 50%.
- Group 9: Multilevel sensor report (triggered at sensed different value – sensor sold separately), up to 16 nodes. Flush Shutter DC device will send Multilevel sensor report to associated device, this will send the information of actual temperature that was measured with temperature sensor.

End point 1:

- Group 1: Lifeline group, 0 nodes allowed.
- Group 2: Basic on/off (Triggered at change of input I1) up to 16 nodes.
When switch wired to input I1 is pressed Flush Shutter DC will send Basic set ON command to associated device and this device will turn ON, when it is released Flush shutter DC sends Basic set OFF command to associated device and this device will turn OFF.
- Group 3: Basic on/off (Triggered at change of input I2) up to 16 nodes.
When switch wired to input I2 is pressed Flush Shutter DC will send Basic set ON command to associated device and this device will turn ON, when it is released Flush

shutter DC sends Basic set OFF command to associated device and this device will turn OFF.

- Group 4: Basic on/off (Triggered at sensing moving direction of roller: up= FF, down = 00) up to 16 nodes.

When blinds are moving up, Flush Shutter DC will send Basic set ON command to associated device and associated device will turn ON. When blinds are moving down, Flush Shutter DC will send Basic set OFF command to associated device and the device will turn OFF.

- Group 5: Basic on/off (Triggered at reaching roller position: bottom=FF, top=0) up to 16 nodes.

When blinds reach upper position Flush Shutter DC will send Basic set OFF command to associated device and the device will turn OFF. When blinds reach down position Flush Shutter DC will send Basic set ON command to associated device and the device will turn ON.

- Group 6: Basic on/off (triggered at reaching roller position: bottom=FF, not bottom=0) up to 16 nodes

When blinds reach down position, Flush Shutter DC will send Basic set ON command and the device will turn ON. When blinds are in any position which is not down (0%) Flush Shutter DC will send Basic set OFF to associated device and the device will turn OFF.

- Group 7: Multilevel set (Triggered at change of value of the Flush Shutter DC position), up to 16 nodes.

Flush shutter DC will set Switch multilevel command to associated device, the command is actual position of blinds so the associated device will turn on same level as blinds are. Example with association between Flush Shutter DC and dimmer, when shutters blinds reach middle position 50% it will send switch multilevel set 50% command and dimmer will turn on 50%.

End point 2:

- Group 1: Lifeline group, 0 nodes allowed.
- Group 2: Multilevel set (Triggered at changes of value of slats tilting position), up to 16 nodes. Flush Shutter DC device will send Switch multilevel set command to associated device, the command is actual position of tilts.

Example with association between Flush shutter DC and dimmer

When shutters tilts rotate to middle position 50% it will send switch multilevel set 50% command and dimmer will turn on 50%.

End point 3 (External Temperature Sensor):

- Group 1: Lifeline group, 0 nodes allowed.
- Group 2: Multilevel sensor report (triggered at sensed different value – sensor sold separately), up to 16 nodes. Flush Shutter DC device will send Multilevel sensor report to associated device, this will send the information of actual temperature that was measured with temperature sensor.

13. Flush Shutter DC Calibration

Automatic calibration

Automatic calibration is a process during which the Flush Shutter DC learns the position of the limit switches.

Shutter positioning calibration

(par. 71 set to 0)

There are two options to calibrate the device:

- **Calibration through main gateway (hub) UI**

- 1) Include the device into the Z-wave network according to the instructions for inclusion.
- 2) Set the parameter 78 (Forced Flush Shutter DC calibration) value to 1.
- 3) Flush Shutter DC performs the calibration process, completing full cycle - up, down and up again.
- 4) Set the parameter 78 (Forced Flush Shutter DC calibration) value to 0.

- **Calibration through the inputs I1 and I2**

- 1) Include the device into the wireless network, according to the instructions for inclusion.
- 2) Quick press the switch/push-button connected to I1 input and wait until the Shutter DC reaches the upper limit switch.
- 3) Quick press the switch/push-button connected to I2 input and wait until the Shutter DC reaches the lower limit switch.
- 4) Quick press the switch/push-button connected to I1 input and wait until the Shutter DC reaches the upper limit switch.

