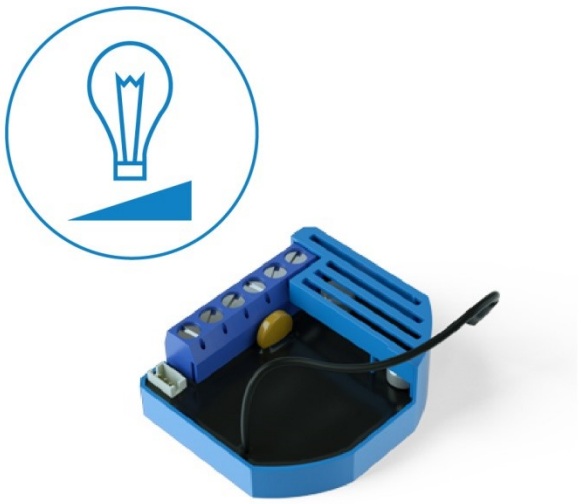
Your little magic for the smartest home.

USER MANUAL **EN**

QUBINO FLUSH DIMMER



The Qubino Flush Dimmer is a MOSFET-switching light device that also supports control of low-voltage halogen lamps with electronic transformers, dimmable compact fluorescent lights, and dimmable LED bulbs.

EN

Table of contents

EN

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:

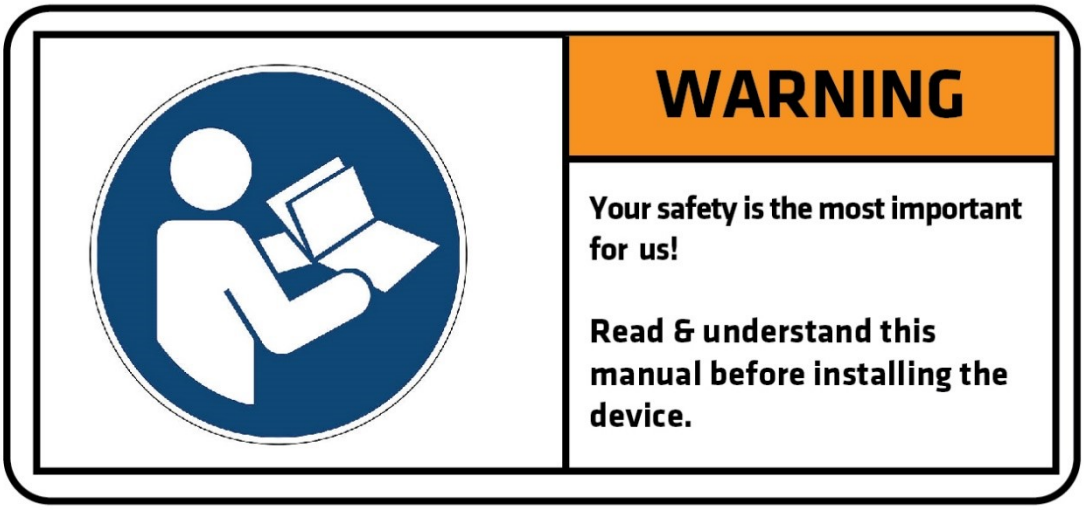
The Z-Wave protocol is an interoperable, wireless, RF-based communications technology designed specifically for control, monitoring, and status reading applications in residential and light commercial environments. Mature, proven, and broadly deployed (with over 50 million products sold worldwide), Z-Wave 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.



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

Flush Dimmer - Available Frequencies

ORDERING CODE (MODEL NUMBER)	POWER SUPPLY FREQUENCY	Z-WAVE FREQUENCY*
ZMNHDD1	50 Hz	868,4 MHz
ZMNHDD2	50 Hz	921,4 MHz
ZMNHDD3	60 Hz	908,4 MHz
ZMNHDD4	50 Hz	869,0 MHz
ZMNHDD5	50 Hz	916,0 MHz
ZMNHDD6	50 Hz	868,4 MHz
ZMNHDD7	50 Hz	919,8 MHz
ZMNHDD8	50 Hz	865,2 MHz
ZMNHDD9	60 Hz	922,5 MHz
ZMNHDDA	60 Hz	919,7 – 921,7 – 923,7 MHz
ZMNHDDB	50 Hz	868,1 MHz
ZMNHDDC	60 Hz	868,1 MHz
ZMNHVDD	60 Hz	919,8 MHz
ZMNHVDE	50 Hz	920,9 MHz

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

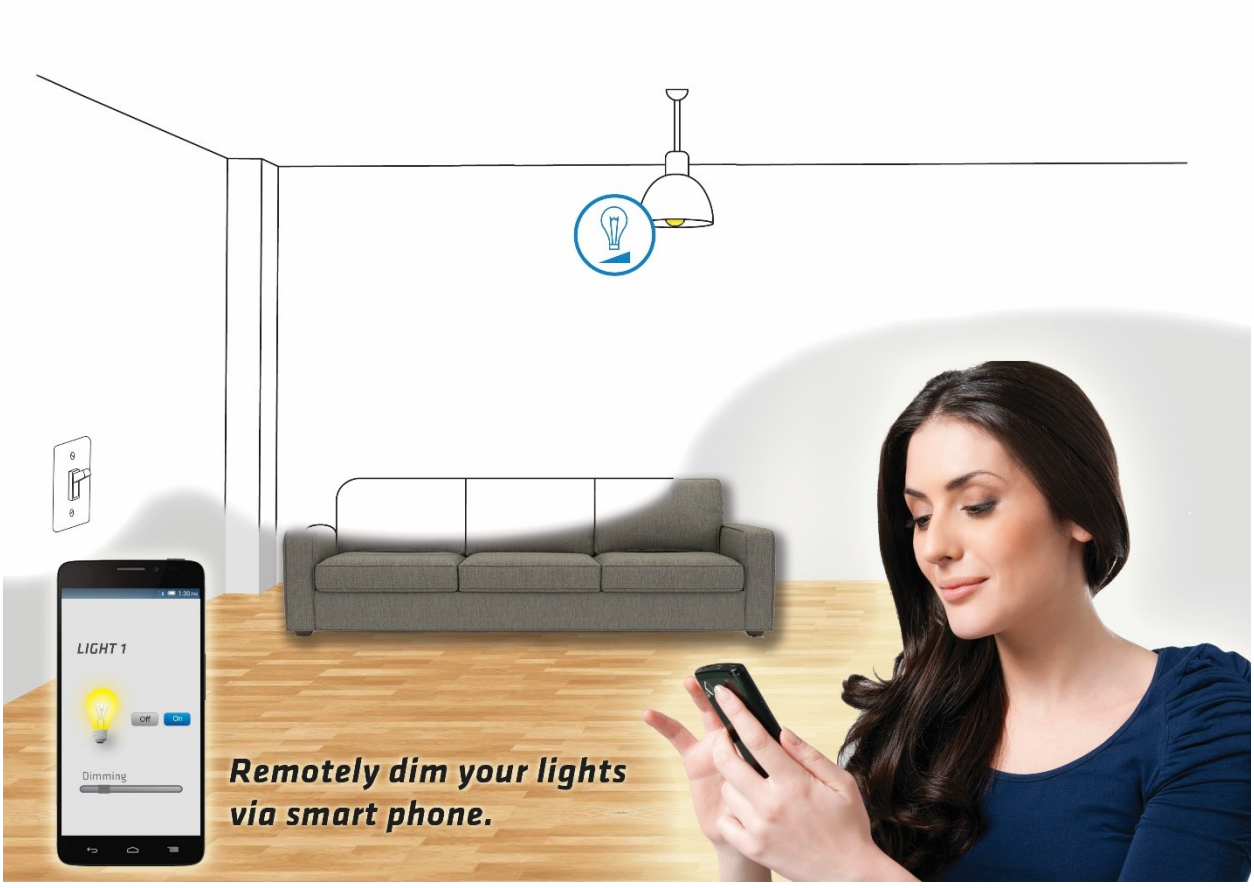
https://www.silabs.com/products/wireless/mesh-networking/z-wave/benefits/technology/global-regions?cid=nat-acq-zwv-041818

Where To Buy

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

1. Introduction

Flush Dimmer is a MOSFET-switching light device that also supports control of low-voltage halogen lamps with electronic transformers, dimmable compact fluorescent lights, and dimmable LED bulbs. It measures power consumption of the connected device, and can be paired with a digital temperature sensor (sold separately). It supports push-button/momentary switches and toggle switches (default).



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 Dimmer also acts as a Z-Wave repeater to improve the range and stability of the Z-Wave network.

Flush Dimmer supported functions:

Dim the Lights	Turn on/off	kWh Measurement	W Measurement	Temperature Sensor	Automatically turn ON/OFF
✓	✓	✓	✓	✓	✓

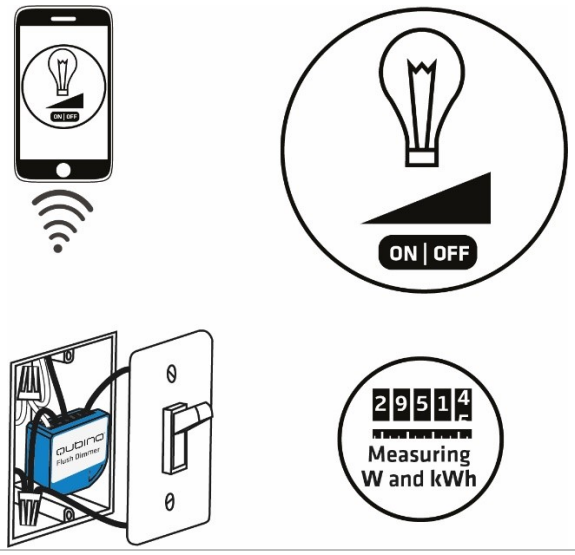
Scene 1 Trigger	Scene 2 Trigger	Associations	Z-Wave Repeater	Auto-inclusion
✓	✓	✓	✓	✓

2. Use Cases

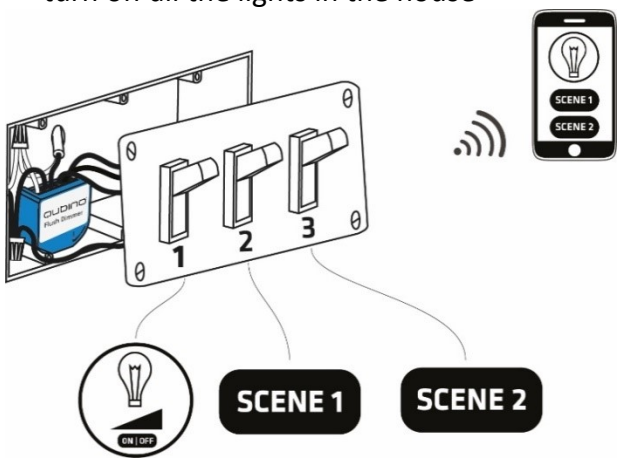
The Flush Dimmer can be used in many different scenes, which can help make your life more comfortable. We have prepared a few of them for you-so you can get an idea for your next smart home project. Of course, there are countless of other options for how to use Qubino Flush Dimmer to remotely control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

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

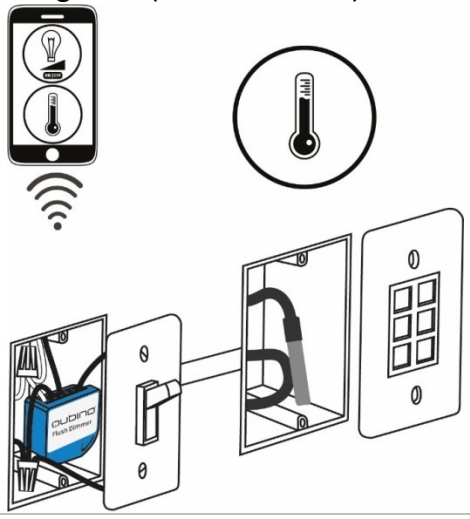
- Remotely dim the lights or turn them ON/OFF
-



- Remotely trigger different scenes with two additional inputs (I2, I3) – for example scene 1: turn on all the lights in the house, scene 2: turn off all the lights in the house

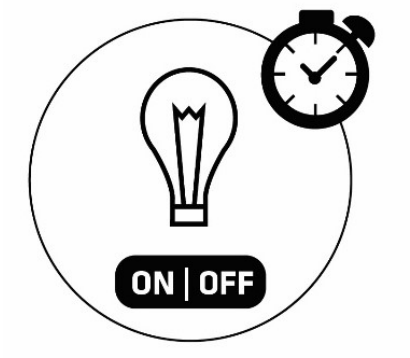


- Remotely measure room temperature (* The temperature sensor is sold separately - for more info, please see Qubino catalogue. Product ordering code (model number): ZMNHEA1)

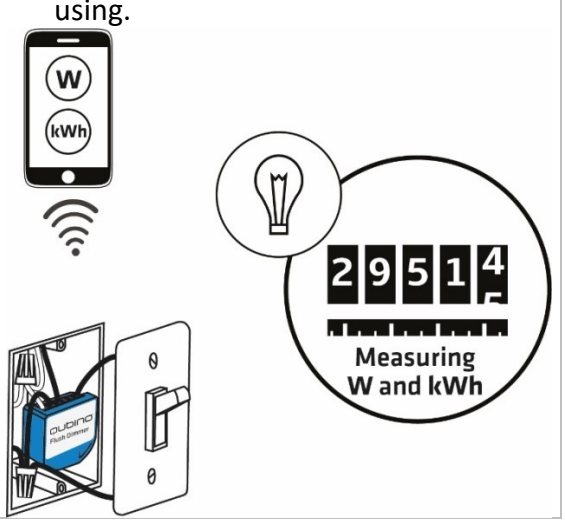


2.2. Additional features of Flush Dimmer which can make your life easier

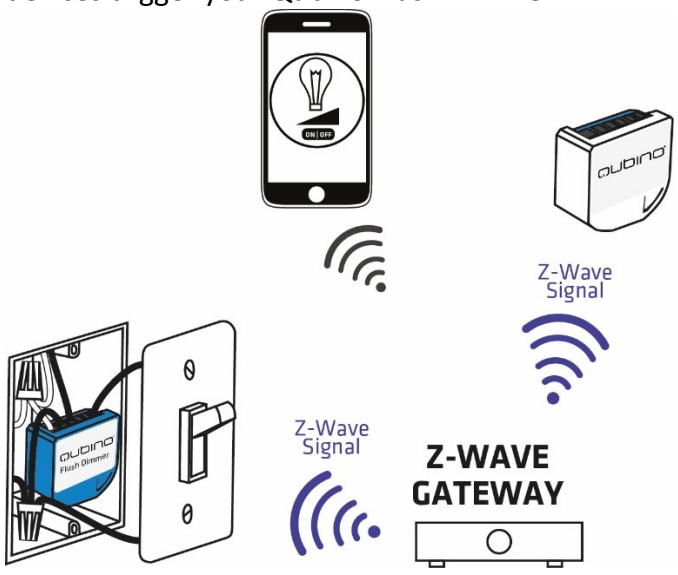
- **Do you often forget to turn off devices when you leave your home, like lights in the basement or attic?**
  The Flush Dimmer can automatically turn lights on or off after a set period of time (when you're away from home). For example, the light will automatically turn off if it's been on for 8 hours, let's say. This function is independent of other scenes and gateway (hub) commands.



