

Version: 1.0

# RGBW

The RGBW component handles an output with possibility to change color and brightness of RGBW LED load. Component has additional on/off control. It has night mode capability that can reduce brightness in selected period of time. It uses `RGBW` as RPC namespace and provides the methods:

- `RGBW.GetConfig` to obtain the component's configuration
- `RGBW.SetConfig` to update the component's configuration
- `RGBW.GetStatus` to obtain the component's status
- `RGBW.Set` to control the output state, color, transition and brightness level
- `RGBW.Toggle` to toggle the output state
- `RGBW.DimUp` to dim up
- `RGBW.DimDown` to dim down
- `RGBW.DimStop` to stop dimming

RGBW components are identified with `rgbw:<id>` in objects containing multiple component payloads.

## Methods:

### RGBW.SetConfig

Property	Type	Description
<code>id</code>	<code>number</code>	Id of the RGBW component instance
<code>config</code>	<code>object</code>	Configuration that the method takes

Find more about the config properties in [config section](#)

### RGBW.GetConfig

Properties:

Property	Type	Description
<code>id</code>	<code>number</code>	Id of the RGBW component instance

Find the `RGBW.GetConfig` response properties in [config section](#)

### RGBW.GetStatus

Properties:

Property	Type	Description
<code>id</code>	<code>number</code>	Id of the RGBW component instance

Find more about the status response properties in [status section](#)

## RGBW.Set

This method sets the output, color, transition and brightness level of the RGBW component. It can be used to trigger [webhooks](#). More information about the events triggering webhooks available for this component can be found [below](#).

### Request

Parameters:

Property	Type	Description
<code>id</code>	<code>number</code>	Id of the RGBW component instance. <b>Required</b>
<code>on</code>	<code>boolean</code>	True for output on, false otherwise. <b>Optional</b>
<code>brightness</code>	<code>number</code>	Brightness level 1%-100% <b>Optional</b>
<code>rgb</code>	<code>array of type number</code>	Red, Green, Blue [r,g,b] - each value represents level between 0..255 <b>Optional</b>
<code>white</code>	<code>number</code>	White level 0..255 <b>Optional</b>
<code>transition_duration</code>	<code>number</code>	Transition time in seconds - time between change from current brightness level and color to desired brightness level and color in request <b>Optional</b>
<code>toggle_after</code>	<code>number</code>	Flip-back timer in seconds. <b>Optional</b>
<code>offset</code>	<code>number</code>	Set current brightness level with applied offset. Can not be used together with <code>brightness</code> . Boundaries [-100, 100] <b>Optional</b>
<code>offset_white</code>	<code>number</code>	Set current white level with applied offset_white. Can not be used together with <code>white</code> . Boundaries [-255, 255] <b>Optional</b>



At least one of the `on` and `brightness` parameters is required.

## RGBW.Toggle

This method toggles the output state. It can be used to trigger [webhooks](#). More information about the events triggering webhooks available for this component can be found [below](#).

### Request

Parameters:

Property	Type	Description
<code>id</code>	<code>number</code>	Id of the RGBW component instance. <b>Required</b>

## RGBW.DimUp

This method dims up the brightness and white level. Dimming stops with [RGBW.DimStop](#).

### Request

Parameters:

Property	Type	Description
<code>id</code>	<code>number</code>	Id of the RGBW component instance. <b>Required</b>
<code>fade_rate</code>	<code>number</code>	Fade rate of the brightness level dimming. Range <code>[1, 5]</code> where <code>5</code> is fastest, <code>1</code> is slowest. If not provided, value is defaulted to <code>button_fade_rate</code> . <b>Optional</b>

## RGBW.DimDown

This method dims down the brightness and white level. Dimming stops with [RGBW.DimStop](#).

### Request

Parameters:

Property	Type	Description
<code>id</code>	<code>number</code>	Id of the RGBW component instance. <b>Required</b>
<code>fade_rate</code>	<code>number</code>	Fade rate of the brightness level dimming. Range <code>[1, 5]</code> where <code>5</code> is fastest, <code>1</code> is slowest. If not provided, value is defaulted to <code>button_fade_rate</code> . <b>Optional</b>

## RGBW.DimStop

This method stops the dimming of the brightness level.