Slates tilting position calibration

(par. 71 set to 1)

When enabling venetian blind mode, position calibration for slats titling must be done. After doing this, position and angle of slates can be set. By default, full turn time for slates is set to 1.5s. This value can be changed with parameter 72.

- 1) Include and make device calibration according to section 'Shutter positioning calibration'.
- 2) Set parameter 71 to 1 'Venetian blinds'.
- 3) Exclude the device (without reset!).
- 4) Include the device.
- 5) After device inclusion beside main Shutter widget, another widget for slates control will appear on UI.
- 6) By default full turn movement is set to 1.5s. If this time is too long (if after slates full cycle Shutter starts moving up or down), decrease this time defined with parameter 72. If this time is too short (if slats will not turn for a full cycle), increase this time defined with parameter 72.

Manual operation for Shutter

(par. 71 set to 0)

The user can connect a push-button (mono-stable) or a switch (bi-stable) to I1 and I2 terminals.

Pressing the push-button for less than 2 seconds, which is connected to I1 (up), initiates up movement.

Pressing the push-button for less than 2 seconds, which is connected to I2 (down), initiates down movement.

If the Shutter is moving, any press (of any push-button) will stop the movement.

Keeping the push-button, connected to I1 (up), pressed for more than 2 seconds initiates up movement, until the push-button is released.

Keeping the push-button, connected to I2 (down), pressed for more than 2 seconds, initiates down movement, until the push-button is released.

Manual operation for venetian blinds

(par. 71 set to 1)

Slates on start position - 0 degree

Clicking the push-button (for time < full turn slates time-par.72) connected to I1 (up), initiates slates turning towards end - 180 degree position, until push-button is released.

Clicking the push-button (for time < full turn slates time-par.72) connected to I2 (down), initiates Shutter down movement.

If the Shutter is moving, any click (of any push-button), will stop the movement.

Keeping the push-button pressed (for time > full turn slates time-par.72) connected to I1 (up), initiates full slates turn and up movement, until the push-button is released.

Keeping the push-button pressed (for time > full turn slates time-par.72) connected to I2 (down), initiates Shutter down movement, until the push-button is released.

Keeping the push-button pressed (for time > (full turn slates time +2s)) connected to I1 (up), initiates up movement, until the push-button is released.

Slates on end position - 180 degree

Clicking the push-button (for time < full turn slates time-par.72) connected to I1 (up), initiates Shutter up movement.

Clicking the push-button (for time < full turn slates time-par.72) connected to I2 (down), initiates slates turning towards start - 0 degree position, until the push-button is released.

If the Shutter is moving, any click (of any push-button), will stop the movement.

Keeping the push-button (for time > full turn slates time-par.72), connected to I1 (up), pressed, initiates the Shutter up movement, until the push-button is released.

Keeping the push-button (for time > full turn slates time-par.72), connected to I2 (down), pressed, initiates full slates turn and down movement, until the push-button is released.

Keeping the push-button (for time > (full turn slates time +2s)), connected to I2 (down), pressed, initiates down movement, until push-button is released.

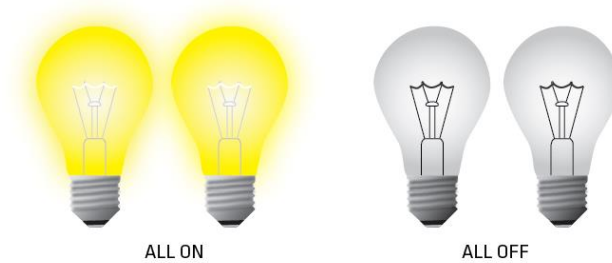
14. Configuration Parameters

Parameter no. 10 - Activate / deactivate ALL ON / ALL OFF Functionality

Flush Shutter DC device responds to the commands ALL ON / ALL OFF that may be sent by the primary or secondary gateway (hub) within the Z-Wave network.

