qubino

Your little magic for the smartest home.

Flush RGBW Dimmer

ORDERING CODE	Z-WAVE FREQUENCY
ZMNHWD1	868,4 MHz
ZMNHWD2	921,4 MHz
ZMNHWD3	908,4 MHz
ZMNHWD4	869,0 MHz
ZMNHWD5	916,0 MHz
ZMNHWD8	865,2 MHz

Introduction

Qubino Flush RGBW module is used to control RGB/RGBW strips and LED strips or bulbs to create countless colour options and has 5 special scene effects. It can also control halogen lights and fans. It's extremely small size allows for easy installation behind wall sockets and switches. Controlled devices may be powered by 12 or 24 VDC.

Supported control types

- Momentary (mono stable switch)
- Toggle (bi stable switch)

Installation

1. Before the installation disconnect power supply (12 - 24VDC)
2. Connect the device exactly according to the diagram.
3. Pull out the antenna and keep it at 90 degree to enhance the RF signals.
4. Place the antenna as far as possible from metal elements as they may cause signal interference.
5. Do not shorten the antenna.

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.

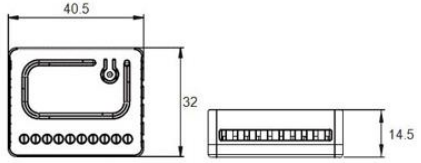
Warning!
Rapid light changes may potentially trigger seizures for people with photosensitive epilepsy.

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. Device must be powered by a dedicated regulated power adapter.

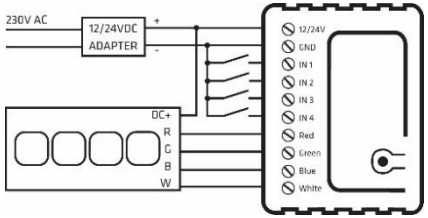
Package Contents

1 X Flush RGBW Dimmer
1 X User Manual

Product Overview



Electrical Diagram

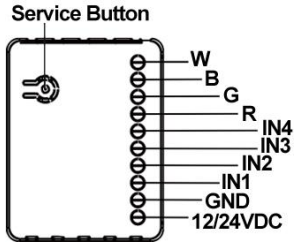


Notes for diagram:

Notes for diagram in default configuration:

IN1 – Push button	Brightness control
IN2 – Push button	Rainbow mode
IN3 – Push button	Scene mode
IN4 – Push button	Normal mode

Module Inclusion (Adding to Z-Wave Network)



AUTO-INCLUSION
1. Enable inclusion mode on your Z-Wave gateway (hub)
2. Connect the device to the power supply
3. If the device is properly connected, the RGBW strip will blink once.
4. Auto-inclusion will be initiated within 5 seconds of connection to the power supply and the device will automatically enroll in your network. If the device is properly included, the green LED inside the device will stay on.

Auto-inclusion times out after 2 minutes (the LED red and green LED inside the device will blink alternately).

MANUAL INCLUSION
1. Connect the device to the power supply
2. Enable inclusion mode on your Z-Wave gateway (hub)
3. Press and release the S (Service) button 3 times within 2 seconds
4. If the device is properly included, the green LED inside the device will stay on.

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. Press and release the S (Service) button 3 times within 2 seconds
4. If the device is properly excluded, the green LED inside the device will blink for 2 minutes (auto inclusion time)
NOTE: The device will be excluded from your network, but any custom configuration parameters will not be erased.
NOTE: Auto-inclusion times out after 2 minutes (the LED red and green LED inside the device will blink alternately).

FACTORY RESET
1. Connect the device to the power supply
2. Press and hold the S (Service) button for at least 10 seconds3. If the device is properly reset the green LED inside the device will stay on, the RGBW strip will blink once and the green LED inside the device will blink for 2 minutes (auto inclusion time)
NOTE: By resetting the device, all custom parameters previously set on the device will return to their default values, and owner ID will be deleted. Use this reset procedure only when the main gateway (hub) is missing or otherwise inoperable.

