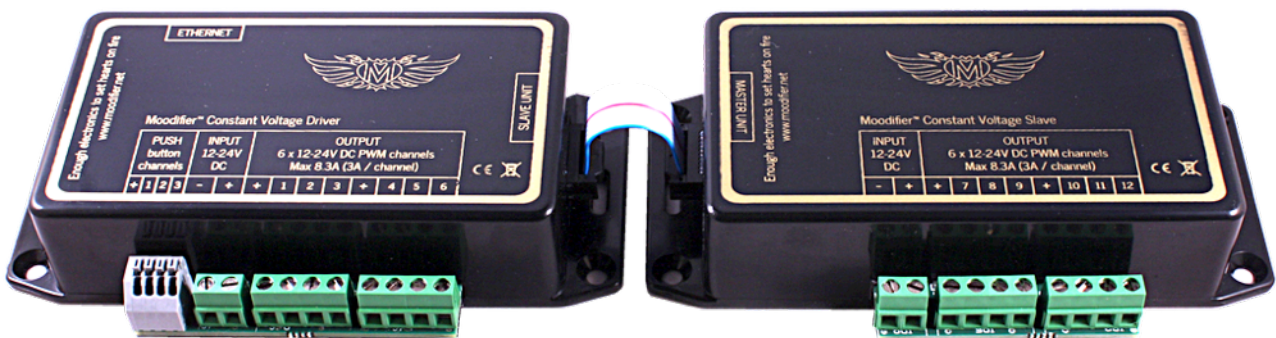




# Moodifier™ Constant Voltage Driver & Moodifier™ Constant Voltage Slave



# Table of content

<b>Moodifier Constant Voltage Driver &amp; Slave</b>	<b>3</b>
The Moodifier Constant Voltage Driver	4
The Moodifier Constant Voltage Slave	4
Main features	5
Connecting the power supply	6
Connecting to the network (LAN/Internet)	7
Connecting LED lights and other peripherals	8
Common 12-24V DC LED lights	8
12V DC vs. 24V DC	8
LED bars, spotlights and LED track lights.	8
LED strips (tape)	9
Connecting LED strips	9
Master and Slave units.	10
Connecting a Moodifier Constant Voltage slave unit	10
Connecting a Moodifier Constant Current Slave unit	10
Connecting traditional wall mounted push buttons	11
Push button 1-3	11
Push button 4-6	12
Technical specification	13
Moodifier Constant Voltage Driver	13
Connections	13
Technical data	13
Moodifier Constant Voltage Slave	14
Connections:	14
Technical data	14
<b>Planing your lighting</b>	<b>14</b>
<b>Electric cable recommendations</b>	<b>15</b>
<b>Software</b>	<b>16</b>

# Moodifier Constant Voltage Driver & Slave

The Moodifier Constant Voltage Driver and optional add on Slave unit controls and powers LED strips (RGB & single color), LED bars, LED track lighting, relays or any other 12-24V DC powered peripheral you want. The Moodifier™ Constant Voltage Driver & Slave units can power up to 200W (8.3A) each. When combined they can power a whopping 400W of LED light on 12 individually controlled LED channels.

The Moodifier Constant Voltage Driver and Slave units are easily connected to each other with the included standard flat-cable.

**Power supply, network, LEDs and other peripherals may only be connected according to the instructions that are printed on top of the Moodifier Constant Voltage driver and Slave units. A faulty installation may cause harm and/or damage..**