Values (size is 2 byte dec):

- default value 255
- 255 - ALL ON active, ALL OFF active.
- 0 - ALL ON not active, ALL OFF not active
- 1 - ALL ON not active, ALL OFF active
- 2 - ALL ON active, ALL OFF not active



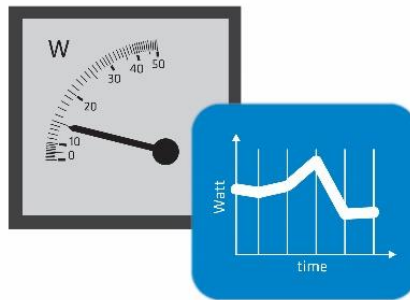
Parameter no. 40 – Watt Power Consumption Reporting Threshold for Q1 or Q2 Loads

Choose by how much the power consumption needs to increase or decrease to be reported. Values correspond to percentages, so if 10 is set (by default), the device will report any power consumption changes of 10% or more, compared to the last reading.

Values (size is 1 byte dec):

- default value 10
- 0 - Power consumption reporting disabled
- 1 - 100 = 1% - 100% Power consumption reporting enabled. New value is reported only when the power consumption in real time changes by more than the percentage value set in this parameter, compared to the previous power consumption reading, starting at 1% (the lowest value possible).

NOTE: Power consumption needs to increase or decrease by at least 1 Watt to be reported, REGARDLESS of the percentage set in this parameter.

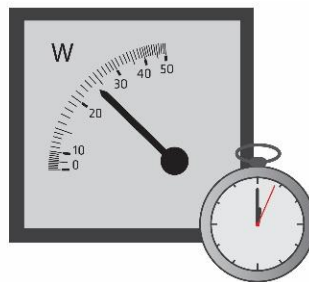


Parameter no. 42 – Power reporting in Watts by time interval for Q1 or Q2

The set value refers to the time interval with which the power consumption in Watts is reported (0 – 32767 seconds). If 0 is entered, energy consumption reports will not be sent to the gateway (hub).

Values (size is 2 byte dec):

- default value 300
- 0 - Power consumption reporting disabled
- 1 – 32767 = 1 - 32767 seconds. Power consumption reporting enabled. Report is sent according to time interval (value) set here.



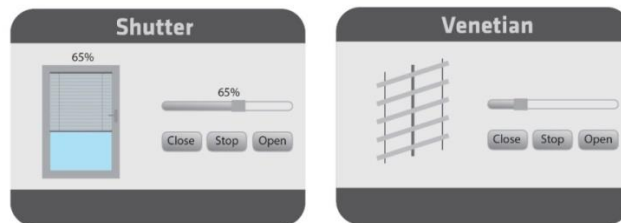
Parameter no. 71 – Operating modes

Choose between the two operating modes. If the venetian mode is selected, an additional widget/endpoint will be displayed on the UI interface, which can be used to control the tilt position of the slats. If the Shutter mode is selected, this additional endpoint is hidden.

Values (size is 1 byte dec):

- default value 0
- 0 - Shutter mode
- 1 - venetian mode (up/down and slate rotation)

NOTE1: After the value of this parameter is changed, first exclude device (without setting parameters to their default values), wait at least 30s and then reinclude the device!



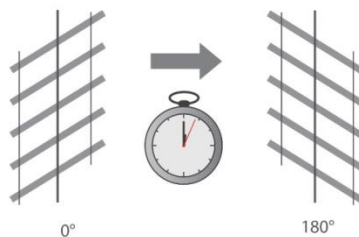
Parameter no. 72 – Slats tilting full turn time

Set the time, required by the slats, to make a full turn (180 degrees).

Values (size is 2 byte dec):

- default value 150 = 1.5 seconds
- 0 - tilting time disabled
- 1 - 32767 = 0,01seconds – 327.67 seconds

NOTE: If the set time is too long and a full turn was already performed, the device will start to move up or down for the remaining time.