- **Do you know how much energy you consume?**
  The Flush Dimmer monitors and reports energy consumption of connected devices in real time to your smart home app (your gateway (hub) needs to support this feature). Know how much power your lights are using.



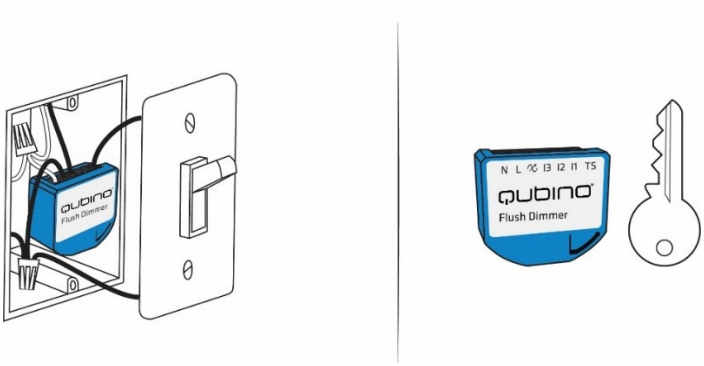
- **Want to control other devices in your Z-Wave network with the Flush Dimmer?**
  Connect the Flush Dimmer with other devices in your network to remotely and automatically trigger another Z-Wave device. And have other Z-Wave devices trigger your Qubino Flush Dimmer.



3. Qubino Flush Dimmer Advantages and Highlights

3.1. Advantages

- The Qubino Flush Dimmer allows the **easiest and quickest installation possible**. Because of its small size, it fits smoothly in even the smallest, most shallow and most crowded flush mounting boxes, which are stuffed with lots of electrical cables and where **every millimetre counts**. All this is possible because the Qubino Flush Dimmer is **the smallest Z-Wave dimmer in the world**.

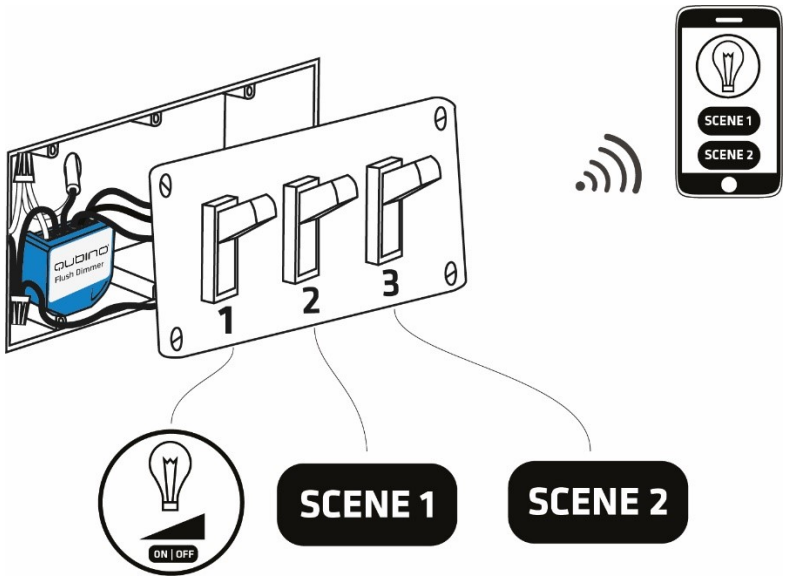


- The Qubino Flush Dimmer has the **option to connect a temperature sensor***, through which users can monitor the ambient air or water temperature. It's the only Z-Wave dimmer in the world which offers this option. With a connected sensor, the user can monitor accurate measurements of the room temperature, pool water temperature, etc., and remotely change conditions as desired. Qubino dimmer, 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

ⓘ **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.**

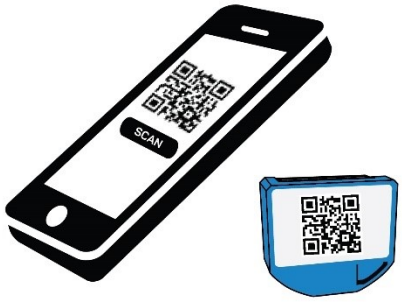
- The Qubino Flush Dimmer is the only Z-Wave dimmer in the world that has two additional inputs (I2, I3), which enable **triggering of different scenes**. The user does not need to buy additional devices for setting various scenes. For example:
    - Switch connected to input I2: Welcome Home – turn on all the lights in the house
    - Switch connected to input I3: Leaving Home – turn off all the lights in the house



- Qubino Dimmer allows a direct connection of even the smallest bulbs. It's the only Z-Wave dimmer on the market that does not require any minimum load power, which means that the user can connect the bulbs with minimum power loads that are bigger than 0 W. So there is no need for buying a bypass for connecting for example LED lights with 3 W, 7 W, 10 W etc

- 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 Dimmer is **engineered and manufactured in the EU,** and contains only the highest quality components.

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

3.2. Highlights

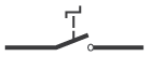
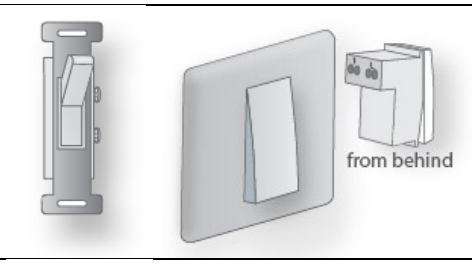
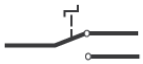
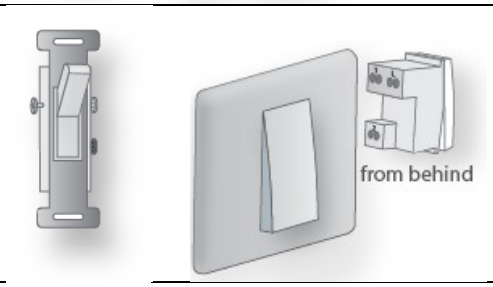
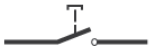
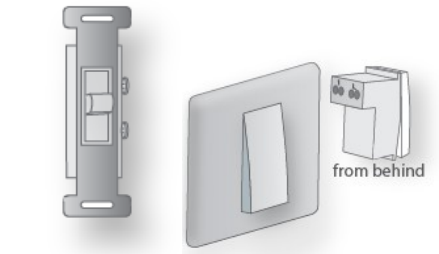
- Remote (via smartphone or PC) and local on/off control of ALL dimmable bulbs
- Works with push-button (momentary switch) or toggle switches
- Capable of measuring the power consumption of the connected device in real time via smartphone, which allows you to save on electricity bills*
- Features one 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
- Can automatically turn devices on and off after a set period of time (helpful when you're away from home, for example)*
- 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 Dimmer Device
- Installation Manual

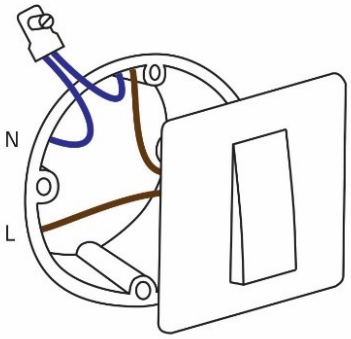
5. Technical Terms for Switches

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	Intermedi-ate switch	Four-way switch	Intermedi-ate switch	Crossover switch; Cross connection
		After being released, it goes back to its original state	Momentary switch		Momentary switch	Monostable switch; Push button

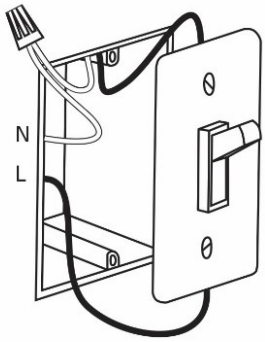
Qubino devices are installed into flush mounting boxes behind the switches. You can see some examples below:

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

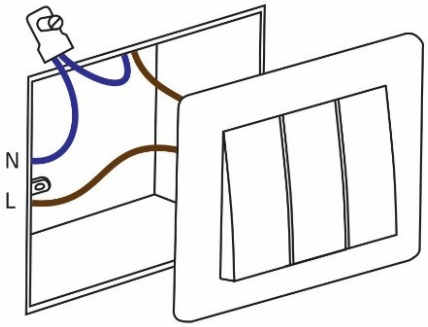
EU example:



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. The compatibility table is available online.

https://qubino.com/products/flush-dimmer/flush-dimmer-compatibility-specifications/

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 1A, gG or Time lag T, rated breaking capacity 1500A (ESKA 522.717) must be used according to wiring diagram to achieve appropriate overload protection of the device. The fuse must be installed in fuse holder type: Adele contact 503Si/1 DS according to the standard IEC60669-2-1.

ⓘ **LED Bulbs Compatibility Note!**

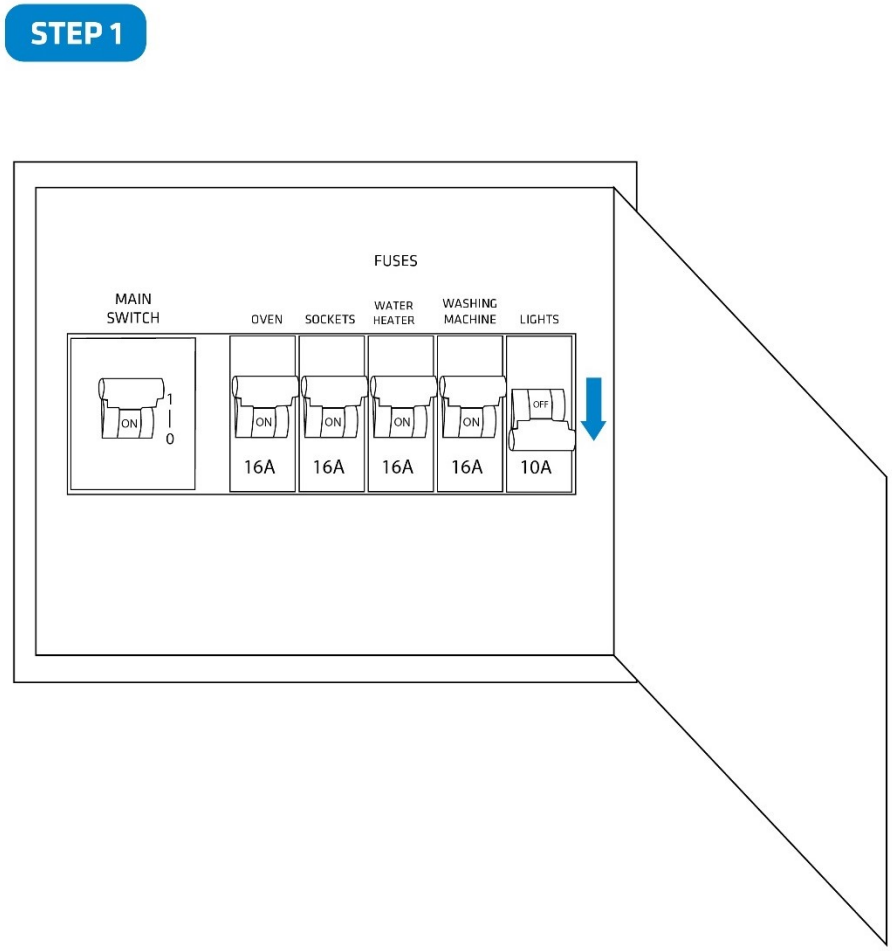
We can guaranty dimming compatibility only with halogen bulbs. For dimming LED bulbs please refer to manufacturer specifications and make sure to read their recommendations, as diming behaviour can vary. To ensure acceptable dimming performance we advise independent test, before commencing a large scale installation.

7.1. Installing the device behind a light switch

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

<u>Step 1 – Turn OFF the fuse:</u>

- 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.