### Request

Parameters:

Property	Type	Description
<code>id</code>	<code>number</code>	Id of the RGBW component instance. <b>Required</b>

## HTTP Endpoint: /color/`id`

Through this endpoint a light can be turned on/off with or without a timer, brightness and color can be changed also. This can be used to trigger [webhooks](#). More information about the events triggering webhooks available for this component can be found [below](#).

### Request

Parameters:

Property	Type	Description
<code>turn</code>	<code>string</code>	Action to be executed. Range of values: <code>on</code> , <code>off</code> , <code>toggle</code> . <b>Required</b>
<code>timer</code>	<code>number</code>	A one-shot flip-back timer in seconds.
<code>brightness</code>	<code>number</code>	Brightness, 0..100 %
<code>red</code>	<code>number</code>	Intensity of the color red, 0..255
<code>green</code>	<code>number</code>	Intensity of the color green, 0..255
<code>blue</code>	<code>number</code>	Intensity of the color blue, 0..255
<code>white</code>	<code>number</code>	Intensity of the white, 0..255
<code>transition</code>	<code>number</code>	One-shot transition, 500..10800000 [ms]

### Response

Received attributes:

Property	Type	Description
<code>isOn</code>	<code>boolean</code>	True if the light is turned on, false otherwise
<code>brightness</code>	<code>number</code>	Brightness, 0..100 %
<code>red</code>	<code>number</code>	Intensity of the color red, 0..255
<code>green</code>	<code>number</code>	Intensity of the color green, 0..255
<code>blue</code>	<code>number</code>	Intensity of the color blue, 0..255
<code>white</code>	<code>number</code>	Intensity of the white, 0..255
<code>transition</code>	<code>number</code>	One-shot transition, 500..10800000 [ms]
<code>has_timer</code>	<code>boolean</code>	True if the light is turned on, false otherwise
<code>timer_started_at</code>	<code>number</code>	Unix timestamp, start time of the timer (in UTC)
<code>timer_duration</code>	<code>number</code>	Duration of the timer in seconds
<code>timer_remaining</code>	<code>number</code>	Time remaining (in seconds) until the request is executed
<code>source</code>	<code>string</code>	Source of the last command, for example: <code>init</code> , <code>WS_in</code> , <code>http</code> , ...

## Configuration

The configuration of the RGBW component contains information about night mode settings, the timers of the chosen light instance. To Get/Set the configuration of the RGBW component its `id` must be specified.

Properties:

Property	Type	Description
<code>id</code>	<code>number</code>	Id of the RGBW component instance

Property	Type	Description
<code>name</code>	<code>string or null</code>	Name of the RGBW instance
<code>in_mode</code>	<code>string</code>	Mode of the associated input. Range of values: <code>follow</code> , <code>flip</code> , <code>activate</code> , <code>detached</code> , <code>dim</code>
<code>initial_state</code>	<code>string</code>	Output state to set on power_on. Range of values: <code>off</code> , <code>on</code> , <code>restore_last</code>
<code>auto_on</code>	<code>boolean</code>	True if the "Automatic ON" function is enabled, false otherwise
<code>auto_on_delay</code>	<code>number</code>	Seconds to pass until the component is switched back on
<code>auto_off</code>	<code>boolean</code>	True if the "Automatic OFF" function is enabled, false otherwise
<code>auto_off_delay</code>	<code>number</code>	Seconds to pass until the component is switched back off
<code>transition_duration</code>	<code>number</code>	Transition time (in seconds) - time to change from 0% to 100% of brightness, RGB or white
<code>min_brightness_on_toggle</code>	<code>number</code>	Brightness level (in percent) applied when there is a toggle and current brightness is lower than <code>min_brightness_on_toggle</code> .
<code>night_mode.enable</code>	<code>boolean</code>	Enable or disable night mode
<code>night_mode.brightness</code>	<code>number or null</code>	Brightness level limit (in percent) when night mode is active. <code>null</code> overrides <code>night_mode.brightness</code> with current brightness when night mode starts. Default value <code>50</code> .
<code>night_mode.rgb</code>	<code>array of type number or null</code>	Color level when night mode is active. Red, Green, Blue [r,g,b] - each value represents level between 0..255. <code>null</code> overrides <code>night_mode.rgb</code> array with current <code>rgb</code> array when night mode starts. Default value <code>255</code> for each color
<code>night_mode.white</code>	<code>number or null</code>	White level limit (in percent) when night mode is active. <code>null</code> overrides <code>night_mode.white</code> with current white when night mode starts. Default value <code>127</code> .