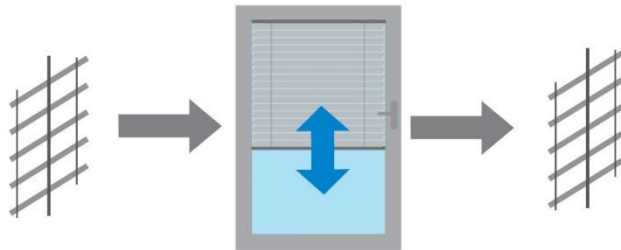


Parameter no. 73 – Slats position

Choose the position of the slats after up/down movement (activated through the Z-Wave gateway (hub) or the push-buttons) is completed.

Values (size is 1 byte dec):

- default value 1
- 0 - Slats return to the previously set position only after being activated via the Z-Wave gateway (hub) (not valid for limit switch positions).
- 1 - Slats return to the previously set position in case they were activated via the Z-Wave gateway (hub), push-button operation or when the lower limit switch is reached.



Parameter no. 74 – Motor moving up/down time

This parameter defines the time, required by the Shutter motor, to completely open or completely close the attached shutters.

Values (size is 2 byte dec):

- default value 0
- 0 – moving time disabled (working with limit switches)
- 1 - 32767 = 0.1seconds – 3276.7 seconds

After the set time passes, the motor stops (relay goes to the off state).

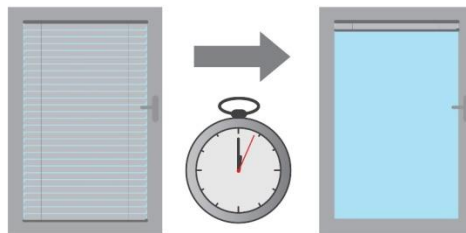
NOTE: It is important that the reference position, for setting the moving time, is always when the Shutter is at its lowest position!

Set parameter 74 to 0 and move the Shutter (using the up/down push-buttons or the main gateway (hub) UI) to the lowest desired position. When the Shutter reaches this position, set

the parameter 74 to the duration, required by the Shutter, to completely open or completely close the attached shutters. At this point the Shutter can be moved up (open), but can't be moved down, because this position is already set as its lowest position.

To change the defined lowest position of the Shutter below the one, which is already defined (manual recalibration), the parameter 74 must be set to 0 and the procedure, which is described above, should be repeated.

In case the Shutter operates using limit switches, but the user still wants to control the opening/closing position with time, this is still possible. If a time duration, which is longer than the opening/closing time of the shutters in real time (limited by the limit switches), is set, the Shutter will stop at the limit switches, but the device relay will switch it off after a defined time, not by the limit switch of the Shutter. Take into consideration that in this condition, positioning the shutters with the slider (through the UI) will not display the correct position of the Shutter.

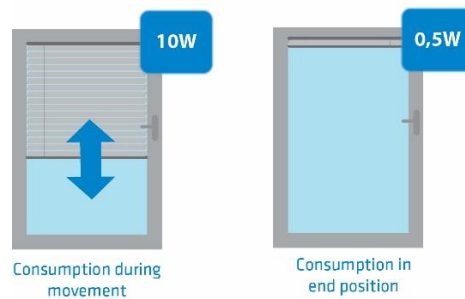


Parameter no. 76 - Motor operation detection

Define the power consumption threshold at the end positions. Based on this value, the device will know, that the shutters reached the limit switches.

Values (size is 1 byte dec):

- default value 6 = 0,6W
- 5 - 100 = 0,5W - 10W.



