IL-TG-3528-WW-CW
IL-TG-3528-WW-CW-DP

# THINGLOW™ 600 PCS WARM WHITE / COOL WHITE FLEXIBLE STRIP

## ABOUT THE IL-TG-3528-WW-CW:

The Strip was made by Flexible Printed Circuit Board and 3528 Top LED. The LED is even, large and high in brightness lighting effect. Also it is soft and easy bended for installation. The cutting unit is 25mm and 3 pieces LED per group, so you could cut a different length for your project and per request. The Strip works on 12V DC or 24V DC. Suitable for both indoor & outdoor decorative application.


## APPLICATIONS:

Decorative lighting (cove lighting, back lighting) for homes, hotels, stores, yachts, bars, automobiles etc; channel letter lighting for your stores, restaurants, bars etc; shop display lighting for your iems. because of its pliability, you can flex impact lighting inc's LED Thin Glow™ Warm White / Cool White into different shapes and letters. in addition, with its colorfullighting output, you can more easily attract the attention of your potential customers.

## PRODUCT FEATURES

1. Color temperature can be adjusted by Control System from 3000K to 7000k to satisfy different color requirements.
2. Input voltage: DC12V or DC24V
3. Super bright top SMD 3528 LED as lighting sources
5. Every 3-LED are cuttable for DC12V strips, 6-LED are cuttable for DC24V strips
7. With 3M adhesive tape on backside

## SPECIFICATIONS

| Model Number | Color | LED Quantity | Color Temp. | Luminus flux | Voltage |
|---|---|---|---|---|---|
| IL-TG-3528-WW-CW-12V<br>*IL-TG-3528-WW-CW-12V-DP<br>IL-TG-3528-WW-CW-24V<br>*IL-TG-3528-WW-CW-24V-DP | WW / CW<br>Warm White/Cool White | SMD3528<br>120/m<br>Ultra Bright | 3000-7000K | WW - 540lm-600lm<br>WW - 540lm-600lm | 12V<br>24V |

| Power | Beam Angle | Cuttable | Packing | **Control** (Sold seperately) |
|---|---|---|---|---|
| 19.2W/m | 120 ° Deg. | 12V - every 3 LEDs<br>24V - every 6 LEDs | 5m (16.4 Ft.) | RF Controller: EP-2809-2 zone-RC w/2 zone receiver<br>DMX Controller: EP-DMX-W-2201-Black or White<br>RS-232 Controller: EP-RS232-ADV or EP-RS232-PRO |

* Dust Proof

# EP-2809-2Z-RC
# RF REMOTE 2 ZONES

REMOTE:
EP-2809-2Z-RC



RECEIVER:
EP-2 ZONE-RECEIVER

## Product Introduction:

RF Touch RGB remote controller is a wireless color controlling system that consists of a sender and a receiver or several receivers, as shown in Figure 1, 2:

By selecting switch status, you can set the system as RGB 3-channel output, or RGBW 4-channel output. Using RF Touch RGB remote controller, you can get whatever color you want; you can choose any color from RGB(W) to adjust so as to mix more than 100 million kinds of colors. With built-in 1 kinds of color changing mode, you can easily switch color changing modes and adjust speed and brightness. "Function Pause" enables RGB LED to stay at your favorite color under the situation of color changing modes, which operation is simple but functional.

There are three working frequencies for option: 434MHZ, 868MHZ or 915MHZ, they are suitable for Europe, Americas and all global market demands .All products completely comply with European CE regulations and American FCC regulations.