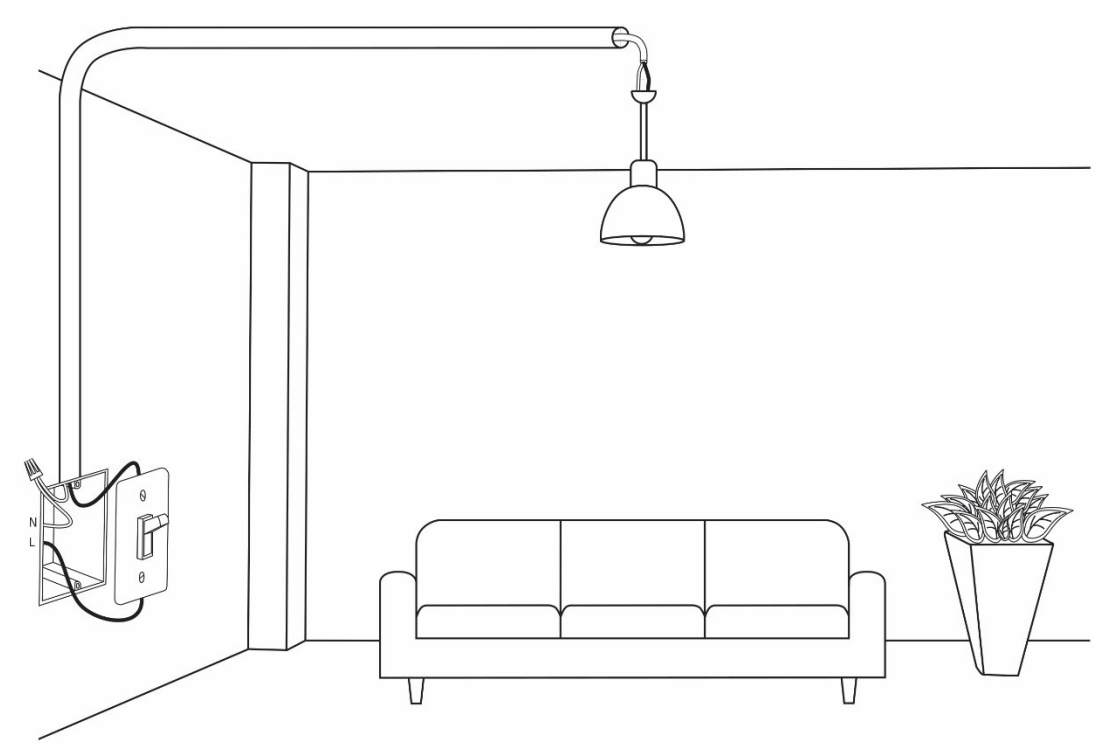


Step 2 – Installing the device:

- Connect the device exactly according to the diagrams shown below

STEP 2

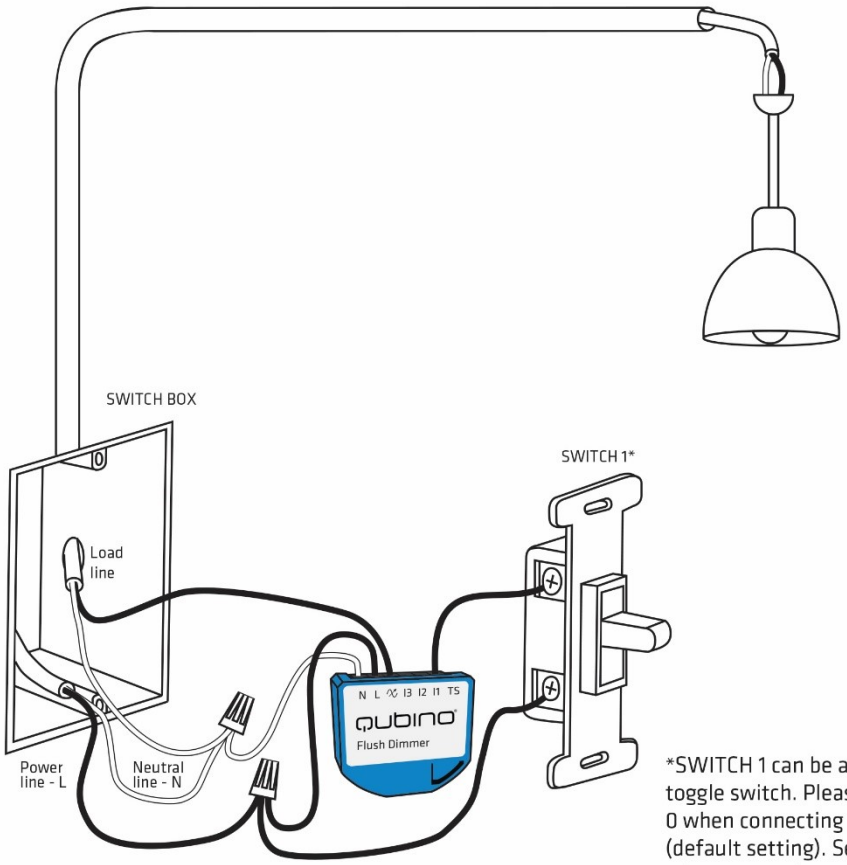
Before Qubino installation:



Installation and wire connections are the same in USA, EU and ITA/Brasil.

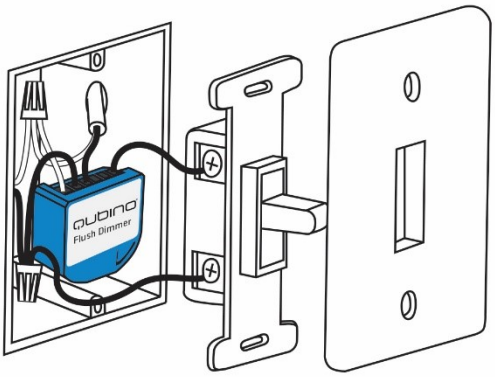
After Qubino installation:

Wiring with one switch:

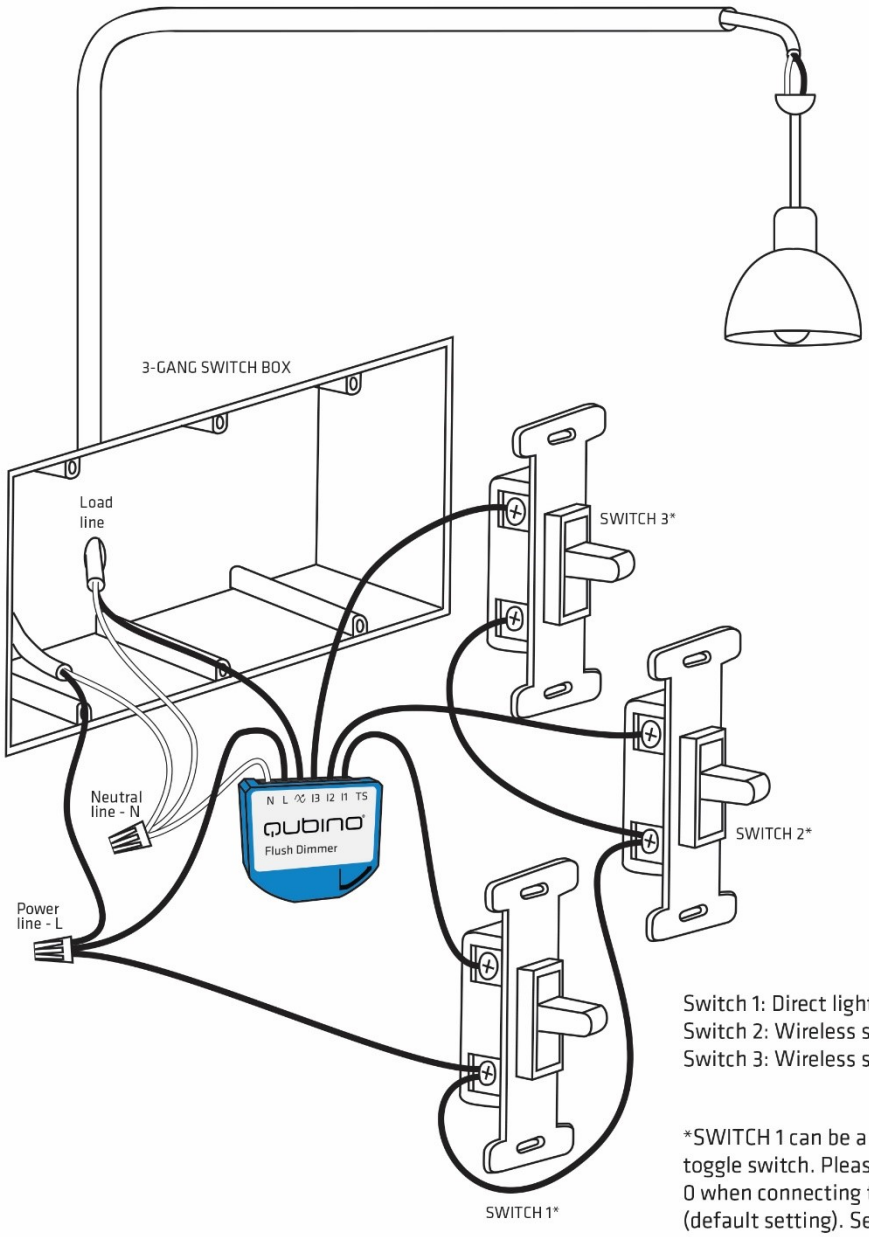


*SWITCH 1 can be a momentary switch or a toggle switch. Please set parameter 1 to value 0 when connecting to a momentary switch (default setting). Set parameter 1 to value 1 when connecting to an on/off toggle switch. Please see the Configuration Parameters chapter for more information about advanced parameter settings

Installation in the switch box:



INSTALLATION WITH ON/OFF SWITCH AND SCENE SWITCHES:

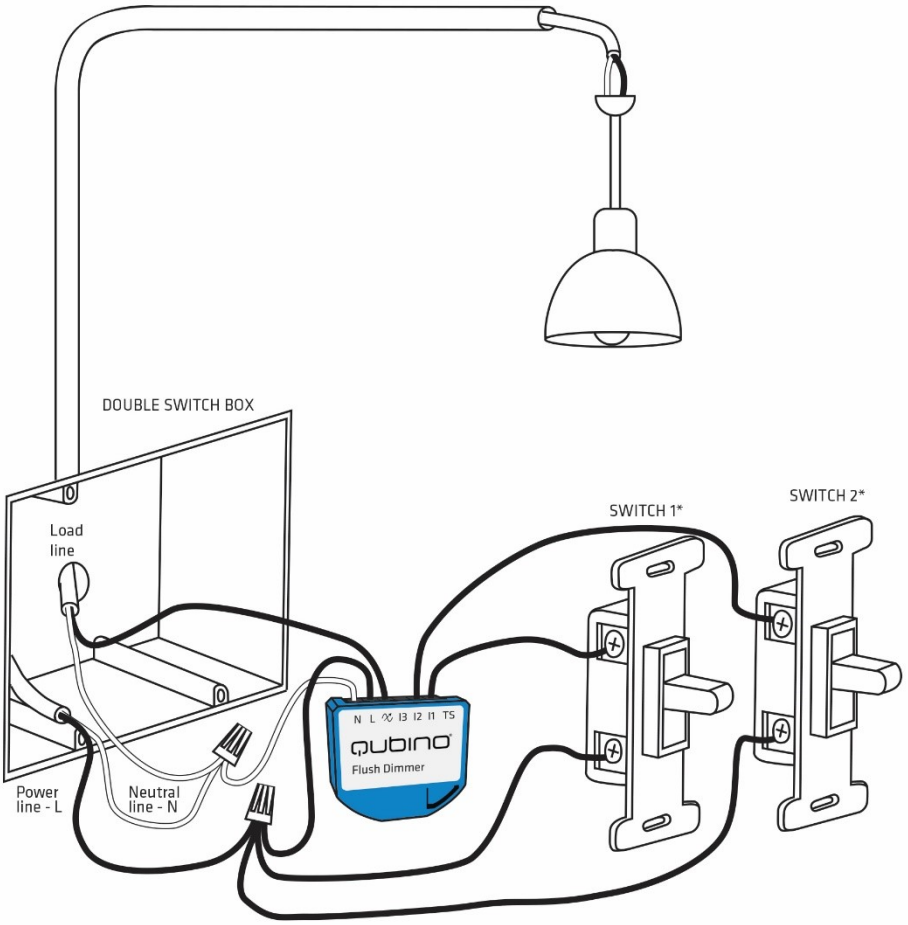


Switch 1: Direct light fixture control
Switch 2: Wireless scene control (Scene 1)
Switch 3: Wireless scene control (Scene 2)

*SWITCH 1 can be a momentary switch or a toggle switch. Please set parameter 1 to value 0 when connecting to a momentary switch (default setting). Set parameter 1 to value 1 when connecting to an on/off toggle switch. Please see the Configuration Parameters chapter for more information about advanced parameter settings

SWITCHES 2 AND 3 must be momentary switches.

