

LED RGB lighting control module for DIN rail assembly enables smooth and full control of decorative lighting using LED RGBW technology.



## 1. Parameters - LEDRGB

### Features:

|                 |                                                                                                                |
|-----------------|----------------------------------------------------------------------------------------------------------------|
| Value           | Brightness value as per the HSV model (range: 0.00-1.00)                                                       |
| Hue             | Colour hue value as per the HSV model (0-360)                                                                  |
| Saturation      | Colour saturation value as per the HSV model (0.00-1.00)                                                       |
| RGB             | Colour value as per the RGB model #RRGGBB (specified in HEX)                                                   |
| RampTime        | Time value of increment of colour and brightness (in ms)                                                       |
| MaxValue        | Maximum value which Value can adopt. Attempting to set a higher value will generate an error                   |
| MinValue        | Minimum value which Value can adopt. Attempting to set a lower value will generate an error                    |
| RedCorrection   | White correction - channel R (0-100), default 100%                                                             |
| GreenCorrection | White correction - G channel (0-100%), default 100%                                                            |
| BlueCorrection  | White correction - B channel (0-100%), default 100%                                                            |
| StatisticState  | Load measurement type: Off - turned off, Continuous - load measurement for the whole device's period operation |
| Load            | The measured value multiplier. For StatisticState: Continuous - load measurement value in the unit of time     |

### Methods:

|               |                                                                                                                                                                                                                                                                                                                                                                    |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SetValue      | Sets output value (0.00-1.00)                                                                                                                                                                                                                                                                                                                                      |
| SetHue        | Sets hue value (0-360)                                                                                                                                                                                                                                                                                                                                             |
| SetSaturation | Sets saturation value (0.00-1.00)                                                                                                                                                                                                                                                                                                                                  |
| SetRGValue    | Sets RGB value using the #RRGGBB string                                                                                                                                                                                                                                                                                                                            |
| HoldValue     | Executes illumination/ dimming function                                                                                                                                                                                                                                                                                                                            |
| HoldHue       | Executes smooth hue transition                                                                                                                                                                                                                                                                                                                                     |
| SwitchOn      | Sets output value to MaxValue                                                                                                                                                                                                                                                                                                                                      |
| SwitchOff     | Turns off all of the channels                                                                                                                                                                                                                                                                                                                                      |
| Switch        | Changes the output value from 0 to 1 or from 1 to 0. The first parameter is the time of change: 0 - switches output to continuous mode, number - switches output for a time specified by a parameter (in milliseconds) The second parameter is the ramp (time of value increments) which is optional. If this parameter is not specified, the default ramp is used |
| SetRampTime   | Sets value of increment of colour and input (in ms)                                                                                                                                                                                                                                                                                                                |
| SetMaxValue   | Sets maximum value for Value                                                                                                                                                                                                                                                                                                                                       |
| SetMinValue   | Sets minimum value for Value                                                                                                                                                                                                                                                                                                                                       |

### Events:

|              |                                                                                                             |
|--------------|-------------------------------------------------------------------------------------------------------------|
| OnChange     | Event occurring when changing the output state                                                              |
| OnSwitchOn   | Event occurring when the output state is changed from 0 to greater than 0                                   |
| OnSwitchOff  | Event occurring when 0 is set at the output                                                                 |
| OnValueRise  | Event occurring when the set value is higher than the current value                                         |
| OnValueLower | Event occurring when the set value is lower than the current value                                          |
| OnOutOfRange | Event occurring when setting a value which is higher than the maximum value or lower than the minimum value |

## 2. Parameters - LED\_CHANNEL

### Features:

|                       |                                                                                                                |
|-----------------------|----------------------------------------------------------------------------------------------------------------|
| Value                 | Brightness value (range: 0-255)                                                                                |
| RampTime              | Delay value when changing illumination                                                                         |
| MaxValue              | Maximum value which Value can adopt                                                                            |
| MinValue              | Minimum value which Value can adopt                                                                            |
| DistributedLogicGroup | Distributed Logic group - broadcast group for distributed logic                                                |
| StatisticState        | Load measurement type: Off - turned off, Continuous - load measurement for the whole device's period operation |
| Load                  | The measured value multiplier. For StatisticState: Continuous - load measurement value in the unit of time     |

### Methods:

|               |                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SetValue      | Sets output value (0-255)                                                                                                                                                                                                                                                                                                                                       |
| SwitchOn      | Sets output value to MaxValue                                                                                                                                                                                                                                                                                                                                   |
| SwitchOff     | Sets output value to 0                                                                                                                                                                                                                                                                                                                                          |
| Switch        | Changes the state of the output to the opposite. The first parameter is the time of change: 0 - switches output to continuous mode, number - switches output for a time specified by a parameter (in milliseconds). The second parameter is the ramp (time of value increments) which is optional. If this parameter is not specified, the default ramp is used |
| SetRampTime   | Sets value of delay for changing illumination                                                                                                                                                                                                                                                                                                                   |
| SetMaxValue   | Sets maximum value for Value                                                                                                                                                                                                                                                                                                                                    |
| SetMinValue   | Sets minimum value for Value                                                                                                                                                                                                                                                                                                                                    |
| HoldValue     | Executes illumination/ dimming function                                                                                                                                                                                                                                                                                                                         |
| HoldValueUp   | Executes illumination function                                                                                                                                                                                                                                                                                                                                  |
| HoldValueDown | Executes dimming function                                                                                                                                                                                                                                                                                                                                       |