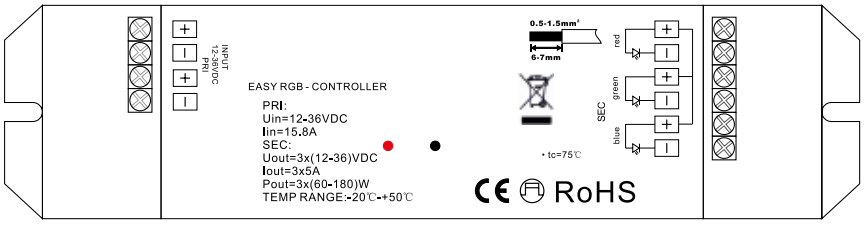
## Performance Parameter

**SENDER: (MODEL: EP-2809-2Z-RC)**

| | |
|---|---|
| Working temepature: | 4.5V(3×1.5V 7 AAA battery) |
| Working current: | <22mA |
| Dormancy current: | <20μA |
| Working frequency: | 434MHZ/868MHZ/915MHZ (optional) |
| Transmit power: | ≥5dBm |

**RECEIVER: (MODEL: EP-1005-EA-2Z-CVC)**

| | |
|---|---|
| Input current: | 3CH×5A max |
| Output Current: | 3CH×(60-180W) max - Constant Voltage |
| Working Frequency: | 434MHZ/868MHZ/915MHZ (optional) |



# Components Description

Working status indicator, the sender is in dormant status when the indicator is off. The sender is under working when the indicator is flashing rapidly. If the indicator continues flashing at the frequency of 1 second, it indicates that the sender batteries low and needs to be recharged.

S- Slow down the speed when color is changing

S+ Speed up when color is changing

▶ Multifunction button, used for selecting

II Pause

B- Brightness down

B+ Brightness up

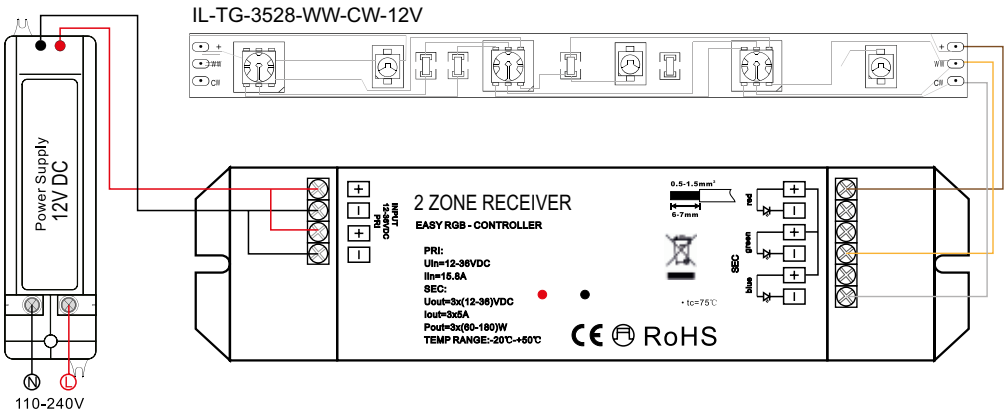
⏻ W Multifunction button, used for turn ON/OFF and CW, WW , NW output

1 2 Figure 1-2 is for selecting receiver's ID and ID itself to turn ON/OFF

Touch wheel for selecting R/G/B colors

left indicator will be on when charging, middle indicator is for reset switch, right one is for USB socket.

# Wiring Diagram of a IL-TG-3528-WW-CW-12V Thin Glow™




# Basic Usage

**1 Install battery**

Initial using RF Touch RGB remote controller, Needs remote control charging

**2 Receiver learning ID**

Initial using RF Touch RGB remote controller must learn the ID of the receiver, the purpose of learning ID code is to make a certain receiver which can correspond the sender. The method of Receiver learning ID is as follow: 1 2 the ID learning button on the sender, the ID learning indicator is on, then press one of the number button on the sender, press the number that you want this receiver to be, E.g. If you want this receiver to B+ B- ⏻ S- S+ press button first, then touch the wheel ,or you can press any functional button on the sender, such as etc. to transmit signal to the Sender, after Receiver receives the signal from the sender, the indicator will flash a few times and then turns off, then receiver ID is activated. If the ID activation is failed at the first time, please repeat the previous procedures.