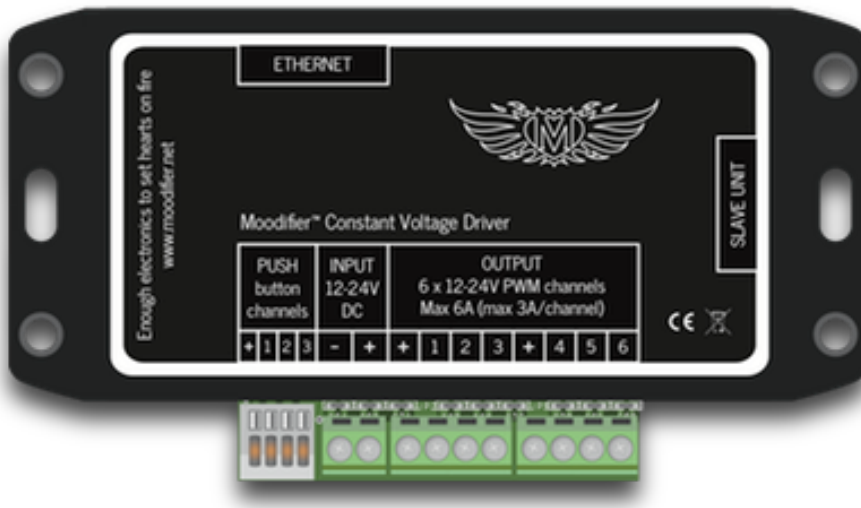
- Do not short circuit any of the LED channels, it will destroy the Moodifier unit and invalidate the guarantee
- Do not mix up the plus and minus poles of the power supply, connecting the power supply with the wrong polarity will destroy the Moodifier unit and invalidate the guarantee
- Moodifier Constant Voltage Driver and Slave units may only be installed indoors
- Moodifier Constant Voltage Driver and Slave units may not be installed in wet or damp areas
- Moodifier Constant Voltage Driver and Slave units may not be encapsulated or enclosed in a way that prevents access to the units
- Constant Voltage Driver and Slave units should always have a fixed installation with good ventilation

Despite that Moodifier Constant voltage Driver and Slave are low voltage and low current units they should always be connected in a proper and professional way. You should always consult an authorised electrician if you are insecure on how the units are to be connected or if you are insecure if you are authorised to connect the units.

## The Moodifier Constant Voltage Driver

Moodifier Constant Voltage Driver has the following connectors

- 1 Network port (Ethernet)
- 1 port for connecting a 12-24V DC power supply
- 1 port for connection of a Slave unit
- 4 sockets for connecting up to 6 wall mounted push buttons
- 8 sockets (6 channels) for connecting up to 200W of LED lights or other 12-24V DC powered equipment

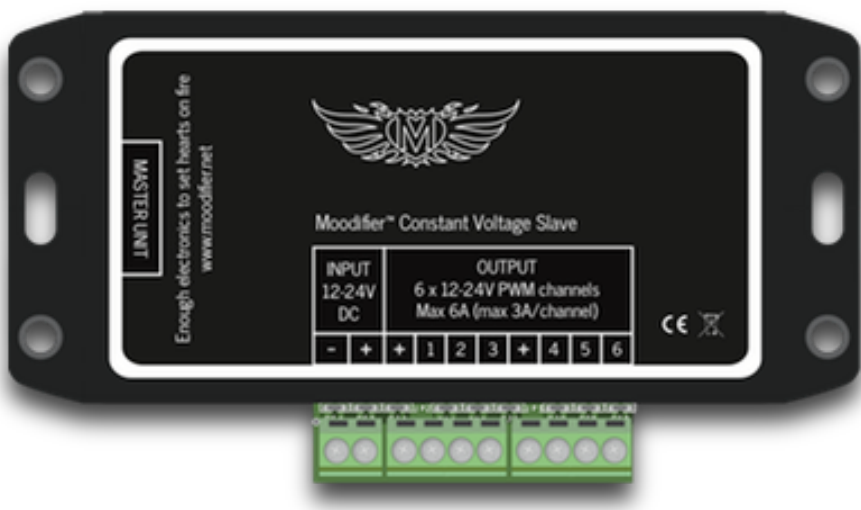


Moodifier Constant Voltage Driver seen from above with connectors facing down..

## The Moodifier Constant Voltage Slave

Moodifier Constant Voltage Slave has the following connectors:

- 1 port for connecting a 12-24V DC power supply
- 1 port for connection to the Driver unit
- 8 sockets (6 channels) for connecting up to 200W of LED lights or other 12-24V DC powered equipment



Moodifier Constant Voltage Slave seen from above with connectors facing down..