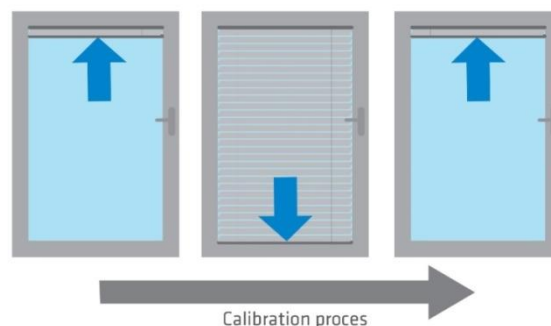
NOTE: Motors with power consumption less than 0.5W could not be auto-calibrated. In that case set time manually with Parameter no. 74

Parameter no. 78 - Forced Shutter calibration

By changing the value of this parameter from 0 to 1, the Shutter enters the calibration mode. For further information about the calibration process, please see section 9.

Values (size is 1 byte dec):

- default value 0
- 1 - Start the calibration process. When the calibration process finishes (completing the full cycle - up, down and up again), set the value of the parameter 78 (Forced Shutter calibration) back to 0.

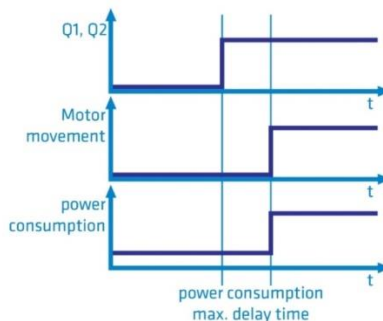


Parameter no. 85 – Power consumption max delay time

Define the maximum time before the power consumption of the motor, after one of the relays is switched ON, is read from the device. If there is no power consumption during the set time (motor not connected, damaged or requires longer time to start, motor at the end position), the relay will switch OFF. This time is defined by entering it manually.

Values (size is 1 byte dec):

- default value 8 = 800ms
- 0 = time is set automatically
- 3 - 50 = 0.3seconds - 5seconds (100ms resolution)

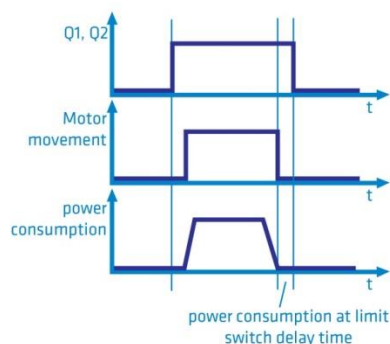


Parameter no. 86 – Power consumption at limit switch delay time

This parameter defines the maximum time after which the active output will switch off, due to reaching a limit switch. When power consumption is below the specified power threshold, defined in the parameter no. 76, the set time duration will have to pass in order for the output to turn off.

Values (size is 1 byte dec):

- default value 8 = 800ms
- 3 - 50 = 0.3seconds - 5seconds (100ms resolution)

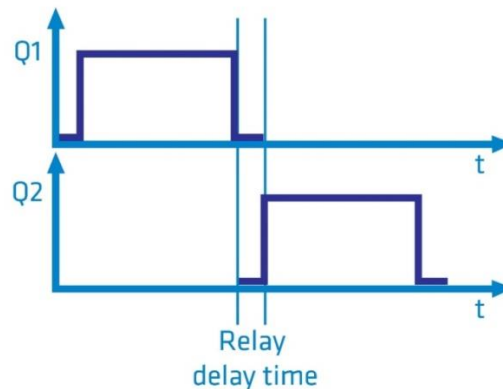


Parameter no. 90 – Time delay for next motor movement

This parameter defines the minimum time duration between successive motor movements (minimum time after which the motor is switched off and on again).

Values (size is 1 byte dec):

- default value 5 = 500ms
- 1 - 30 = 0.1seconds - 3seconds (100ms resolution)



Parameter no. 110 – Temperature Sensor Offset Settings

Set value is added to or subtracted from the actually measured value to adjust the temperature report sent by an external sensor (sold separately). This parameter only applies to the Celsius temperature unit (the Fahrenheit unit is currently not supported).

Values (size is 2 byte dec):

- default value 32536
- 32536 - Offset is 0 °C.
- 1 - 100 - Where 1 stands for 0.1°C and 100 stands for 10.00°C added to the actual measurement.
- 1001 - 1100 – Where 1001 stands for -0.1 degrees and 1100 stands for -10.0 degrees subtracted from the actual measurement.