WARNING
1. Flush RGBW Dimmer is suggested to operate within low voltage circuits (12VDC or 24VDC). Connecting loads powered by higher voltage to the device may damage the Flush RGBW Dimmer. Please refer to the following table when wiring the device.

RGBW Strip Current	Stranded Wire
High current	18 AWG
Low Current	22 AWG

2. Flush RGBW Dimmer must be powered by the same voltages as the connected light source. I.e. when controlling a 12V LED strip, the device must be connected to a matching 12V power supply. Similarly, when controlling a 24V RGBW strip, the Flush RGBW Dimmer must be powered by a 24V power supply.
3. The device's output is controlled by PWM at 488Hz.
4. When controlling long RGBW/RGB/LED strips, voltage drops may occur, resulting in lower light brightness farther away from the R/G/B/W outputs. To minimize this issue, it's recommended to connect several shorter strips in parallel instead of one long strip connected in sequence. The maximum recommended RGBW/RGB/LED strip length is 33 feet (10 m). Please follow manufacturer recommendations regarding connection wire size for each load you connect to the device.
5. If your primary Z-Wave gateway (hub) is damaged or lost, but you have connected the device to an external switch, the Flush RGBW Dimmer can operate normally with local control. Otherwise, please replace your Z-Wave gateway (hub) to exclude the device from your previous network and re-include it to restore wireless control (follow inclusion / exclusion instructions above for the process).

LED Indication

Status	LED Signal
Not included to Z-Wave network	Red & Green blinking interchangeably
Included to Z-Wave network	Solid Green
Inclusion	Blinking Green (Interval: 1 sec)
Exclusion	Blinking Green (Interval: 1 sec)
Auto-inclusion	Blinking Green (Interval: 1 sec)

Input Type	Note
Momentary	Mono-stable or push button switch
Toggle	Bi-stable switch
Toggle w/Memory	ON: Active for closing terminals OFF: Active for opening terminals

Configuration Parameters

Parameter no. 1 – Input IN1 configuration
Available config. parameters (data type is 1 Byte DEC):
- Default value: = 4 (BRIGHTNESS mode – momentary switch type)
- 1 – NORMAL mode – momentary switch type
- 2 – NORMAL mode – toggle switch type
- 3 – NORMAL mode – toggle with memory switch type
- 4 – BRIGHTNESS mode – momentary switch type
- 5 – BRIGHTNESS mode – toggle switch type
- 6 – BRIGHTNESS mode – toggle with memory switch type
- 7 - RAINBOW mode – momentary switch type
- 8 – SCENE mode – momentary switch type
- 9 – SCENE mode – toggle switch type
- 10 – SCENE mode – toggle with memory switch type

Parameter no. 2 – Input IN2 configuration
See parameter no. 1
Available configuration parameters (data type is 1 Byte DEC)
- Default value: = 7 (RAINBOW mode – momentary switch type)

Parameter no. 3 – Input IN3 configuration
See parameter no. 1
Available configuration parameters (data type is 1 Byte DEC)
- Default value: = 8 (SCENE mode – momentary switch type)

Parameter no. 4 – Auto scene duration
See parameter no. 1
Available configuration parameters (data type is 1 Byte DEC)
- Default value: = 1 (NORMAL mode – momentary switch type)

Parameter no. 5 – Auto Scene Mode Set
Available configuration parameters (data type is 1 Byte DEC)
- Default value 1
- 1 – **Ocean** (soft flowing between shades of blue colour)
- 2 – **Lightning** (fast flashing of white colour)
- 3 – **Rainbow** (flowing between colours of rainbow)
- 4 – **Snow** (flowing between shades of white and cyan colour)
- 5 – **Romantic** (soft flowing of the red colour)
- 6 – **Party scene** (random flashing between colours)

Parameter no. 6 – Auto Scene Mode – Duration between Colour change
This parameter is used to adjust time between 2 Colours in the Scene
Available configuration parameters (data type is 2 Byte DEC)
- Default value 3
- 1-127 – delay duration is 1 sec to 127 sec
- 1001-1127 – delay duration is from 1 min to 127 min. This parameter has no effect on Lighting and Party Scene.