## Main features

- Network (Ethernet 10/100 Base-T)
- 12 individually controlled 12-24V DC LED-channels (6 channels on the Driver and 6 channels on the Slave)
- Up to 16.6A in total, 8.3A on the Driver unit and 8.33A on the Slave unit
- Up to 400W of power, 200W on the Driver unit and 200W on the Slave unit (at 24V)
- 0-100% dimming in 250 steps
- Variable dim/transition-speeds.
- Easy to use and powerful software for controlling lights and create user defined light settings
- Unlimited number of user defined light settings
- Organise light settings in user defined zones
- Automation through scheduling of light settings
- Password protected and easy to use web interface for remote access of all light settings and zones
- Remote control all lights with iPhone, iPad and iPod
- Remote control all lights with Android phones and tablets
- Remote control all lights with any web browser
- Music sync in 100Hz (the lights colour and intensity is synchronised to follow the music in realtime)
- Video and screen sync in 30Hz (the lights colour and intensity is synchronised to the video/screen)
- Automated light shows
- Up to 6 user defined light scenarios for standard wall mounted push buttons
- User defined default light setting for power up or after power failure
- Pulse width modulated and flicker-free dimming
- Adjustable PWM frequency (240Hz - 2,4kHz)
- Status reporting (ip number, temperature, voltage, PWM frequency, power output per channel)
- Overheating protection (Moodifier Constant Voltage Driver only)
- Overcurrent protection., through external fuse

## Connecting the power supply

The Moodifier Constant voltage Driver and Slave units must be powered by a 12-24V DC power supply (sold separately).

The power supply needs to be able to provide enough power to drive all LEDs and other peripherals that are connected to the device. A power supply that delivers 200W at 24V DC or 100W at 12V DC (8.3A) is needed for full armament.

The 12-24V DC power supply is easily connected by plugging it in to the appropriate connectors on the Moodifier Constant voltage Driver and Slave units.

Do not mix up the plus and minus poles of the power supply, connecting the power supply with the wrong polarity will destroy the Moodifier unit and invalidate the guarantee.

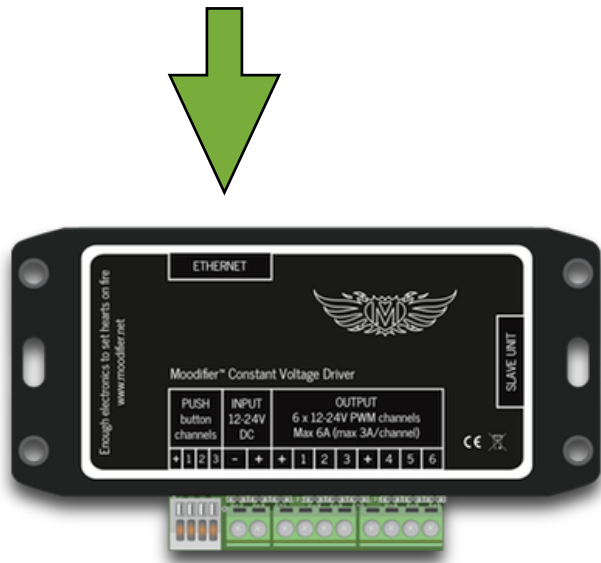


By putting a standard wall switch that cuts the power to the power supply you will get a master power on/off switch for the device. Use the Moodifier application to set the default light setting that is activated whenever the unit is powered up or after power failures.

If you need more advanced push button light scenarios you simply connect up to 6 wall mounted push buttons to the push button channels.

## Connecting to the network (LAN/Internet)

The Moodifier Constant Voltage Driver connects to the network with a standard ethernet cable. The device may also be connected to a Wifi-network by using a Wifi-adaptor from Netgear<sup>1</sup> (sold separately).



The Moodifier Constant Voltage Driver will auto-configure itself on the network with DHCP. Once the unit is connected to the network and powered on it will be ready and available on the network. Use the Moodifier application to auto-detect Moodifier devices on the network. Once a Moodifier device is detected on the network you can start to control the lights that are connected to it.

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<sup>1</sup> <http://www.netgear.com/home/products/wireless-adapters/high-performance/WNCE2001.aspx>

## Connecting LED lights and other peripherals

The Moodifier Constant Voltage Driver and optional add on Slave unit controls and powers LED strips (RGB & single color), LED bars, LED track lighting, relays or any other 12-24V DC powered peripheral you want.