INSTALLATION WITH 3-WAY SWITCH:

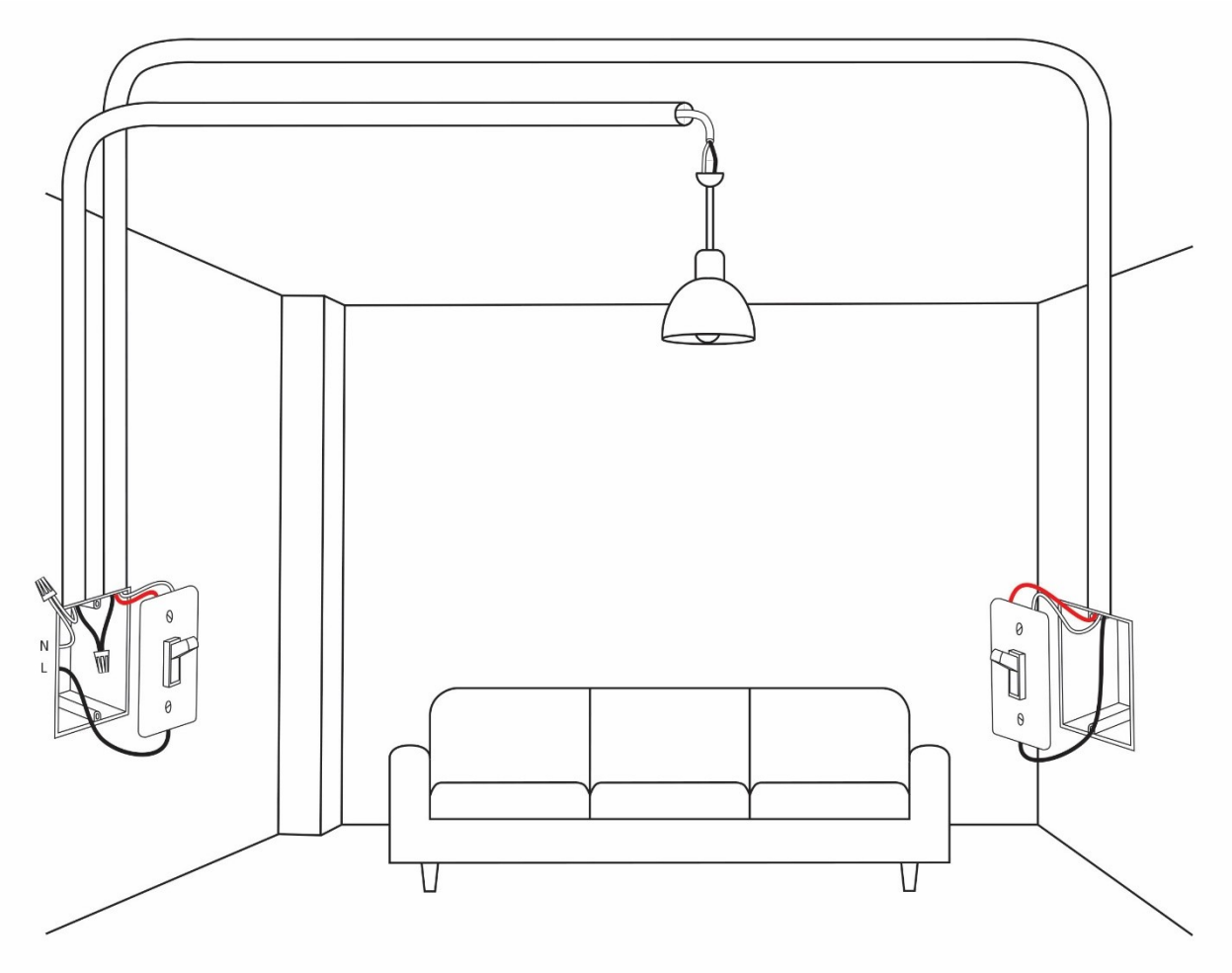


Switch 1: For dimming up
Switch 2: For dimming down

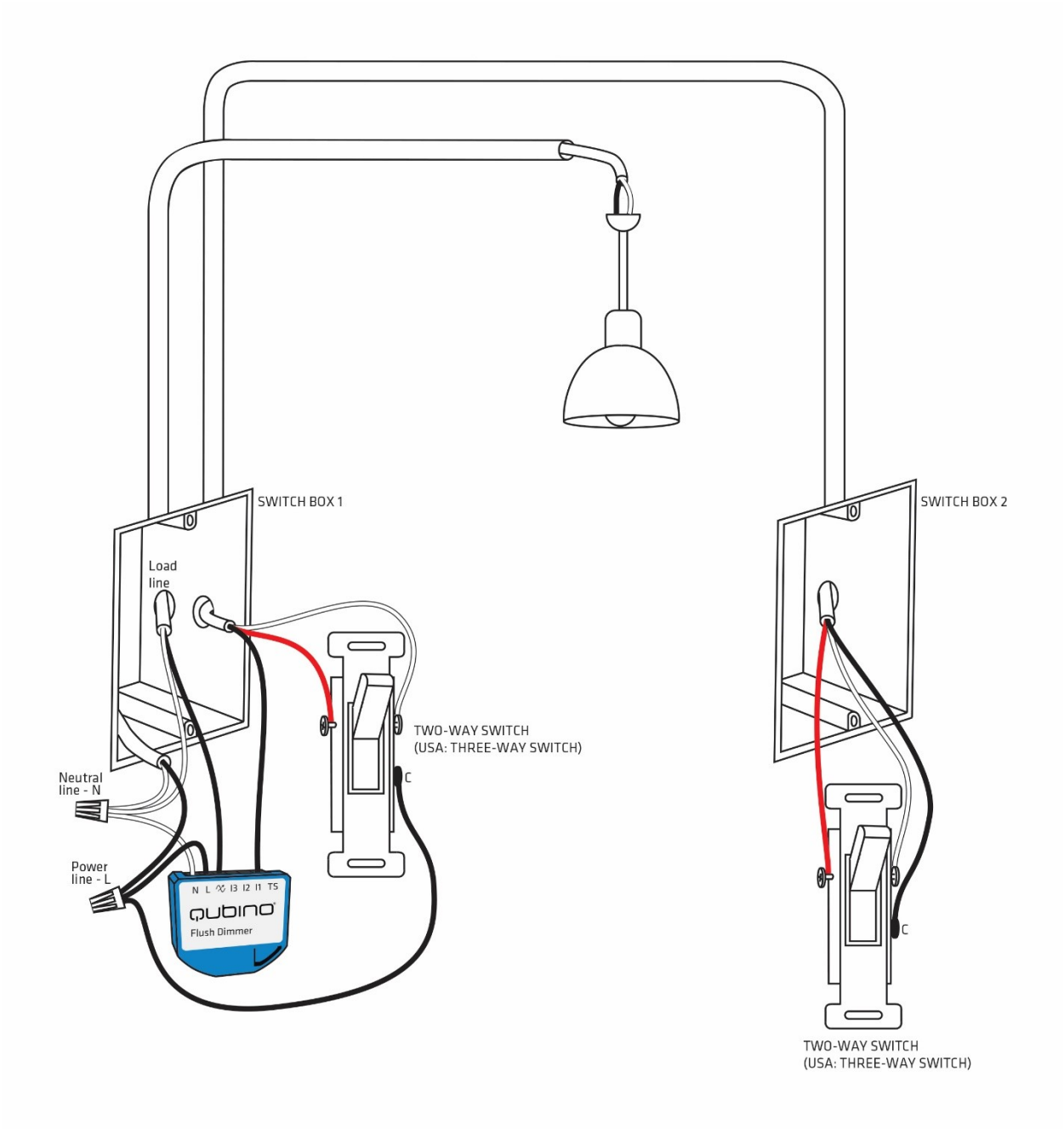
*SWITCHES 1 AND 2 MUST BE MOMENTARY SWITCHES

INSTALLATION WITH 2 OR MORE SWITCHES CONTROLLING THE SAME LIGHT:

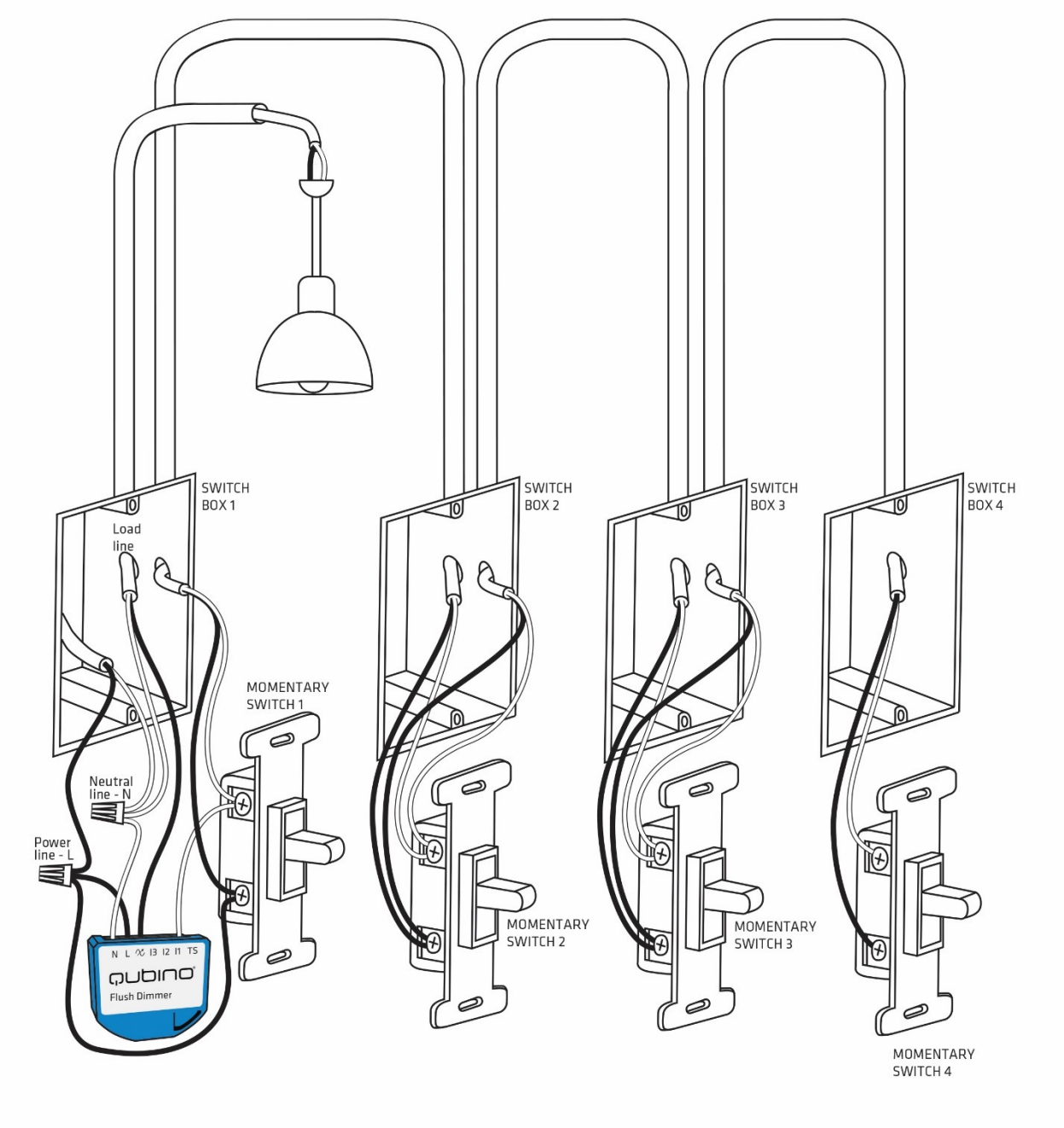
Before Qubino installation:



2 WAY SWITCH:

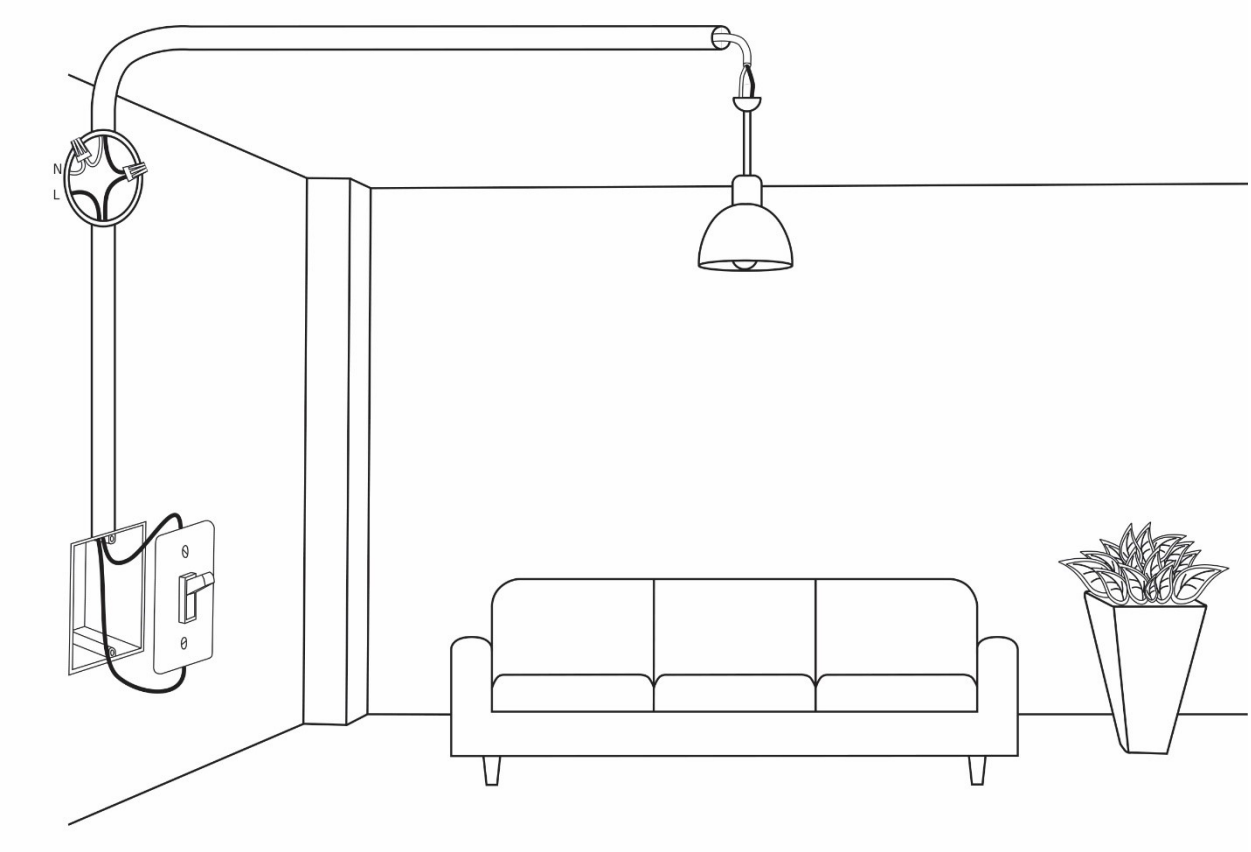

SWITCH BOX 1
Load line
TWO-WAY SWITCH
(USA: THREE-WAY SWITCH)
C
Neutral line - N
Power line - L
N L I3 I2 I1 TS
qubino
Flush Dimmer
SWITCH BOX 2
C
TWO-WAY SWITCH
(USA: THREE-WAY SWITCH)