### Events:

|               |                                                                                                             |
|---------------|-------------------------------------------------------------------------------------------------------------|
| OnValueChange | Event occurring when changing the output value                                                              |
| OnSwitchOn    | Event occurring when the output state is changed from 0 to greater than 0                                   |
| OnSwitchOff   | Event occurring when 0 is set at the output                                                                 |
| OnValueRise   | Event occurring when the set value is higher than the current value                                         |
| OnValueLower  | Event occurring when the set value is lower than the current value                                          |
| OnOutOfRange  | Event occurring when setting a value which is higher than the maximum value or lower than the minimum value |

## 3. Parameters - PowerSupplyVoltage

### Features:

|             |                                                                                                      |
|-------------|------------------------------------------------------------------------------------------------------|
| Value       | Current output value taking into account the scalar                                                  |
| Value %     | Current percentage input value of the maximum value (MaxValue characteristic)                        |
| Sensitivity | Minimum change of input state when the OnValueChange, OnValueLower or OnValueRise event is generated |
| MinValue    | Minimum value of the Value characteristic after exceeding which the OnOutOfRange event is generated  |
| MaxValue    | Maximum value of the Value characteristic after exceeding which the OnOutOfRange event is generated  |

### Methods:

|                |                              |
|----------------|------------------------------|
| SetSensitivity | Sets input sensitivity value |
| SetMinValue    | Sets MinValue                |
| SetMaxValue    | Sets MaxValue                |

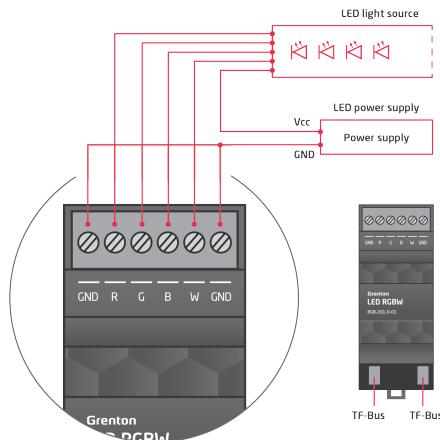
### Events:

|               |                                                                                        |
|---------------|----------------------------------------------------------------------------------------|
| OnValueChange | Event resulting from changing input state                                              |
| OnValueLower  | Event occurs when a value lower than the value from the last reading appears at input  |
| OnValueRise   | Event occurs when a value higher than the value from the last reading appears at input |
| OnOutOfRange  | Event resulting from exceeding the permissible range (MinValue : MaxValue)             |
| OnInRange     | Event occurs when value returns to MinValue/MaxValue range                             |

## 4. Technical data

|                              |                                            |
|------------------------------|--------------------------------------------|
| Device power supply          | 24V <sub>dc</sub>                          |
| Maximum power consumption    | 0.48W                                      |
| Maximum device current       | 20mA (for 24V <sub>dc</sub> )              |
| LED power supply (Vcc)       | up to 24V <sub>dc</sub>                    |
| Maximum load current RGBW    | 20A (total for all channels)               |
| Maximum channel load current | 16A                                        |
| Maximum wire cross section   | 2.5mm <sup>2</sup>                         |
| PWM output frequency         | 1kHz                                       |
| Weight                       | 64g                                        |
| Size [DIN]                   | 2                                          |
| Fixing                       | electrical box, rail DIN-3 / TH 35 / TS 35 |
| Dimensions (H/W/D)           | 58/36/90mm                                 |
| Operating temperature range  | 0 to +45°C                                 |

## 5. Wiring diagram



|     |                            |
|-----|----------------------------|
| Vcc | LED power supply signal    |
| GND | power supply ground signal |
| R   | output 'RED'               |
| G   | output 'GREEN'             |
| B   | output 'BLUE'              |
| W   | output 'WHITE'             |
| GND | power supply ground signal |

## 6. Warnings and Cautionary Statements



### ATTENTION!

- Before proceeding with the assembly, read the installation schematics and full instructions available at [www.grenton.com](http://www.grenton.com). Failure to follow the guidelines contained in the instructions and other requirements of due care valid as a result of the nature of the equipment (device) may be dangerous to life / health, damage the device or installation to which it is connected, damage



**DANGER!**

- Danger to life caused by electric current!
- The components of the installation (individual devices) are designed to work in a home electrical installation or directly in its vicinity. Incorrect connection or use may cause a fire or electric shock.

- All work related to the installation of the device, in particular works involving interference in the electrical installation, may be performed only by a person with appropriate qualifications or licenses.

- When installing the device, make sure that the power supply voltage is disconnected from the circuit in which the device is connected or near which the assembly takes place.

## 7. CE Marking

The manufacturer declares that the device is in full compliance with the requirements of EU legislation that includes the directives of a new approach appropriate for this equipment. In particular, Grenton Sp. z o.o. declares that the device fulfills the requirements on safety, specified by law, and that it conforms

to the national regulations that implement the appropriate directives: The Directive on the electromagnetic compatibility (EMC - 2014/30/UE) and the Directive on the limitation of the use of specific substances in electrical and electronic equipment (RoHS II - 2011/65/UE).



## 8. Warranty

Warranty available at [www.grenton.com/warranty](http://www.grenton.com/warranty).

## 9. Manufacturer Contact Details

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