The Moodifier Constant Voltage Driver can power up to 8.3A on 6 individually controlled LED channels, but if you need more than 6 channels or more power you can attach a Moodifier Constant Voltage Slave unit to get another 6 individually controlled LED channels and double the power output.

The Moodifier Constant Voltage Driver and Slave units are easily connected to each other with the included standard flat-cable.

Do not short circuit any of the LED channels, it will destroy the Moodifier unit and invalidate the guarantee.

**LED strips, LED bars, track lighting and other 12V-24V DC constant voltage peripheral should be connected in parallel to the LED channels on the Moodifier Constant Voltage Driver and Slave units.**

## Common 12-24V DC LED lights

LED stands for "Light Emitting Diode". There are many different types of LEDs. The Moodifier Constant Voltage Driver and Slave units are compatible with all LEDs that are meant to be driven by a 12-24V DC constant voltage power source.

When choosing LEDs or LED based lights it is important to check that they are built to be driven by a 12-24V DC constant voltage power source. You also need to match the power supply 12V or 24V DC to the lights that are connected to the units. Using a 12V DC power supply will make the unit output 12V DC and using a 24V DC power supply will make the unit output 24V DC.

If you intend to use LED lights or peripherals that are powered by both 12V DC and 24V DC simultaneously you can use a 24V DC power supply for the Moodifier Constant Voltage Driver and a 12V DC power supply for the attached Moodifier Constant Voltage Slave.

## 12V DC vs. 24V DC

One benefit of using a 24V light instead of a 12V is that the installation will be less vulnerable to voltage drop in the cable or strip. A voltage drop in the cable or strip can cause LEDs at the end of the cable/strip to not light up as bright, and you end up with uneven light output throughout the cable/strip. Another benefit of using 24V LED strip instead of 12V is that you can have twice as many LEDs/lights on any given driver/power supply. This is because the limiting factor is the max rated current for the driver/power supply.

The conclusion is that 24V is preferred, and you should choose a 24V LED/strip in favor of a 12V.

## LED bars, spotlights and LED track lights.

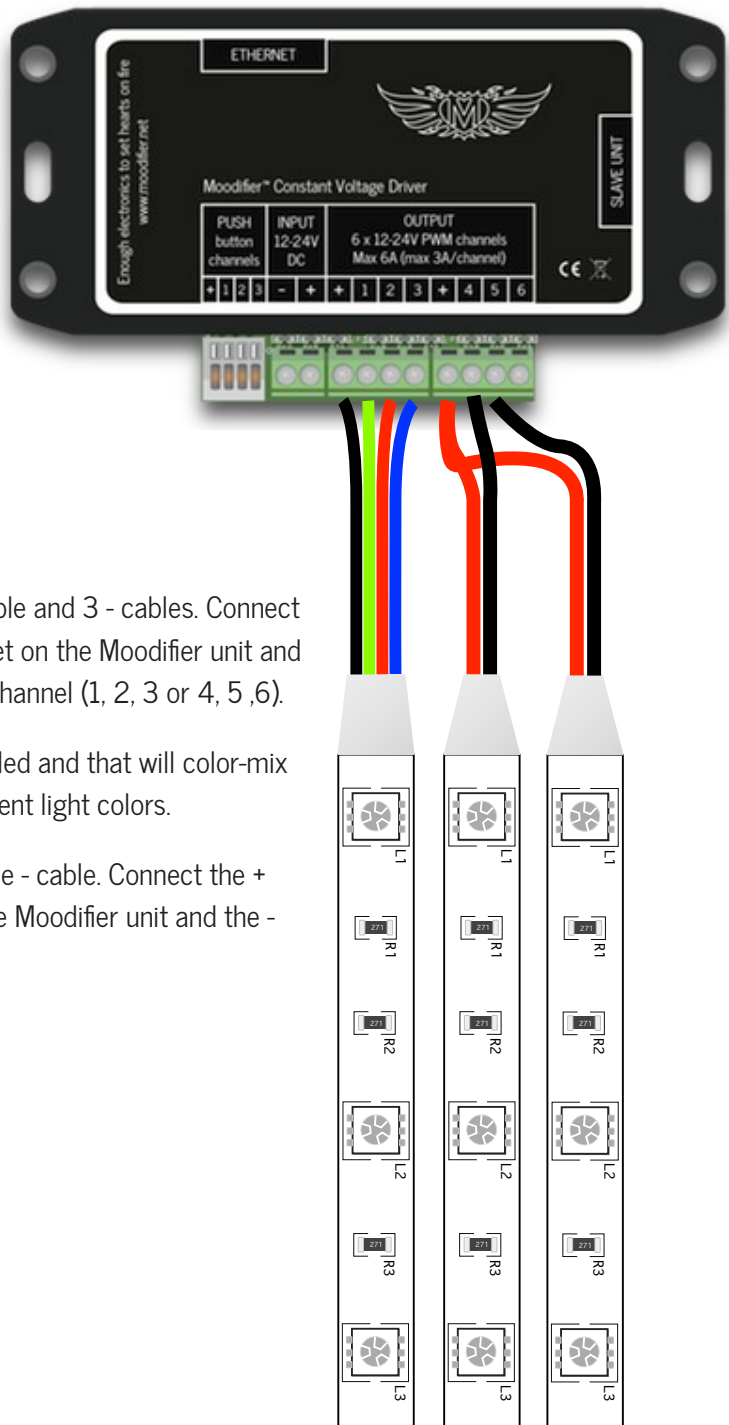
LED bars and track lighting also come in both 12V and 24V versions. They are usually white and have two connecting cables, one + and one -.