Property	Type	Description		
<code>night_mode.active_between</code>	<i>array of type string</i>	Containing 2 elements of type string, the first element indicates the start of the period during which the night mode will be active, the second indicates the end of that period. Both start and end are strings in the format HH:MM, where HH and MM are hours and minutes with optional leading zeros		
<code>button_fade_rate</code>	<i>number</i>	Controls how quickly the output level changes while a button is held down for dimming (if applicable). Default value <code>3</code> . Range <code>[1,5]</code> where <code>5</code> is fastest, <code>1</code> is slowest		
<code>button_presets</code>	<i>object</i>	Button presets config		
Property	Type	Description		
<code>button_doublepush</code>	<i>object</i>	<code>null</code> disables <code>button_doublepush</code> preset		
Property	Type	Description		
<code>brightness</code>	<i>number or null</i>	Brightness level (in percent) set on double click (if applicable). <code>null</code> overrides <code>brightness</code> with current brightness when preset is applied. Default <code>100</code>		
<code>rgb</code>	<i>array of type number or null</i>	Color level set on double click (if applicable). Red, Green, Blue [r,g,b] - each value represents level between 0.255. <code>null</code> overrides <code>rgb</code> array		

Property	Type	Description				
		Property	Type	Description		
				Property	Type	Description
						with current <code>rgb</code> array when preset is applied. Default value <code>255</code> for each color
				<code>white</code>	<code>number or null</code>	White level 0.255 set on double click (if applicable). <code>null</code> overrides <code>white</code> with current white when preset is applied. Default <code>255</code>
<code>current_limit</code>	<code>number</code>	Limit (in Amperes) over which overcurrent condition occurs (shown if applicable)				
<code>power_limit</code>	<code>number</code>	Limit (in Watts) over which overpower condition occurs (shown if applicable)				
<code>voltage_limit</code>	<code>number</code>	Limit (in Volts) over which overvoltage condition occurs (shown if applicable)				

### ⓘ INFO

- `follow`: the state of the output is the same as the state of the input (e.g. when the input is off => the output is off). For `type:analog` sets to output current `%` of input.
- `flip`: change of the state of the input causes change of the state of the output (e.g. when input is toggled the output is also toggled)
- `activate`: when input state is `on` sets output to `on` (and activates `auto_off` if enabled), input state `off` does nothing.

- `detached`: the state of the input doesn't affect the state of the output.
- `dim`: short press toggles output, long press starts dimming with alternating directions. If output is currently off, holding the button will turn on and start dimming from 0%. Stops when reached 100% or 1%.

`follow` and `flip` are available for `type:switch`.

`activate` available for `type:switch` and `type:button`

`dim` available for `type:button`

## Status

The status of the RGBW component contains information about the brightness level and output state of the light instance. To obtain the status of the RGBW component its `id` must be specified.

Properties:

Property	Type	Description
<code>id</code>	<code>number</code>	Id of the RGBW component instance
<code>source</code>	<code>string</code>	Source of the last command, for example: <code>init</code> , <code>WS_in</code> , <code>http</code> , ...
<code>output</code>	<code>boolean</code>	True if the output channel is currently on, false otherwise
<code>rgb</code>	<code>array of type number</code>	Current Red, Green, Blue [r,g,b] level 0..255
<code>brightness</code>	<code>number</code>	Current brightness level (in percent)
<code>white</code>	<code>number</code>	Current white level 0..255
<code>timer_started_at</code>	<code>number</code>	Unix timestamp, start time of the timer (in UTC) (shown if the timer is triggered)
<code>timer_duration</code>	<code>number</code>	Duration of the timer in seconds (shown if the timer is triggered)
<code>transition</code>	<code>object</code>	Information about the transition (shown if transition is triggered)