Parameter no. 7 – Memorize device status at power cut
Device will be set to status memorized before power cut.
Available configuration parameters (data type is 1 Byte DEC)
- Default value 0
- 0 – device does not memorize its status at power cut. Load is disconnected
- 1 – device memorizes its status at the power cut. Load will be set to the status from before power cut

Parameter no. 8 – Automatic turning off output after set time

Output is turned automatically off after the time, set in this parameter.
Available configuration parameters (data type is 2 Byte DEC)

- Default value 0
- 0 – Auto OFF disabled
- 1 – 32536 = 1 second – 32536 seconds Auto OFF

Parameter no. 9 – Automatic turning on output after set time
Output is turned automatically on after the time, set in this parameter.
Available configuration parameters (data type is 2 Byte DEC)

- Default value 0
- 0 – Auto ON disabled
- 1 – 32536 = 1 second – 32536 seconds Auto OFF

Parameter no. 10 – MAX dimming value
Available configuration parameters (data type is 1 Byte DEC)

- Default value 99
- 2-99 = 2 % – 99 %

Parameter no. 11 – MIN dimming value
Available configuration parameters (data type is 1 Byte DEC)

- Default value 1
- 1-98 = 1 % – 98 %

NOTE: The minimum level may not be higher than the MAX dimming value.
Parameter no. 12 – Dimming time (soft on/off)
Available configuration parameters (data type is 1 Byte DEC)

- Default value 10 = 1 s

5 – 25 = from 0.5 to 2.5 seconds

Parameter no. 13 – Dimming time when key pressed
Available configuration parameters (data type is 1 Byte DEC)

- Default value 3 = 3 s
- 1 – 127 = from 1 to 127 seconds

NOTE: Dimming time depends also on Min and Max dimming value.

Parameter no. 14 – 4 Dimmers mode
Available configuration parameters (data type is 1 Byte DEC)

- Default value: = 0 (4 dimmers mode disabled)
- 0 – 4 dimmers mode disabled
- 1 – 4 dimmers mode enabled – momentary switch type
- 2 – 4 dimmers mode enabled – toggle switch type
- 3 – 4 dimmers mode enabled – toggle with memory switch type

NOTE: If the parameter no. 14 is enabled, parameter no. 1,2,3,4 has no effect.

Associations
The Module can be set 1 auto-report ID in Group 1.

The Module will send BASIC_REPORT to device associated in Group 1 when correspond Device is activated.

Input operating mode	Remark
Normal	Each given switch key assigned to one output channel (Valid only in case of four dimmers mode)
Brightness	All channels are controlled together
Rainbow	Transition through all colours spectrum (Operates on RGBW channels)

Device Application

The RGBW Controller may control:

- 12 / 24VDC powered RGB strips
- 12 / 24VDC powered RGBW strips
- 12 / 24VDC powered LED strips, bulbs, etc.
- 12 / 24VDC powered halogen lights

Additional features:

- controlled by momentary or toggle switches

The RGBW Controller may control:

- 12 / 24VDC powered RGB strips
- 12 / 24VDC powered RGBW strips
- 12 / 24VDC powered LED strips, bulbs, etc.
- 12 / 24VDC powered halogen lights

Technical Specifications

Item	Description
Power Supply	12 / 24V DC
PWM output frequency	488Hz
Rated output power	8A for single output channel,13A at max.(3,25A for R.G.B.W. single output channel is suggested)
Max load (e.g. halogen bulbs)	At 12V- 156W combined At 24V- 312W combined
LED Indicator	Red/Green *1
Operation temperature	0℃~40℃
Distance	up to 30 m indoors
Dimensions (W x H x D)	40.5 mm x 32 mm x 14.5 mm
Package dimensions (W x H x D)	79 mm x 52 mm x 22 mm
Weight	28 g
Gross weight (packaging included)	34 g
Electricity consumption	12V: 0.48W; 24V: 0.72W
For installation in boxes	Ø ≥ 60 mm or 2M

*Specification is subject to change without prior notice.