## LED strips (tape)

LED strips usually come in rolls of 5 meter. They can be either 12V or 24V and usually consume 7.2 or 14.4 Watt per meter.

They come in both RGB (Colored) and white versions. The RGB LED strip have 4 connecting cables, 1 + cable for the main power and a return - cable for each of the colors red, green and blue. White LED strip only has two cables one + and one -.



## Connecting LED strips

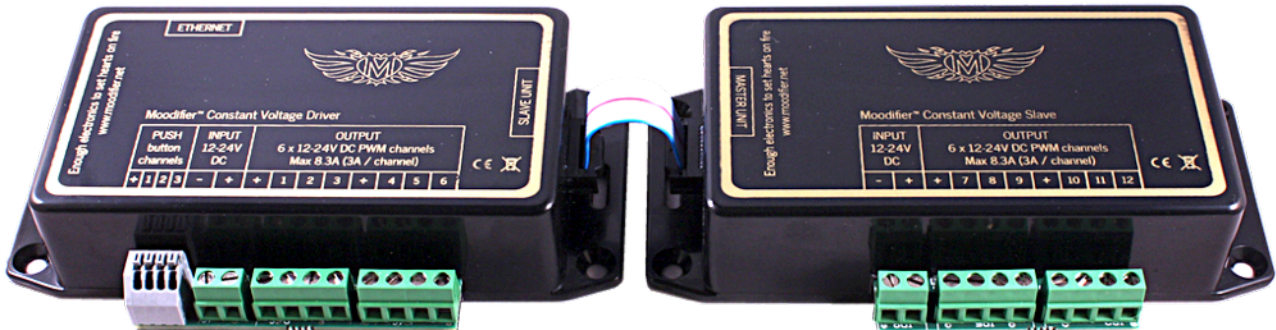
RGB (colored) LED strip has 4 cables. One + cable and 3 - cables. Connect the + cable to one of the + output channel socket on the Moodifier unit and each of the three - cables to a separate return channel (1, 2, 3 or 4, 5, 6).

Each of the channels can be individually controlled and that will color-mix the red, green and blue LEDs to 16 million different light colors.

White LED strips have two cables. One + and one - cable. Connect the + cable to any of the two + channel sockets on the Moodifier unit and the - cable to any of the 6 return channels.

## Master and Slave units.

The Moodifier Constant Voltage Driver has a socket where you can connect a slave unit to expand with more channels, more power and more lights. The Slave unit is easily connected with a standard flat cable (included with slave units).