Attention: B+ B- ⏻ S- S+ learned by touching color wheel is different from the reciever that learned by pressing function button .The receiver ID learned by B+ B- ⏻ S- S+ color wheel that we define it as SLAVE receiver, the receiver ID learned by pressing function button that we define it as MASTER receiver. The purpose of learning these two kinds of receivers is to ensure the receivers and color changing synchronously to avoid the color changing out of order. This point will be noted later.

**3 Delete ID and ID re-learning**

If you need to delete the ID learned in the receiver, press ID learning button for more than 5 seconds, when learning indicator is off, then the learned ID is deleted. If you need the receiver learn a new ID, repeat the operation of 4.2 (Receiver learning

**4 Choose color by touching color wheel**

After the receiver learned the ID, you can change each receiver's color by touching color wheel. If you want to change the color of receiver NO.1.. Press button 1 ,then make rotating touch on color wheel by your figures, at this time, the color of receiver No.1 will be changed constantly, when your favorite color appears, stop rotating and leave the color wheel .

If you need change color of several receivers at the same, just choose a number for these several receivers first, then touch color disc .For example, change color for receivers NO.1, 2 at the same time, you need press number 1 to 2 button 1 2 first, then touch the color wheel .

**5 Choose color changing mode**

Selecting the mode button ▶ ,receiver change colors, there is 1 color changing mode.

If you want one or several receivers under color changing mode, press number button 1 2 , and choose receiver number, then press button ▶ again. press of button ⏸, receiver will pause change, the receiver will be paused, it will stay at one color. Press button ▶ again, receiver will continue change, The receiver will be at one of static colors by touching the color wheel in color changing modes. Then press ⏸ button , receiver will be changed from start.

**6 Brightness adjustment**

Under the static color status or color changing status, you can adjust the brightness by press button B- and pressing button B+ to increase the brightness. The brightness is divided into 8 levels, the minimum is 10%, and the maximum is 100%.

**7 Changing speed adjustment**

Under color changing mode, you can slow down the changing speed by pressing button S+ ,or speed up changing speed by pressing button S- ,10 speed levels in total are available.

# Expanded Usage

**1 Color changing for multiple same ID receivers under same mode**

One receiver of the sender can be learned (unrestricted) by multiple receivers, a receiver can be only defined one ID No. from one sender .If one of senders is learned by several receivers, all these receivers will share the same ID No. When all these receivers are changing color at the same time, to ensure long-time changing in order, one of the receivers from this groups is needed to be set as Master receiver and other receivers need to be set as Slave receivers. How to set Master receiver and Slave receiver, please refer to 4.2(Receiver learning ID code.) Notice: Only one receiver(Master) can be set amont a group of receivers, otherwise it may cause chaotic phenomena.

When Master receiver is set, this group receivers are changing color at same time, synchronized signal will be emited so as to ensure this group receiver will be in order no matter how long the color changes and keep changing forever . For example, 10 receivers are learned to be ID 1. , these 10 receivers will change according to one mode, in order to avoid chaos of working units after a long time, one of the receivers is needed to be set as Master ,the Master will launch synchronized signal when color is changing, thus ensure this group of receivers are in good order no matter how long the color is changing.

**2 Usage of ON/OFF** ⏻

1 Press of ON/OFF button ⏻ for turning ON/OFF receiver.
2 Press ON/OFF button ⏻ for more than 2 seconds, it can reveal white light output, each channel is 100% output.

**3 The usage of number button** 1 2

1 Press on number button for choosing the corresponding receiver, E.g. to adjust the brightness of receiver 1, you need to press 1 button 1 , then press button B- or button B+ to adjust its brightness.
2 Pressing number button can turn on/Off the corresponding single receiver, E.g. If you need to turn off receiver 1, press button 1 more than 2 seconds, if you need turn it on again, please press button 1 again for more than 2 seconds.