Multilevel Switch Device Information
ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_SLAVE_ALWAYS_ON
GENERIC_TYPE_SWITCH_MULTILEVEL
SPECIFIC_TYPE_POWER_SWITCH_ MULTILEVEL
Supported Z-Wave 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_SWITCH_MULTILEVEL_V2
COMMAND_CLASS_SWITCH_COLOR_V2
COMMAND_CLASS_CONFIGURATION_V1
COMMAND_CLASS_ASSOCIATION_V2
COMMAND_CLASS_ASSOCIATION_GRP_INFO_V1
COMMAND_CLASS_SWITCH_BINARY_V1
COMMAND_CLASS_FIRMWARE_UPDATE_MD_V2

4 Dimmers mode
Device class:
GENERIC_TYPE_SWITCH_MULTILEVEL
SPECIFIC_TYPE_POWER_SWITCH_ MULTILEVEL
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_SWITCH_MULTILEVEL_V2
COMMAND_CLASS_CONFIGURATION_V1
COMMAND_CLASS_MULTI_CHANNEL_V4
COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION
COMMAND_CLASS_ASSOCIATION_V2
COMMAND_CLASS_ASSOCIATION_GRP_INFO_V1
COMMAND_CLASS_SWITCH_BINARY_V1
COMMAND_CLASS_FIRMWARE_UPDATE_MD_V2

Endpoint 1, 2, 3, 4:
Device class:
GENERIC_TYPE_SWITCH_MULTILEVEL
SPECIFIC_TYPE_POWER_SWITCH_ MULTILEVEL
Command classes:
COMMAND_CLASS_ZWAVEPLUS_INFO_V2
COMMAND_CLASS_SWITCH_MULTILEVEL_V2
COMMAND_CLASS_ASSOCIATION_V2
COMMAND_CLASS_ASSOCIATION_GRP_INFO_V1
COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION

Detailed description of each command class
ZWAVEPLUS INFO command class:
The Z-Wave Plus Info Get Command is used to get additional information of the Z-Wave Plus device in question.
BASIC command class:
The module 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 closed:
[Command Class Basic , Basic Set, Basic Value = 0x00]
SWITCH MULTILEVEL command class
The module will be turned ON or OFF after receiving the SWITCH_ MULTILEVEL_SET command.
To be turned on:
[Command Class Multilevel , Multilevel Set, Basic Value = 0x01~0x63 in percentage; FF set to last value]
To be closed:
[Command Class Multilevel , Multilevel Set, Basic Value = 0x00]
SWITCH COLOR command class
This class is used for Color setting.
See the following table for configuration variables:

DEVICE RESET LOCALLY command class
The Device Reset Locally Command Class is used to notify central controllers that a Z-Wave device is resetting its network specific parameters.
VERSION command class
The user can enquire the version of the unit using VERSION_GET
command. It will return
VERSION_REPORT Command.
Version Report Command:
[Command Class Version, Version Report, Z-Wave Library Type, Z-Wave
Protocol Version, Z-Wave Protocol Sub Version, Application Version, Application Sub Version]
MANUFACTURER SPECIFIC command class
The user can use the Manufacturer Specific Get Command to request manufacturer specific information from another node.

Regulatory Compliance

CE Caution
Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 25 MHz to 1,000 MHz frequency range with power levels ranging up to 500 mW; Part 2: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive.
WEEE Information
For EU (European Union) member users:
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.

Z-Wave Plus
This product can be included and operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers and/or other applications. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network

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.
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 radi-ate 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.

This user manual is subject to change and improvement without prior notice.

NOTE: User manual is valid for module with SW version S2 (SW version is part of P/N)!
Example: P/N: ZMNHWDX Hx**S2**Px

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Date: 17.10.2017
Document: Qubino_Flush RGBW Dimmer PLUS user manual_V1.3_eng