MULTI-WAY SWITCHES:

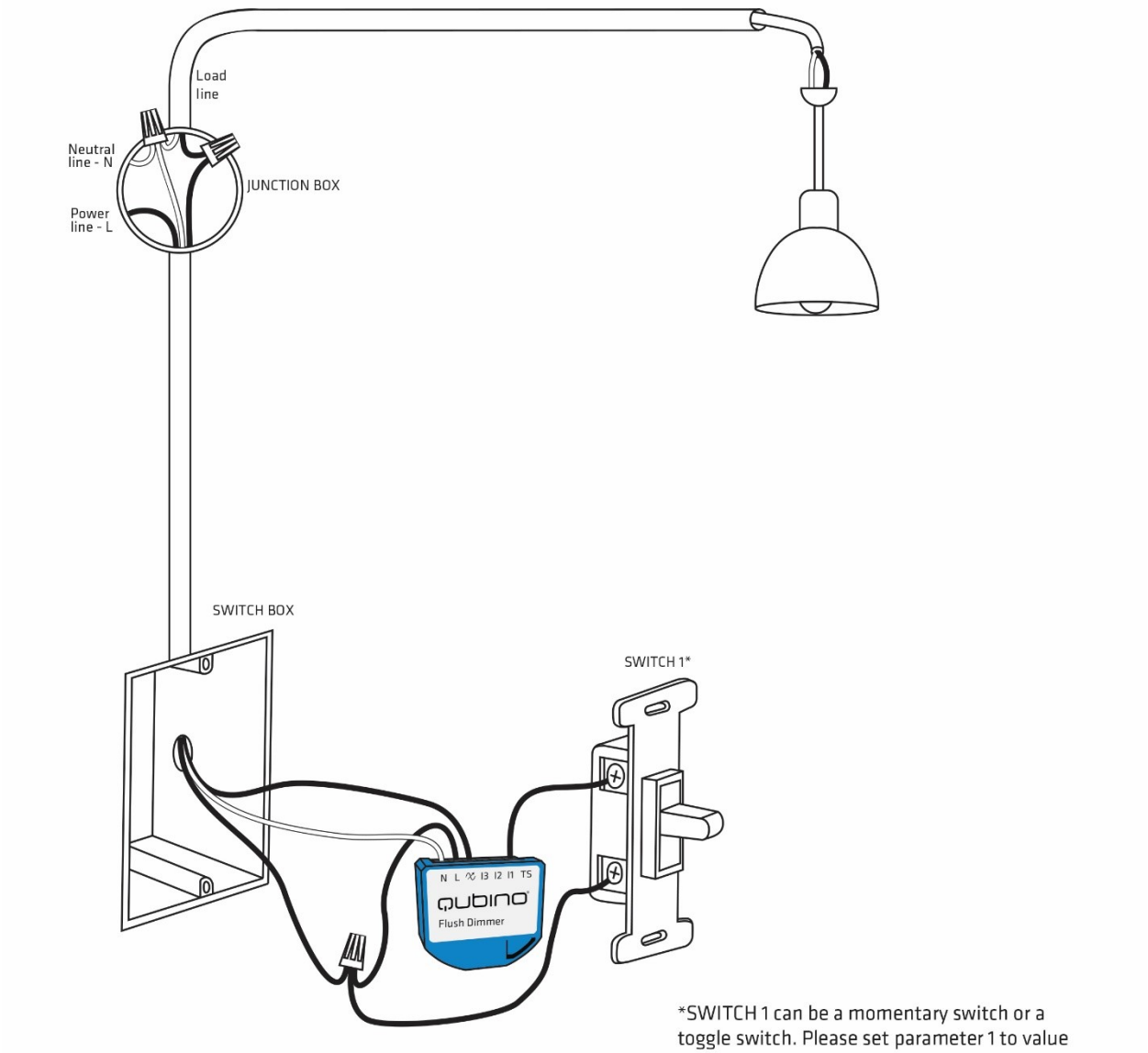


INSTALLATION WHERE THERE IS NO NEUTRAL LINE (N) IN SWITCH BOX

Before Qubino installation:



After Qubino installation:



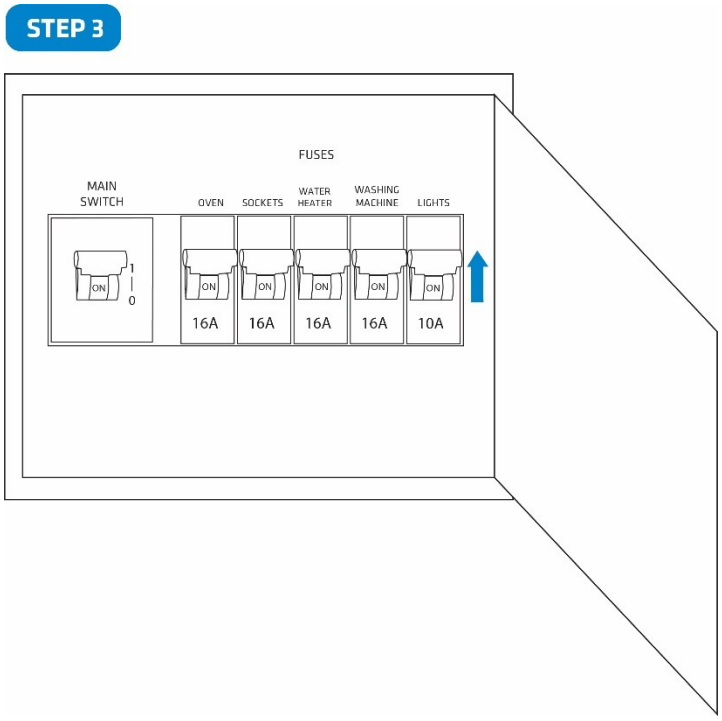
*SWITCH 1 can be a momentary switch or a toggle switch. Please set parameter 1 to value 0 when connecting to a momentary switch (default setting). Set parameter 1 to value 1 when connecting to an on/off toggle switch. Please see the Configuration Parameters chapter for more information about advanced parameter settings

ⓘ **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).

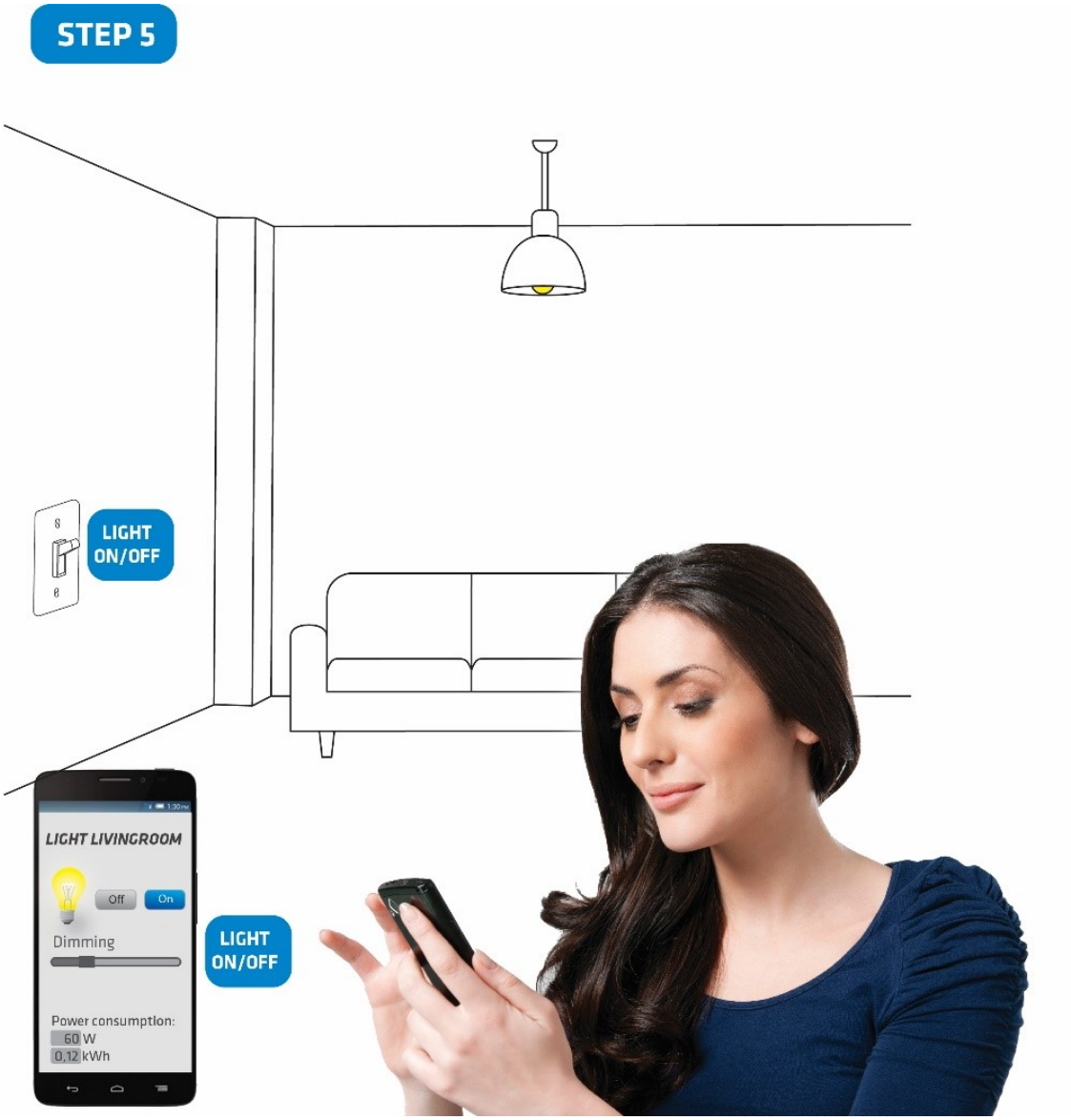
Step 3 – Turn ON the fuse:



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 Dimmer

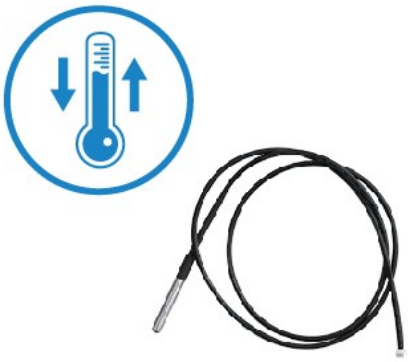


7.2. Installing the Qubino Temperature Sensor

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 device s 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 -25 ~ +80°C (-13~ 176°F).
For more details about the temperature range, see the manual for the temperature sensor below. Qubino_Temperature Sensor manual_eng



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

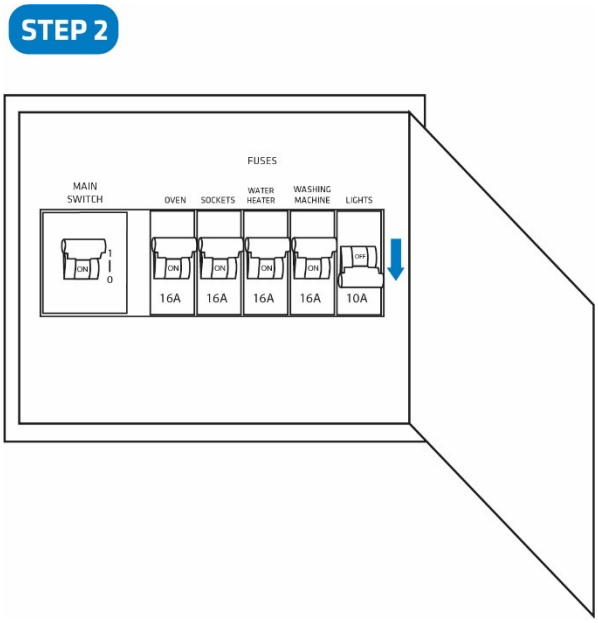
1. To prevent electrical shock, make sure that no voltage is present on the temperature sensor cable.
2. When connected to Qubino device, the temperature sensor is under high voltage, which is very dangerous.
3. Goap d.o.o. does not take responsibility for any damage or electrical shock due to incorrect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

NOTE: When Qubino is wired to 110-240VAC (high voltage) the temperature sensor must not be in direct contact with water.