Property	Type	Description		
		Property	Type	Description
		<code>target.output</code>	<code>boolean</code>	True if the output channel becomes on, false otherwise
		<code>target.rgb</code>	<code>array of type number</code>	Red, Green, Blue [r,g,b] level 0..255
		<code>target.brightness</code>	<code>number</code>	Brightness level (in percent)
		<code>target.white</code>	<code>number</code>	White level 0..255
		<code>started_at</code>	<code>number</code>	Unix timestamp, start time of the transition (in UTC)
		<code>duration</code>	<code>number</code>	Duration of the transition in seconds
<code>temperature</code>	<code>object</code>	Information about the temperature (shown if applicable)		
		<code>tc</code>	<code>number or null</code>	Temperature in Celsius ( <code>null</code> if temperature is out of the measurement range)
		<code>tf</code>	<code>number or null</code>	Temperature in Fahrenheit ( <code>null</code> if temperature is out of the measurement range)
<code>aenergy</code>	<code>object</code>	Information about the active energy counter (shown if applicable)		
		<code>total</code>	<code>number</code>	Total energy consumed in <b>Watt-hours</b>
		<code>by_minute</code>	<code>array of type number</code>	Energy consumption in <b>Milliwatt-hours</b> for the last three complete minutes. The 0-th element indicates the counts accumulated during the minute preceding <code>minute_ts</code> . Present only if the device clock is synced.

Property	Type	Description		
		Property	Type	Description
		minute_ts	number	Unix timestamp marking the start of the current minute (in UTC).
apower	number	Last measured instantaneous active power (in Watts) delivered to the attached load (shown if applicable)		
voltage	number	Last measured voltage in Volts (shown if applicable)		
current	number	Last measured current in Amperes (shown if applicable)		
errors	array of type string	Error conditions occurred. May contain overtemp, (shown if at least one error is present)		

## Webhook Events

Currently, there are two events related to the RGBW component that can trigger webhooks:

- `rgbw.on` - produced when the output changes its state from `off` to `on`
- `rgbw.off` - produced when the output changes its state from `on` to `off`

## MQTT Control

*Since version 1.6.0*

- Shelly will subscribe to the following topics, accepting commands:
  - `<topic_prefix>/command/rgbw:<id>`
- Shelly publishes on:
  - `<topic_prefix>/status/rgbw:<id>` - topic where the result of the `status_update` command is published. The command can be sent either on the common device topic or the component-specific topic. This topic is already used for existing status notifications if enabled.
  - `<topic_prefix>/error/rgbw:<id>` - error message is published if the rgbw command receives incorrect parameters or results in an error.
- Accepted commands are:
  - `status_update` - causes the status of the corresponding component to be published on its `<topic_prefix>/status/rgbw:<id>` topic.

- `toggle` - toggles the rgbw.
- `set,[boolean,number,number,number,number,number,number]` - sets the rgbw state to `true` or `false` (respectively on/off) and/or its `brightness` [0-100], optional `red` (0-255), `green` (0-255), `blue` (0-255), `white` (0-255), `transition_duration`, `toggle_after` parameters. Having at least one of either state (`true/false`) or brightness is mandatory.

**ⓘ NOTE**

`<topic_prefix>` is a custom prefix if set or defaults to `<device_id>`

## Examples

### RGBW.SetConfig example

**RGBW.SetConfig HTTP GET Request****RGBW.SetConfig Curl Request****RGBW.SetConfig Mos Request**

```
http://192.168.33.1/rpc/RGBW.SetConfig?id=0&config={"name": "RGBW0"}
```

**Response**

```
null
```

### RGBW.GetConfig example

**RGBW.GetConfig HTTP GET Request****RGBW.GetConfig Curl Request****RGBW.GetConfig Mos Request**

```
http://192.168.33.1/rpc/RGBW.GetConfig?id=0
```