You can connect 2 types of slave units to the Moodifier Constant Voltage Driver, a Moodifier Constant Voltage Slave or a Moodifier Constant Current Slave. This functionality adds great flexibility when designing your lighting since it enables a wide range of options for both constant voltage and constant current based LED lights.

## Connecting a Moodifier Constant Voltage slave unit

Connecting a Moodifier Constant Voltage Slave unit will give you 6 extra constant voltage LED channels. The constant voltage slave unit can be powered with the same or a different Voltage than the Master unit. The Master unit can be powered by 24V and the Slave by 12V, or they can both be powered by 24V. This adds great flexibility when designing your lighting since it enables a wide range of options.

## Connecting a Moodifier Constant Current Slave unit

Connecting a Moodifier Constant Current Slave unit will give you 6 extra constant current LED channels. The constant current slave unit can be powered with the same or a different Voltage than the Master unit. The Master unit can be powered by 12V and the Slave by 36V, or they can both be powered by 24V. This adds great flexibility when designing your lighting since it enables a wide range of options.

For more information about the Moodifier Constant Current units visit:

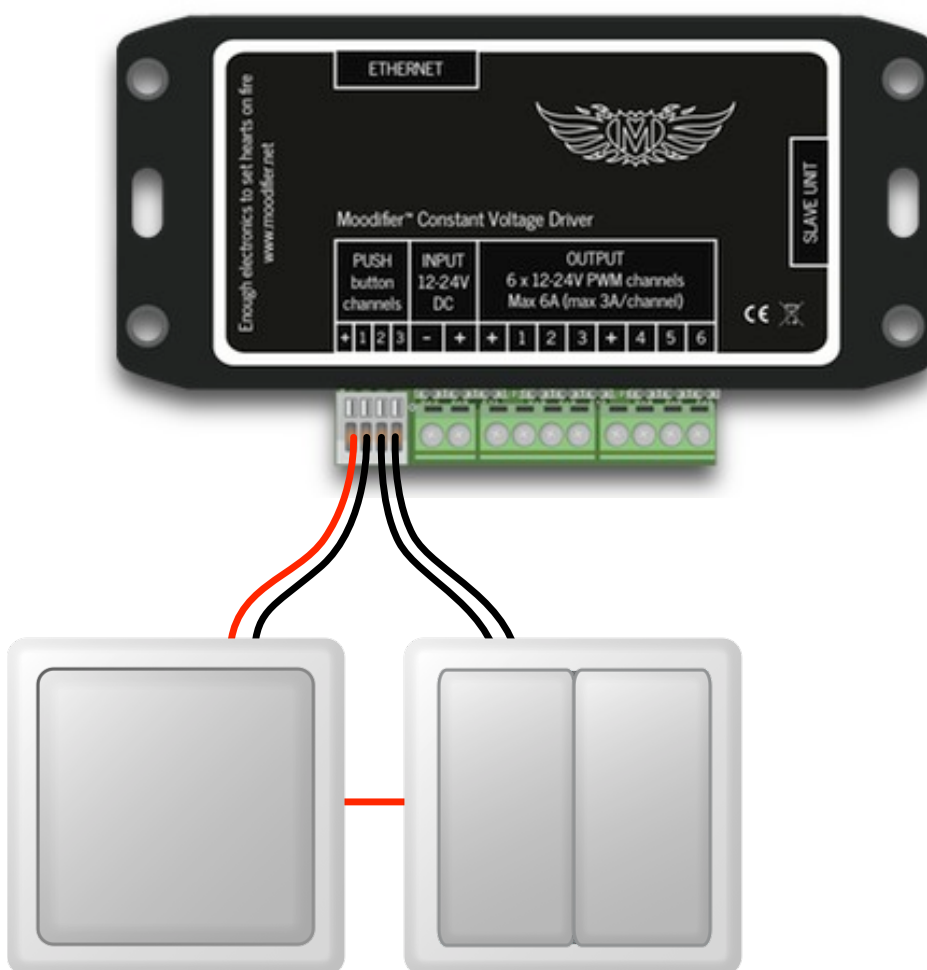
<http://www.moodifier.net/hardware/constant-current-driver>

## Connecting traditional wall mounted push buttons

The Moodifier Constant Voltage Driver has 4 connectors (PUSH button channels) for connection of up to 6 standard wall mounted push buttons. A push on each button activates/de-activates a user defined light scenario. Holding in the push button will enable dimming of the user defined light scenarios (0-100%). These push buttons enables you to control the Moodifier lighting in a traditional way with standard wall mounted buttons. The push buttons makes the Moodifier Constant Voltage Driver fully operational as a stand alone unit without being connected to a network. The Moodifier application makes it easy to alter and customise what should happen when each push button is pressed.