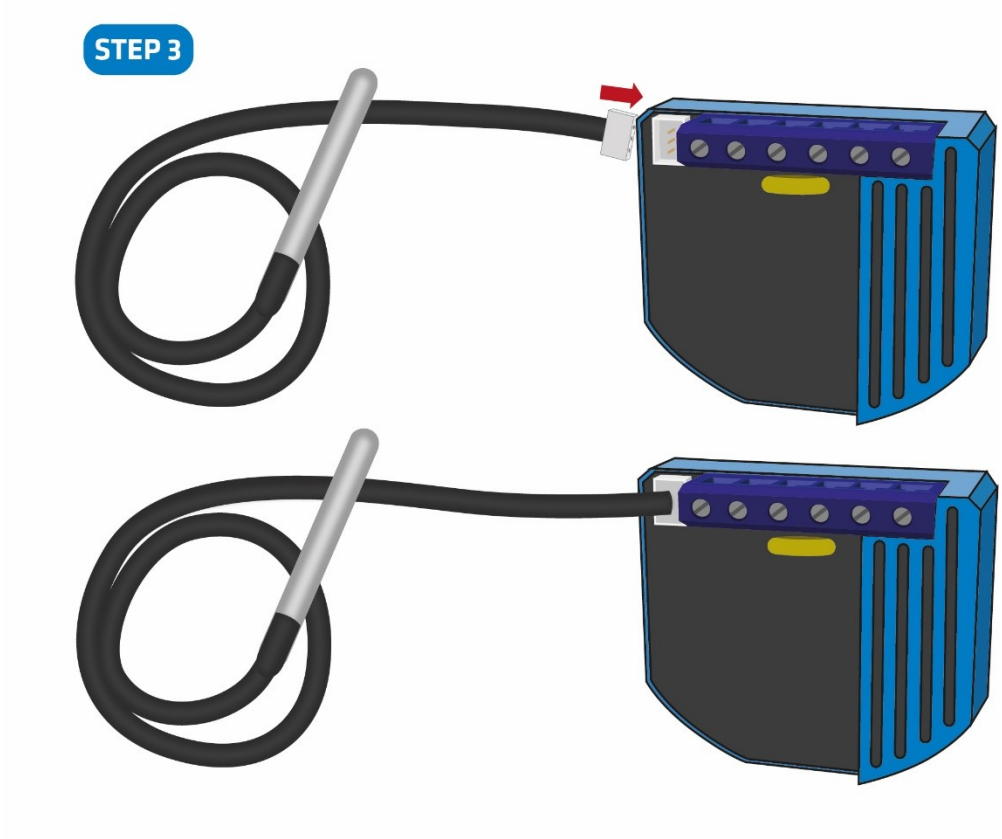
Temperature sensor installation example:

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

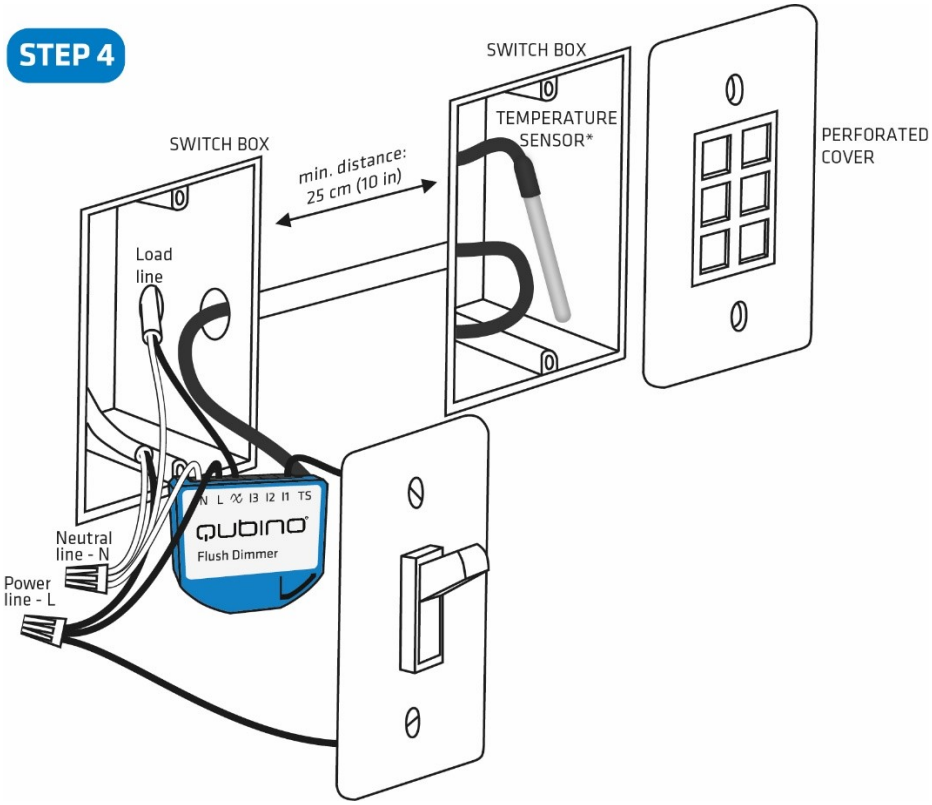
Step 2 – Switch of the power supply



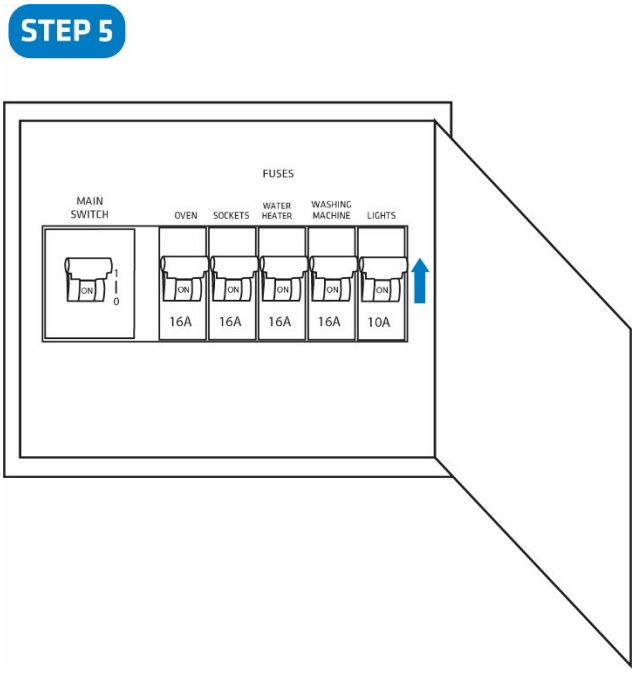
Step 3 – Connect the temperature sensor as shown below



Step 4: Place the temperature sensor in the switch box

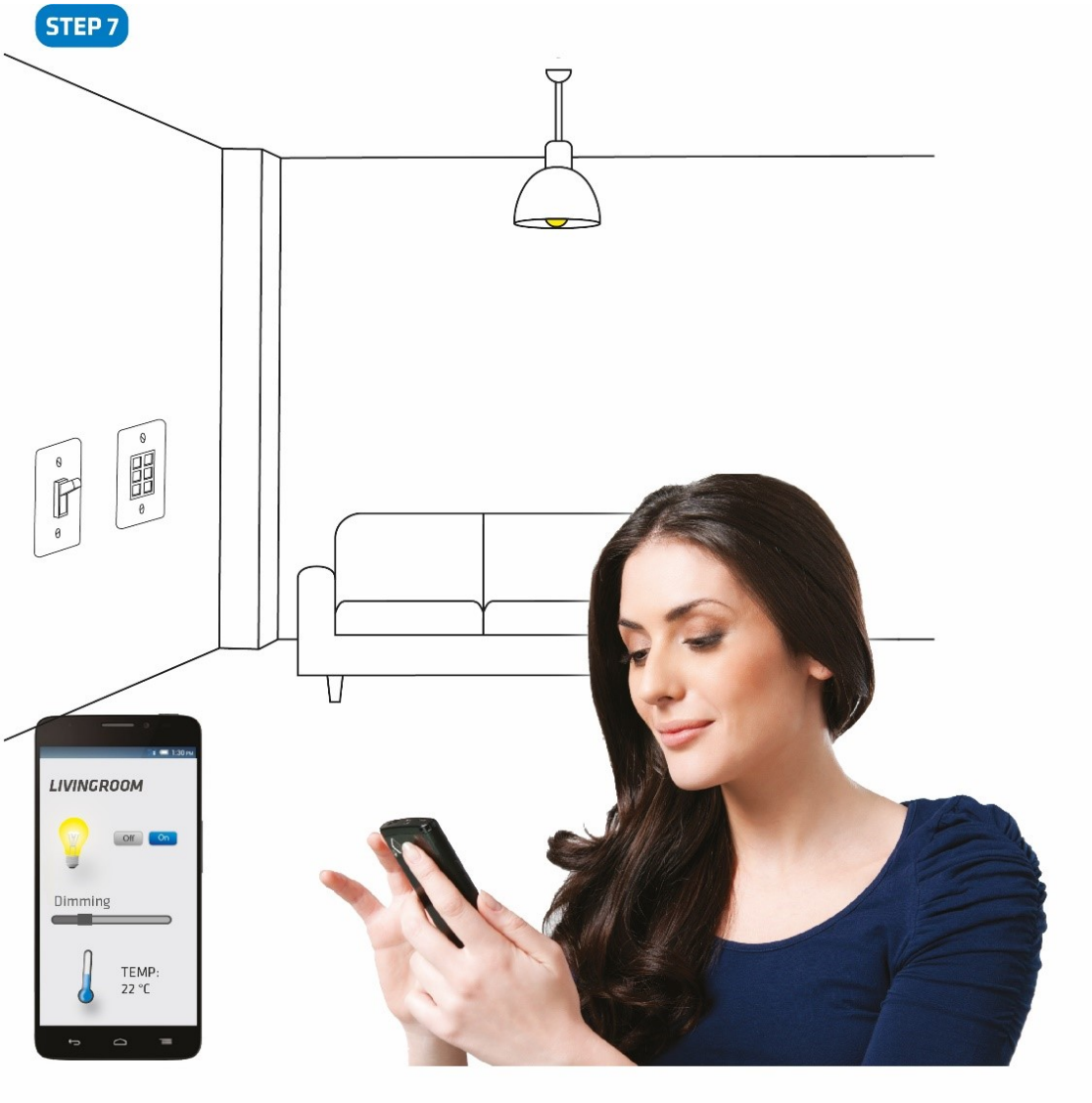


Step 5 – Turn the fuse on



Step 6 – Re-include the device to your network

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



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.

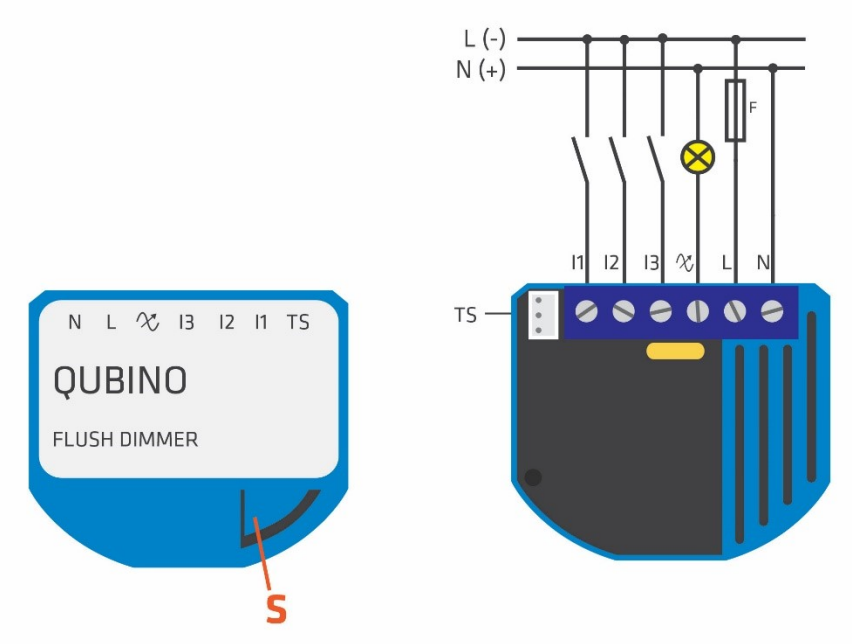
Why is this important?

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.

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 (110 – 240VAC, 24VDC)



Notes for diagram:

N	Neutral wire (+VDC)
L	Live (line) wire (-VDC)
	Output for electrical device
I3	Input for switch/push button or sensor
I2	Input for switch/push button or sensor
I1	Input for push button/switch
TS	Terminal for digital temperature sensor (only for Flush Dimmer device compatible digital temperature sensor, which must be ordered separately)
S	Service button

WARNING:

The S (Service) button **must NOT be used** when the device is connected to a 110-240V power supply.

ⓘ NOTE: When overload is detected, the device automatically switches off. If this happens, check if the load matches device specifications and if connections are according to the diagram. To restore the dimmer to regular operation, please power cycle the device.

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. Automatic selection of secure/unsecure inclusion

4. Auto-inclusion will be initiated within 5 seconds of connection to the power supply and the device will automatically enrol in your network

NOTE: the device can be automatically added to a Z-Wave network during the first 2 minutes after connected to the power supply.

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

If the device is powered by 24 V SELV supply, press and hold the S (Service) button between 2 and 6 seconds

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

ⓘ 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

If the device is powered by 24 V SELV supply, 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

If the device is powered by 24 V SELV supply, 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 Dimmer and other devices within your Z-Wave network without the need of your primary gateway (hub).

Association Groups:

Root device:

- Group 1: Lifeline group (reserved for communication with the primary gateway (hub)), 1 node allowed.
- Group 2: BasicSetKey1 (status change report for I1 input), up to 16 nodes.
- Group 3: DimmerStartStopKey1 (status change report for I1 input), up to 16 nodes.
- Group 4: DimmerSetKey1 (status change report of the Flush Dimmer) up to 16 nodes
- Group 5: BasicSetKey2 (status change report for I2 input) up to 16 nodes.
- Group 6: NotificationKey2 (status change report for I2 input) up to 16 nodes.
- Group 7: BinarySensorKey2 (status change report for I2 input) up to 16 nodes.
- Group 8: BasicSetKey3 (status change report for I3 input) up to 16 nodes.
- Group 9: NotificationKey3 (status change report for I3 input) up to 16 nodes.
- Group 10: BinarySensorKey3 (status change report for I3 input) up to 16 nodes.
- Group 11: TempReport (external temperature sensor report – sensor sold separately), up to 16 nodes.