Parameter no. 120 – Temperature Sensor Reporting Threshold

If an external digital temperature sensor (sold separately) is connected to the device, it reports temperature readings based on the threshold defined in this parameter. This parameter only applies to the Celsius temperature unit (the Fahrenheit unit is currently not supported).

Values (size is 1 byte dec):

- Default value 5 = 0.5°C
- 0 – Reporting disabled
1 - 127 = Where 1 stands for 0.1 and 127 stands for 12.7°C



15. Technical Specifications

Power supply	12-24VDC +/-10%*
Rated load current	2A
Overcurrent protection	5A
Output circuit power of DC output (resistive load)	48W (24VDC)
Power measurement accuracy	+/-5%
Digital temperature sensor range	-50 ~ +125°C (-58 ~ 257°F)
Operation temperature	-10 ~ +40°C (14 ~ 104°F)
Z-Wave operation range	up to 30 m indoors (98 ft)
Dimensions (WxHxD) (package)	41,8x36,8x16,9 mm (79x52x22 mm) / 1,65x1,45x0,66 in (3,11x2,05x0,87 in)
Weight (with package)	28g (34g) / 0.98oz (1.20oz)
Electricity consumption	0,4W
For installation in boxes	∅ ≥ 60 mm (2,36 in) or 2M, depth ≥ 60 mm (2,36 in)
Switching	H bridge
Z-Wave Repeater	Yes

* SELV Type

16. Z-Wave Command Classes

Z-Wave Device Class:

BASIC_TYPE_ROUTING_SLAVE

GENERIC_TYPE_SWITCH_MULTILEVEL

SPECIFIC_TYPE_CLASS_C_MOTOR_CONTROL

Z-Wave Supported Command Classes:

COMMAND_CLASS_ZWAVEPLUS_INFO_V2

COMMAND_CLASS_VERSION_V2

COMMAND_CLASS_MANUFACTURER_SPECIFIC_V2

COMMAND_CLASS_DEVICE_RESET_LOCALLY_V1

COMMAND_CLASS_POWERLEVEL_V1

COMMAND_CLASS_BASIC_V1

COMMAND_CLASS_SWITCH_ALL_V1

COMMAND_CLASS_SWITCH_BINARY_V1

COMMAND_CLASS_SWITCH_MULTILEVEL_V3

COMMAND_CLASS_METER_V4

COMMAND_CLASS_SENSOR_MULTILEVEL_V7

COMMAND_CLASS_MULTI_CHANNEL_V4

COMMAND_CLASS_ASSOCIATION_V2

COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3

COMMAND_CLASS_ASSOCIATION_GRP_INFO_V2

COMMAND_CLASS_CONFIGURATION_V1

COMMAND_CLASS_MARK

COMMAND_CLASS_BASIC_V1

COMMAND_CLASS_SWITCH_MULTILEVEL_V3

Endpoint1:

Device Class:

BASIC_TYPE_ROUTING_SLAVE

GENERIC_TYPE_SWITCH_MULTILEVEL

SPECIFIC_TYPE_CLASS_C_MOTOR_CONTROL

Command Classes:

COMMAND_CLASS_ZWAVEPLUS_INFO_V2

COMMAND_CLASS_VERSION_V2

COMMAND_CLASS_BASIC_V1

COMMAND_CLASS_SWITCH_ALL_V1

COMMAND_CLASS_SWITCH_BINARY_V1

COMMAND_CLASS_SWITCH_MULTILEVEL_V3

COMMAND_CLASS_METER_V4

COMMAND_CLASS_ASSOCIATION_V2

COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3

COMMAND_CLASS_ASSOCIATION_GRP_INFO_V2

COMMAND_CLASS_MARK

COMMAND_CLASS_BASIC_V1

COMMAND_CLASS_SWITCH_MULTILEVEL_V3

Endpoint2:

Device Class:

BASIC_TYPE_ROUTING_SLAVE

GENERIC_TYPE_SWITCH_MULTILEVEL

SPECIFIC_TYPE_CLASS_C_MOTOR_CONTROL

Command Classes:

COMMAND_CLASS_ZWAVEPLUS_INFO_V2

COMMAND_CLASS_VERSION_V2

COMMAND_CLASS_BASIC_V1

COMMAND_CLASS_SWITCH_ALL

COMMAND_CLASS_SWITCH_BINARY_V1

COMMAND_CLASS_SWITCH_MULTILEVEL_V3

COMMAND_CLASS_ASSOCIATION_V2

COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3

COMMAND_CLASS_ASSOCIATION_GRP_INFO_V2

COMMAND_CLASS_MARK

COMMAND_CLASS_BASIC_V1

COMMAND_CLASS_SWITCH_MULTILEVEL_V3

Endpoint 3:

Device Class:

GENERIC_TYPE_SENSOR_MULTILEVEL

SPECIFIC_TYPE_ROUTING_SENSOR_MULTILEVEL

Command Classes:

COMMAND_CLASS_ZWAVEPLUS_INFO_V2

COMMAND_CLASS_VERSION_V2

COMMAND_CLASS_SENSOR_MULTILEVEL_V7

COMMAND_CLASS_ASSOCIATION_V2

COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3

COMMAND_CLASS_ASSOCIATION_GRP_INFO_V2

NOTE: The above list is valid for the product with a temperature sensor connected to TS terminal at the time of inclusion. In case the sensor is not connected then the following command class and endpoint 3 are not supported:

COMMAND_CLASS_SENSOR_MULTILEVEL_V7

Endpoint 2 is supported by the module only when the parameter no. 71 is set to the value 1 and the module is excluded and re-included into the network.

This product can be included and operated in any Z-Wave network with other Z-Wave certified devices from any other manufacturers. All constantly powered nodes in the same network will act as repeaters regardless of the vendor in order to increase reliability of the network.

COMMAND_CLASS_METER

- Default values:
 - Rate Type = 1 (Import)
 - Scale = 0 (kWh)

17. Important Disclaimer

Z-Wave wireless communication is not always 100% reliable. This device should not be used in situations in which life and/or valuables are solely dependent on its functioning. If the device is not recognized by your gateway (hub) or shows up incorrectly, you may need to change the device type manually and make sure your gateway (hub) supports multi-channel devices. Contact us for help before returning the device: <http://qubino.com/support/#email>

18. Warning

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 your health and well-being. When replacing old appliances with new ones, the retailer is legally obligated to take back your old appliance for disposal free of charge.

19. Regulations

FCC COMPLIANCE STATEMENT:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not in-stalled and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: —Reorient or relocate the receiving antenna. — Increase the separation between the equipment and receiver. —Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. —Consult the dealer or an experienced radio/ TV technician for help.

Legal Notice

This user manual is subject to change and improvement without notice. GOAP d.o.o. Nova Gorica reserves all rights to revise and update all documentation without any obligation to notify any individual or entity.

Declaration of Conformity

Qubino Flush Shutter DC device is in compliance with the essential requirements and other relevant provisions of the Low voltage (LVD) Directive (2014/35/EU), Electromagnetic Compatibility (EMC) Directive (2014/30/EU), Radio Equipment Directive (2014/53/EU), Directive RoHS 2 (2011/65/EU) and Directive ErP (2009/125/EC).

WEEE

According to the WEEE (Waste electrical and electronic equipment) Directive, do not dispose of this product as household waste or commercial waste. Waste electrical and electronic equipment should be appropriately collected and recycled as required by practices established for your country. For information on recycling of this product, please contact your local authorities, your household waste disposal service or the shop where you purchased the product.



NOTE: User manual is valid for device with SW version S5 (SW version is part of P/N)!

Example:P/N: ZMNHODxHxS5Px

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[DON'T MISS OTHER INVENTIONS FROM QUBINO– CLICK HERE AND CHECK OUT QUBINO'S COMPLETE PORTFOLIO](#)