### Push button 1-3

By closing a circuit between + and any of the 1, 2 or 3 push button channels a signal is sent to the Moodifier Constant Voltage Driver that activates or deactivates the light setting that is set for that push button. Each push button can be set to activate and de-activate its own light scenario. Dimming of the light scenario is achieved by holding in the push button. Use the Moodifier application to set the light scenario that each push button should activate/de-activate.



Moodifier LED with 3 connected push buttons that each activates/de-activates its own light scenario.

## **Push button 4-6**

By closing a circuit between + and two push button channels simultaneously you can connect and use another 3 push buttons that activates/de-activates another 3 light scenarios. Use the Moodifier application to set the light scenario that each push button should activate/de-activate. Closing all 3 push button channels at the same time turns all the lights off.

# Technical specification

## Moodifier Constant Voltage Driver

### Connections

- 1 Network port (Ethernet)
- 1 power supply port.
- 8 connectors to connect 6 LED control channels
- 4 connectors for connecting up to 6 push buttons.
- 1 connector for connecting a slave unit.

### Technical data

Power supply	12-24V DC
LED channels	6
Max current per unit	8.3A
Max current per channel	3A
Push button functions	6
Network	Ethernet 10/100
PWM Frequency	240Hz - 2.4kHz (adjustable)
Overcurrent Protection	Yes (via external fuse)
Overheat protection	Yes
Conforms to European EMC regulations	Yes
CE marked	Yes
Dimensions (LxWxH)	112 (136) x62x30mm
Ambient temperature (operation)	0-35°C

## Moodifier Constant Voltage Slave

### Connections:

- 1 power supply port.
- 8 connectors to connect 6 LED control channels
- 1 connector for connection to master unit.

### Technical data

Power supply	12-24V DC
LED channels	6
Max current per unit	8.3A
Max current per channel	3A
Push button functions	N/A
Network	N/A
PWM Frequency	240Hz - 2.4kHz (adjustable)
Overcurrent Protection	Yes (via external fuse)
Overheat protection	No
Conforms to European EMC regulations	Yes
CE marked	Yes
Dimensions (LxWxH)	112 (136) x62x30mm
Ambient temperature (operation)	0-35°C

## Planing your lighting

In order to get the maximum value and pleasure from your Moodifier lighting it is important to plan how you want your lighting to work. Each LED channel on the Moodifier Constant Voltage Driver and Slave can be controlled individually (switched on/of or dimmed)

If you want to be able to light up a wall or some other part of a room individually you should dedicate one or more LED-channels for that purpose.

If you want to colour-change the lighting with RGB lights that have 4 wires (one positive and one negative for each colour, red, green and blue) you need to dedicate 3 LED-channels for that purpose. Keep in mind that coloured light is not visible unless it hits a surface. If you want to colour a room with light you should direct the lights to the walls and ceiling, not to the centre of the room. A good comparison is to think of it is as if you were painting with light.

By planning your lighting well you are able to create unique mood-setting atmospheres with astonishing effects.

## Electric cable recommendations

When connecting LED lights to the Moodifier Constant Voltage Driver and Slave units it is recommended that you use a copper cable with a diameter of about 1mm = area of 0.75mm<sup>2</sup> = AWG 18 or wider for cable lengths of up to 8-10 meters (16-20m back and fourth) and a cable with a diameter of about 1.38mm = area of 1.5mm<sup>2</sup> for longer cable lengths.

# Software

The Moodifier applications are available as free downloads on:

<http://www.moodifier.net/software/>

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<http://www.moodifier.net>