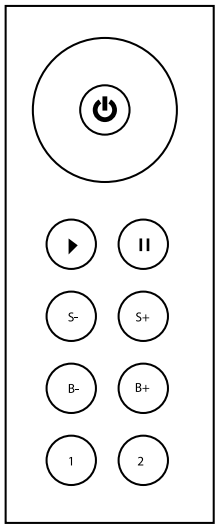
Notice: If you turn off the extension by pressing the corresponding number button, you must turn on this receiver in the same way, The receiver can not be switched on through button ON/OFF.

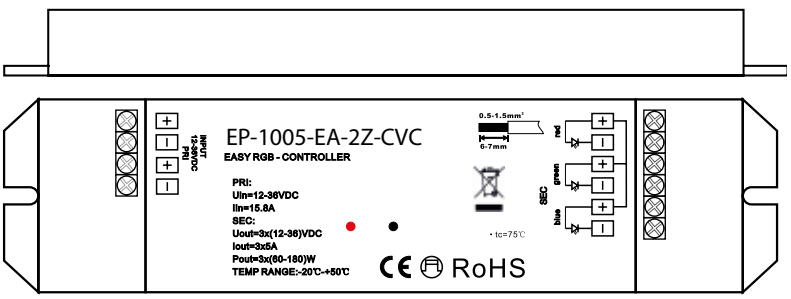
# Symptoms and solutions

| Symptom | Analysis | Solution |
|---|---|---|
| The Receiver cannot be learned to the sender | 1. Exceed learning time, every learning time is 5 Seconds only.<br><br>2.Sender is under dormancy status. | 1. Press receiver learning button, LED indicator is ON， press the number button before led indicator is OFF， then press function button or touch color wheel.<br>2. Press On/Off to make the sender under working status. |
| The sender cannot control the receiver | 1. Receiver isn't learned to the sender.<br>2. The receiver isn't learned to the sender correctly.<br>3. Remote distance is out of range.<br>4. Incorrect receiver. | 1. To learn the receiver by the sender.<br>2. When receiver is learned to the sender, press number button first, then press function button or touch color wheel.<br>3. Shorten the remote distance.<br>4. Choose correct receiver ID. |
| Color changing isn't synchronized | 1. MASTER receiver isn't set.<br>2. More than two MASTER receivers are set. | 1. Reset a new MASTER receiver.<br>2. Relearn all the receivers with one MASTR receiver |
| Wrong color | Wrong connection of RGB(W) electric wires. | Reconnect RGB(W) electric wires |
| LED flashing | The power is not enough | Change a higher power supply |

# Precautions

1. Please unload the batteries if the send is not used for a long time.
2. Don't fall the sender from a high place or don't squeeze it.
3. Please replace new batteries if there is a warning indicator of insufficient power, otherwise it would cause damage to the sender.
4 Receiver is non-waterproof, not for outdoor use



# EP-DMX-W-2201 CONTROLLER

EP-DMX-W-2201-B


EP-DMX-W-2201-W


## Product Introduction:

EP-DMX-W-2201 DMX512 Master touch panel (For Full white color) is DMX signal output to connect DMX decoders. It is of high sensitive glass touch panel, and any finishing color could be customized. This DMX512 Master touch panel suit for full white color LED lightings for home club bar office public places etc.

## Performance Parameter

| | |
|---|---|
| Input voltage: | 12-24V DC |
| Output: | DMX512 signal |
| Size: | 86mm x 86mm x 35mm |

## Operations

Running  Speed Up  Speed Down  Brightness

Touching wheels  Switch off and on

1 2 3 4 5 6 Save color and Color Switch over, 6 colors in original storage, when saving the 1st – 6th color it will cover the original Color by sequence of the following listed. Save: First, Touch a color, then press a Target Number for 3 seconds, lights flashing means successfully saved, Long press to default settings as following colors.