**Response**

```
{
  "id": 0,
  "name": null,
  "in_mode": "dim",
  "initial_state": "restore_last",
  "auto_on": true,
  "auto_on_delay": 60,
  "auto_off": true,
  "auto_off_delay": 60,
  "transition_duration": 3,
  "min_brightness_on_toggle": 3,
  "button_presets": {
    "button_doublepush": {
      "brightness": 100,
      "rgb": [
        255,
        255,
        255
      ],
    }
  }
}
```

```
        "white": 255
    },
},
"night_mode": {
    "enable": true,
    "brightness": 50,
    "rgb": [
        255,
        255,
        255
    ],
    "white": 127,
    "active_between": [
        "21:45",
        "05:30"
    ]
},
"button_fade_rate": 3
}
```

## RGBW.GetStatus example

[RGBW.GetStatus HTTP GET Request](#)

[RGBW.GetStatus Curl Request](#)

[RGBW.GetStatus Mos Request](#)

```
http://192.168.33.1/rpc/RGBW.GetStatus?id=0
```

### Response

```
{
    "id": 0,
    "source": "timer",
    "output": true,
    "rgb": [
        0,
        0,
        127
    ],
    "brightness": 50,
    "white": 50,
    "timer_started_at": 1626942399.36,
    "timer_duration": 60,
    "transition": {
        "target": {
            "output": true,
            "brightness": 50,
            "rgb": [
                20,
                30,
                40
            ],
            "white": 80
        },
        "started_at": 1626942399.36,
        "duration": 20
    },
    "temperature": {
        "tC": 53.1,
```

```
"tF": 127.6
},
"aenergy": {
  "total": 0.55
},
"apower": 2,
"current": 0.165,
"voltage": 12.1
}
```

## RGBW.Set example

[RGBW.Set HTTP GET Request](#)[RGBW.Set Curl Request](#)[RGBW.Set Mos Request](#)

```
http://192.168.33.1/rpc/RGBW.Set?id=0&on=true&brightness=50&rgb=[20,30,40]&white=80&transition_duration=20
```

### Response

```
null
```

## RGBW.Toggle example

[RGBW.Toggle HTTP GET Request](#)[RGBW.Toggle Curl Request](#)[RGBW.Toggle Mos Request](#)

```
http://192.168.33.1/rpc/RGBW.Toggle?id=0
```

### Response

```
null
```

## RGBW.DimUp example

[RGBW.DimUp HTTP GET Request](#)[RGBW.DimUp Curl Request](#)[RGBW.DimUp Mos Request](#)

```
http://192.168.33.1/rpc/RGBW.DimUp?id=0&fade_rate=3
```

### Response

```
null
```

## RGBW.DimDown example

[RGBW.DimDown HTTP GET Request](#)[RGBW.DimDown Curl Request](#)[RGBW.DimDown Mos Request](#)

```
http://192.168.33.1/rpc/RGBW.DimDown?id=0&fade_rate=3
```

### Response

```
null
```

## RGBW.DimStop example

[RGBW.DimStop HTTP GET Request](#)

[RGBW.DimStop Curl Request](#)

[RGBW.DimStop Mos Request](#)

```
http://192.168.33.1/rpc/RGBW.DimStop?id=0
```

### Response

```
null
```

## HTTP Endpoint example

*Example:*

```
curl http://${SHELLY}/color/0?turn=on
```

*Example:*

```
{
  "ison": true,
  "brightness": 100,
  "red": 127,
  "green": 0,
  "blue": 0,
  "white": 0,
  "transition": 10,
  "has_timer": true,
  "timer_started_at": 258,
  "timer_duration": 10,
  "timer_remaining": 1.98,
  "source": "http"
}
```

## Set RGBW over MQTT example

Set RGBW on with brightness to max, all RGBW values set to max, transition\_duration of 5 seconds and toggle\_after 10 seconds

```
export MQTT_SERVER="broker.hivemq.com"
export MQTT_PORT=1883
export SHELLY_ID="shellyplusrgbwpm-b48a0a123db4" # The <shelly-id> of your device
```

```
mosquitto_pub -h ${MQTT_SERVER} -p ${MQTT_PORT} -t ${SHELLY_ID}/command/rgbw:0 -m  
set,true,100,255,255,255,5,10
```