End point 1 (Wall Switch I1):

- Group 1: Lifeline group, 0 nodes allowed.
- Group 2: BasicSetKey1 (status change report for I1 input), up to 16 nodes.
- Group 3: DimmerStartStopKey1 (status change report for I1 input), up to 16 nodes.
- Group 4: DimmerSetKey1 (status change report of the Flush Dimmer) up to 16 nodes.

End point 2 (Wall Switch I2):

- Group 1: Lifeline group, 0 nodes allowed.
- Group 2: BasicSetKey2 (status change report for I2 input), up to 16 nodes.
- Group 3: NotificationKey2 (status change report for I2 input) up to 16 nodes.
- Group 4: BinarySensorKey2 (status change report for I2 input) up to 16 nodes.

End point 3 (Wall Switch I3):

- Group 1: Lifeline group, 0 nodes allowed.
- Group 2: BasicSetKey3 (status change report for I3 input), up to 16 nodes.

- Group 3: NotificationKey3 (status change report for I3 input), up to 16 nodes.
- Group 4: BinarySensorKey3 (status change of the I3 input), up to 16 nodes.

End point 4 (External Temperature Sensor):

- Group 1: Lifeline group, 0 nodes allowed.
- Group 2: TempReport (external temperature sensor report – sensor sold separately), up to 16 nodes.

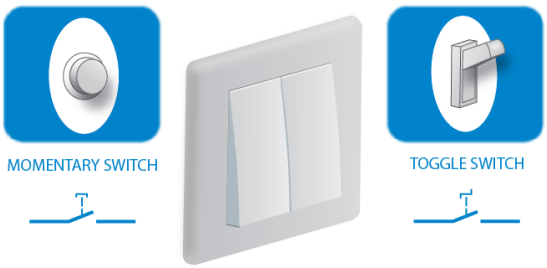
13. Configuration Parameters

Parameter no. 1 – In-wall Switch Type for Load 1 (Q1) to control I1

With this parameter, you can select between push-button (momentary) and on/off toggle switch types.

Values (size is 1 byte dec):

- default value 0
- 0 - push-button (momentary)
- 1 - on/off toggle switch



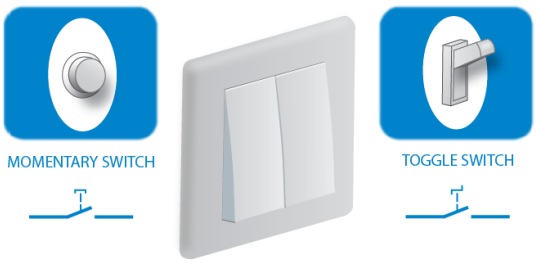
Parameter no. 2 – In-wall Switch Type for Load 1 (Q1) to control I2

With this parameter, you can select between a push-button (momentary) and on/off toggle switch types.

NOTE: To enable this function, parameter 20 or Parameter 100 have to be set.

Values (size is 1 byte dec):

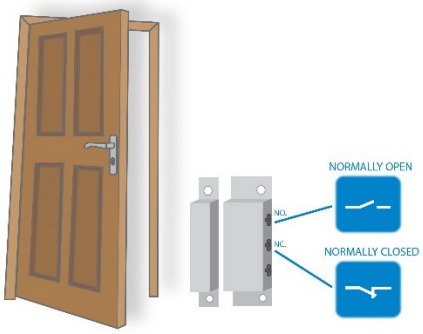
- default value 0
- 0 - push-button (momentary)
- 1 - on/off toggle switch



Parameter no. 3 – Input 2 contact type

Values (size is 1 byte dec):

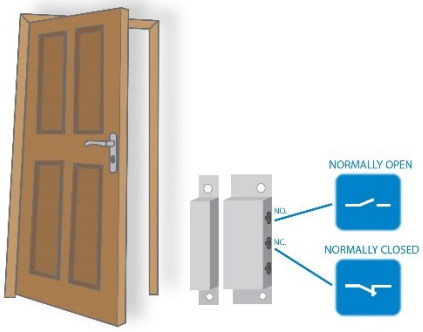
- default value 0
- 0 - NO (normally open) input type
- 1 - NC (normally close) input type



Parameter no. 4 – Input 3 contact type

Values (size is 1 byte dec):

- default value 0
- 0 - NO (normally open) input type
- 1 - NC (normally close) input type

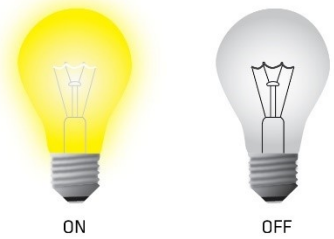


Parameter no. 10 - Activate / deactivate ALL ON / ALL OFF Functionality

Flush Dimmer device responds to 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

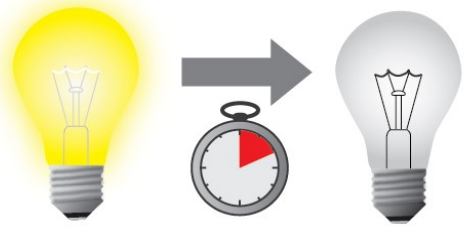


Parameter no. 11 - Turn Load 1 (Q↑) Off Automatically with Timer

If Load 1 (Q↑) is ON, you can schedule it to turn OFF automatically after a period of time defined in this parameter. The timer is reset to zero each time the device receives an ON command, either remotely (from the gateway (hub) or associated device) or locally from the switch.

Values (size is 2 byte dec):

- default value 0
- 0 - Auto OFF Disabled
  1 - 32535 = 1 - 32535 seconds Auto OFF enabled with define time, step is 1 second.

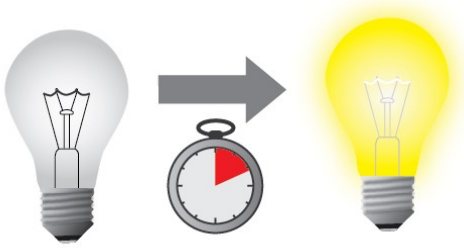


Parameter no. 12 - Turn Load 1 (Q↑) On Automatically with Timer

If Load (Q↑) is OFF, you can schedule it to turn ON automatically after a period of time defined in this parameter. The timer is reset to zero each time the device receives an OFF command, either remotely (from the gateway (hub) or associated device) or locally from the switch.

Values (size is 2 byte dec):

- default value 0
- 0 - Auto ON Disabled
  1 - 32535 = 1 - 32535 seconds Auto ON enabled with define time step is 1 second.

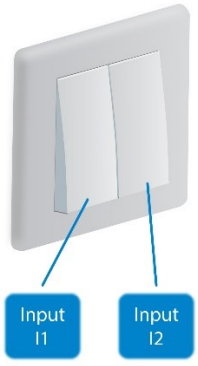


Parameter no. 20 – Enable/Disable the 3-way switch/additional switch

Dimming is done by using a push-button or a switch, connected to I1 (by default). If the the 3-way switch option is set, dimming can be controlled by a push-button or a switch, connected to I1 and I2.

Values (size is 1 byte dec):

- default value 0
- 0- single push-button (connected to I1)
- 1 - 3-way switch (connected to I1 and I2)
- 2 - Additional switch (connected to I2)



Parameter no. 21 - Enable/Disable the Double click function

If the Double click function is enabled, a fast double click on the push-button will set the dimming level to the maximum dimming value.

Values (size is 1 byte dec):

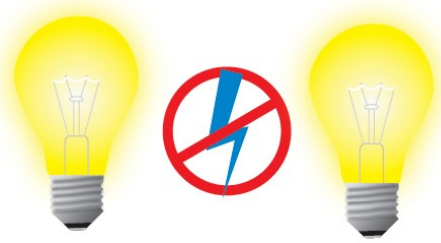
- default value 0
- 0 - double click disabled
- 1 - double click enabled

Parameter no. 30 - Restore on/off status for Q↑ load after power failure

This parameter determines if on/off status is saved and restored for the load Q↑ after power failure.

Values (size is 1 byte dec):

- default value 0
- 0 - Device saves last on/off status and restores it after a power failure.
- 1 - Device does not save on/off status and does not restore it after a power failure, it remains off.



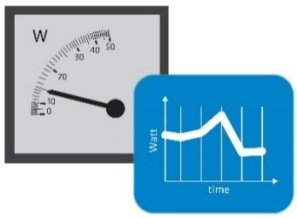
Parameter no. 40 – Watt Power Consumption Reporting Threshold for Q↑ Load

Choose by how much 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 Wattage in real time changes by more than the percentage value set in this parameter compared to the previous Wattage 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 percentage set in this parameter.

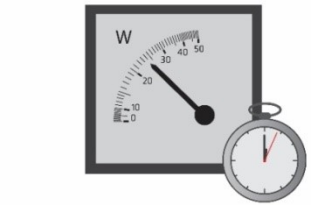


Parameter no. 42 – Watt Power Consumption Reporting Time Threshold for Q↑ Load

Set value refers to the time interval with which power consumption in Watts is reported (1 – 32767 seconds). For example if value 300 is entered, energy consumption reports will be sent to the gateway (hub) every 300 seconds (5 minutes).

Values (size is 2 byte dec):

- default value 0
- 0 to 29- Power consumption reporting disabled
- 30 - 32767 = 30 - 32767 seconds. Power consumption reporting enabled. Report is sent according to time interval (value) set here.



Parameter no. 60 – Minimum dimming value

The value set in this parameter determines the minimum dimming value - The lowest value which can be set with the slider in GUI or with push button switch when dimming from maximum brightness to minimum brightness

Values (size is 1 byte dec):

- default value 1 = 1% (minimum dimming value)
- 1- 98 = 1% - 98%, step is 1%. Minimum dimming value is set by entering a value.

NOTE: The minimum level may not be higher than the maximum level! 1% min. dimming value is defined by the Z-Wave multilevel device class.

Parameter no. 61 – Maximum dimming value

The value set in this parameter determines the maximum dimming value - The highest value which can be set with the slider in GUI or with push button switch, when dimming from minimum brightness to maximum brightness.

Values (size is 1 byte dec):

- default value 99 = 99% (Maximum dimming value)
- 2- 99 = 2% - 99%, step is 1%. Maximum dimming value is set by entering a value.

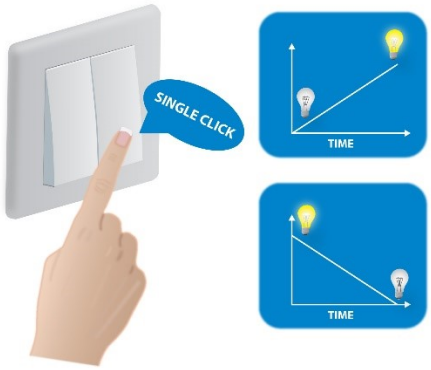
NOTE: The maximum level may not be lower than the minimum level! 99% max. dimming value is defined by the Z-Wave multilevel device class.

Parameter no. 65 – Dimming time (soft on/off)

Choose the time during which the device will move between the min. and max. dimming values by a short press of the push-button I1 or through the UI controls (BasicSet).

Values (size is 2 byte dec):

- default value 100 = 1s
- 50 - 255 = 500 milliseconds- 2550 milliseconds (2.55s), step is 10 milliseconds

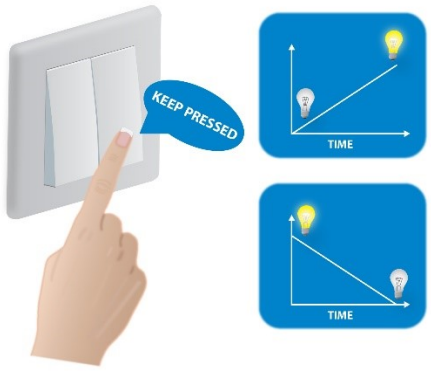


Parameter no. 66 – Dimming time when key pressed

Choose the time during which the Dimmer will move between the min. and max. dimming values during a continuous press of the push-button I1 or by an associated device.

Values (size is 2 byte dec):

- default value 3 = 3s
- 255 = 1 second – 255 seconds



Parameter no. 67 – Ignore start level

Choose whether the device should use (or disregard) the start dimming level value. If the device is configured to use the start level, it should start the dimming process from the currently set dimming level. This parameter is used with association group 3.

Values (size is 1 byte dec):

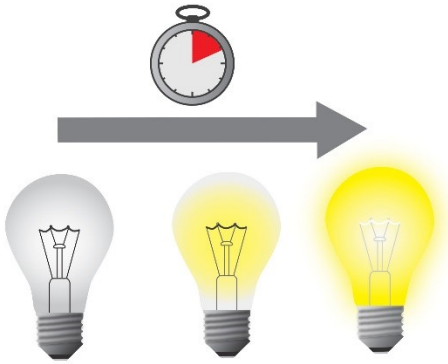
- default value 0
- 0 – use the start level value
- 1 - ignore the start level value

Parameter no. 68 – Dimming duration

Choose the time during which the device will transition from the current value to the new target value. This parameter applies to the association group 3.

Values (size is 1 byte dec):

- default value 0 (dimming duration according to parameter 66)
- 1 - 127 (from 1 to 127 seconds)



Parameter no. 100 – Enable / Disable Endpoint I2 or select the Notification Type and the Notification Event

Choose whether the Endpoint I2 is disabled (and not shown on the UI) or enabled (and displayed on the UI). By enabling this endpoint (setting it to be either a notification sensor or a binary sensor), the user also selects a Notification Type and a Notification Event for which notification reports will be sent (in case the endpoint is configured as a notification sensor).

Endpoint device type selection:

-notification sensor (1 - 6): GENERIC_TYPE_SENSOR_NOTIFICATION, SPECIFIC_TYPE_NOTIFICATION_SENSOR

Values (size is 1 byte dec):

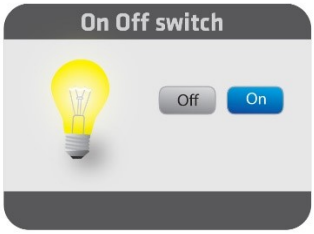
- default value 0
- 1 - Home Security; Motion Detection, unknown location
- 2 - CO; Carbon Monoxide detected, unknown location
- 3 - CO2; Carbon Dioxide detected, unknown location
- 4 - Water Alarm; Water Leak detected, unknown location
- 5 - Heat Alarm; Overheat detected, unknown location
- 6 - Smoke Alarm; Smoke detected, unknown location
- 0 - Endpoint, I2 disabled

-sensor binary (9): GENERIC_TYPE_SENSOR_BINARY, SPECIFIC_TYPE_NOT_USED

Values (size is 1 byte dec):

- 9 - Sensor binary

NOTE 1: After changing the values of the parameter, first exclude the device (without setting the parameters to their default values), then wait at least 30 seconds to re-include the device!
NOTE 2: When the parameter is set to value 9 the notifications are sent for the Home Security notification type.



Parameter no. 101 – Enable / Disable Endpoint I3 or select the Notification Type and the Notification Event

Choose whether the Endpoint I3 is disabled (and not shown on the UI) or enabled (and displayed on the UI). By enabling this endpoint (setting it to be either a notification sensor or a binary sensor), the user also selects a Notification Type and a Notification Event for which notification reports will be sent (in case the endpoint is configured as a notification sensor).

Endpoint device type selection:

-notification sensor (1 - 6): GENERIC_TYPE_SENSOR_NOTIFICATION, SPECIFIC_TYPE_NOTIFICATION_SENSOR

Values (size is 1 byte dec):

- default value 0
- 1 - Home Security; Motion Detection, unknown location
- 2 - CO; Carbon Monoxide detected, unknown location
- 3 - CO2; Carbon Dioxide detected, unknown location
- 4 - Water Alarm; Water Leak detected, unknown location
- 5 - Heat Alarm; Overheat detected, unknown location
- 6 - Smoke Alarm; Smoke detected, unknown location
- 0 - Endpoint, I2 disabled

-sensor binary (9): GENERIC_TYPE_SENSOR_BINARY, SPECIFIC_TYPE_NOT_USED

Values (size is 1 byte dec):

- 9 - Sensor binary

NOTE 1: After changing the values of the parameter, first exclude the device (without setting the parameters to their default values), wait at least 30 seconds and then re-include the device!
NOTE 2: When the parameter is set to the value 9 the notifications are sent for the Home Security notification type.

Image 1: Only input I3 is enabled (without input I2)

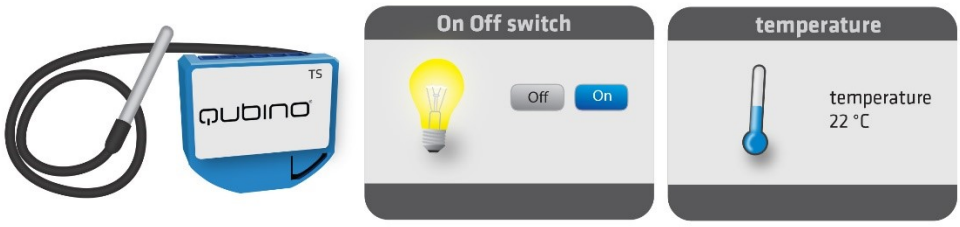
Image 2: Enabled inputs I2 and I3

Parameter no. 110 – Temperature Sensor Offset Settings

Set value is added to or subtracted from the actual measured value to adjust the temperature report sent by an external sensor (sold separately). This parameter only applies to 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 °C and 1100 stands for -10.0 °C 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):

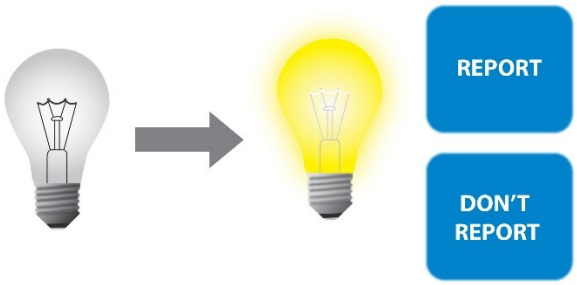
- Default value 5 = 0.5°C
- 0 – Reporting disabled
  1 - 127 = Where 1 stands for 0.1°C and 127 stands for 12.7 °C

Parameter No. 249 – Enable/Disable Reporting on Set command

Choose whether reports (containing the new output state) are sent to the gateway (hub) after a set command is received by the device.

Values (size is 1 byte dec):

- default Value 1
- 0 – Disable reporting
- 1 – Enable reporting



14. Technical Specifications

Power supply	110 - 240 VAC ±10% 50/60Hz*, (24-30VDC)
Rated load current of AC/DC output (resistive load)*	0,6A / 240VAC / 0,85A / 30VDC
Output circuit power of AC/DC output (resistive load)	140W (240VAC) / 21W (24VDC)
Power measurement accuracy	+/-2W
Digital temperature sensor range	-25 ~ +80°C (-13~ 176°F), resolution 0.1°C
Operation temperature	-10 ~ +40°C (14 ~ 104°F)
Z-Wave operation range	up to 30mindoors (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	0,7W
For installation in boxes	Ø ≥ 60 mm (2,36 in) or 2M, depth≥ 60 mm (2,36 in)
Switching	MOSFET (Trailing edge)
Z-Wave Repeater	Yes

* 50Hz for ALL ORDERING CODES; 60Hz for ZMNHDD3

Maximum Power Limit is automatically set by the device's software. If maximum power is exceeded for more than 5 seconds, the dimmer will turn off until the next power cycle. When overload occurs, an "Over-load detected" notification is sent to the gateway (hub).

Power consumption in kWh is reported in 0.1kWh intervals.

Toggle Switch Mode:

Switch toggles (parameter 1 set to 1) the state of the light bulb between the last dimming value and 0. If the last dimming value is 0 then the light is turned 100% on when the switch changes its state.

Bulb types which support dimming function:

- Traditional incandescent bulbs
- Halogen bulbs operated by 240 V AC (High Voltage Halogen)
- Low voltage halogen bulbs with electronic or conventional transformers
- Dimmable compact fluorescent bulb (CFL). If the bulb flickers, set parameter 60 (minimum dimming value) to value 30 or more
- Dimmable LED bulbs

	**Conventional incandescent and halogen lights**	140W (240VAC) 65W (110VAC)
	**LED bulb, compact fluorescent bulb (CFL), low voltage halogen bulbs with electronic transformer**	LED: 30W (240VAC) / 15W (110VAC) CFL* LVH Electronic transformer: 50W (240VAC) / 25W (110VAC)
	**Low voltage halogen bulbs with conventional transformer**	*
	Other type of loads	*

* Please contact Qubino support regarding marked load types:
http://qubino.com/support/#email

15. Z-Wave Command Classes

ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_SLAVE_ALWAYS_0N

GENERIC_TYPE_SWITCH_MULTILEVEL

SPECIFIC_TYPE_POWER_SWITCH_MULTILEVEL

Z-Wave Command Classes:

COMMAND_CLASS_ZWAVEPLUS_INFO_V2,

COMMAND_CLASS_DEVICE_RESET_LOCALLY_V1

COMMAND_CLASS_POWERLEVEL_V1

COMMAND_CLASS_SECURITY

COMMAND_CLASS_VERSION_V2[S0]

COMMAND_CLASS_SWITCH_ALL_V1[S0]

COMMAND_CLASS_SWITCH_BINARY_V1[S0]

COMMAND_CLASS_SENSOR_BINARY_V1[S0]

COMMAND_CLASS_SWITCH_MULTILEVEL_V3[S0]

COMMAND_CLASS_METER_V4[S0]

COMMAND_CLASS_MANUFACTURER_SPECIFIC_V2[S0]

COMMAND_CLASS_SENSOR_MULTILEVEl_V7[S0]

COMMAND_CLASS_NOTIFICATION_V5[S0]

COMMAND_CLASS_MULTI_CHANNEL_V4[S0]

COMMAND_CLASS_ASSOCIATION_V2[S0]

COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3[S0]

COMMAND_CLASS_ASSOCIATION_GRP_INFO_V2[S0]

COMMAND_CLASS_CONFIGURATION_V1[S0]

COMMAND_CLASS_MARK

COMMAND_CLASS_SWITCH_MULTILEVEL_V3

Endpoint 1

Device Class:

ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_SLAVE_ALWAYS_0N

GENERIC_TYPE_SWITCH_MULTILEVEL

SPE SPECIFIC_TYPE_POWER_SWITCH_MULTILEVEL

Command Classes:

COMMAND_CLASS_ZWAVEPLUS_INFO_V2

COMMAND_CLASS_SECURITY

COMMAND_CLASS_ASSOCIATION_2[S0]

COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3[S0]

COMMAND_CLASS_ASSOCIATION_GRP_INFO_V2[S0]

COMMAND_CLASS_SWITCH_ALL_V1[S0]

COMMAND_CLASS_SWITCH_BINARY_V1[S0]

COMMAND_CLASS_SWITCH_MULTILEVEL_V3[S0]

COMMAND_CLASS_METER_V4[S0]

COMMAND_CLASS_NOTIFICATION_V5[S0]

COMMAND_CLASS_MARK

COMMAND_CLASS_SWITCH_MULTILEVEL_V3

Endpoint 2 (I2):

Device Class:

ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_SLAVE_ALWAYS_0N

GENERIC_TYPE_SENSOR_NOTIFICATION

SPECIFIC_TYPE_NOTIFICATION_SENSOR

COMMAND_CLASS_ZWAVEPLUS_INFO_V2

COMMAND_CLASS_SECURITY

COMMAND_CLASS_ASSOCIATION_V2[S0]

COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3[S0]

COMMAND_CLASS_ASSOCIATION_GRP_INFO_V2[S0]

COMMAND_CLASS_SENSOR_BINARY_V1[S0]

COMMAND_CLASS_NOTIFICATION_V5[S0]

Endpoint 3 (I3):

Device Class:

ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_SLAVE_ALWAYS_0N

GENERIC_TYPE_SENSOR_NOTIFICATION

SPECIFIC_TYPE_NOTIFICATION_SENSOR

Command Classes:

COMMAND_CLASS_ZWAVEPLUS_INFO_V2

COMMAND_CLASS_SECURITY

COMMAND_CLASS_ASSOCIATION_V2[S0]

COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3[S0]

COMMAND_CLASS_ASSOCIATION_GRP_INFO_V2[S0]

COMMAND_CLASS_SENSOR_BINARY_V1[S0]

COMMAND_CLASS_NOTIFICATION_V5[S0]

Endpoint 4:

Device Class:

ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_SLAVE_ALWAYS_0N

GENERIC_TYPE_SENSOR_MULTILEVEL

SPECIFIC_TYPE_ROUTING_SENSOR_MULTILEVEL

Command Classes:

COMMAND_CLASS_ZWAVEPLUS_INFO_V2

COMMAND_CLASS_SECURITY

COMMAND_CLASS_ASSOCIATION_V2[S0]

COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3[S0]

COMMAND_CLASS_ASSOCIATION_GRP_INFO_V2[S0]

COMMAND_CLASS_SENSOR_MULTILEVEL_V7[S0]

NOTE: Controlled Command Classes are listed after the COMMAND_CLASS_MARK command class.

NOTE: The Endpoint 4 command class list only applies if an external digital temperature sensor (sold separately) is connected to the TS terminal. If the sensor is not connected, the following command class is not supported by the device:

COMMAND_CLASS_SENSOR_MULTILEVEL_V7

COMMAND_CLASS_NOTIFICATION_V5 events:

- Smoke Alarm v2 – Smoke detected, unknown loc. (0x02)

- CO Alarm v2 – CO detected, unknown location (0x02)

- CO2 Alarm – CO2 detected, unknown loc (0x02)

- Heat Alarm v2 – Overheat detected, unknown location (0x02)

- Water Alarm v2 – Water Leak detected, unknown location (0x02)

- Home Security – Motion Detection, unknown location (0x08)

COMMAND_CLASS_BASIC:

- The device will be turned ON or OFF after receiving the BASIC_SET command. To be turned ON: [Command Class Basic, Basic Set, Basic Value = 0x01~0x63 in percentage; FF set to last value]

- To be turned OFF: [Command Class Basic, Basic Set, Basic Value = 0x00]

COMMAND_CLASS_METER

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

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.

16. 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

17. 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.

18. 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

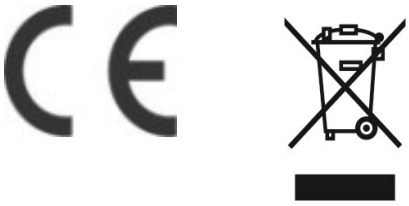
This user manual is subject to change and improvement without notice. GOAP d.o.o. Nova Gorica reserves all rights to revise and update all documentation without any obligation to notify any individual or entity.

Declaration of Conformity

Qubino Flush Dimmer 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 S3 (SW version is part of P/N)!
Example: P/N: ZMNHDDx HxS3Px

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