1 100% Warm white

2 50% warm white +50% cool white

3 100% Natural white

4 50%Natural white +50% cool white

5 100% Cool white50%

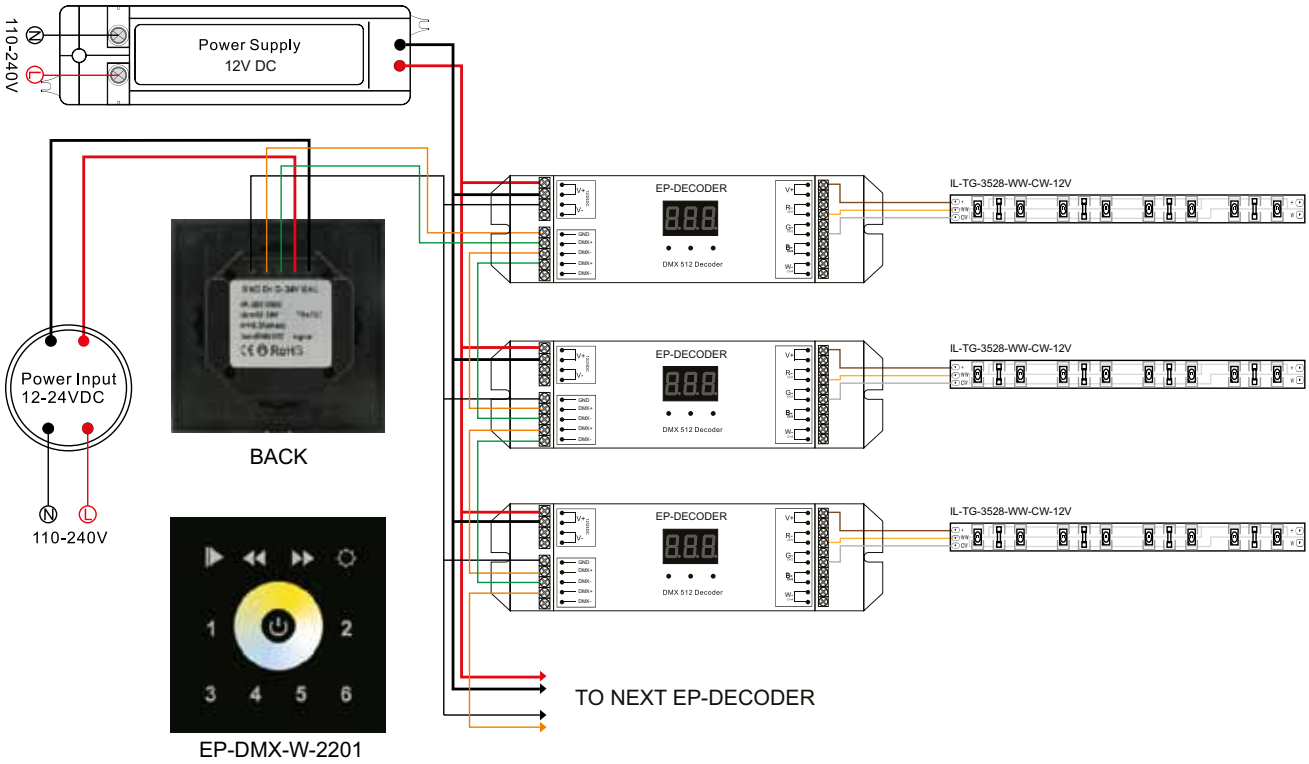
6 Cool white +50% warm white

Set address: when it works with SR-2102B , we could set addresses as there are display board and buttons. Here 2201 works as a DMX master, it has 40 addresses in total. Every 4 is a repeat as 2102B is 4 Channel DMX decoder, so there are actually 4 different address, it means WW CW NW and the extra one. For example: The first decoder 001 mean 1234 four addresses. 002 one means 5678…….

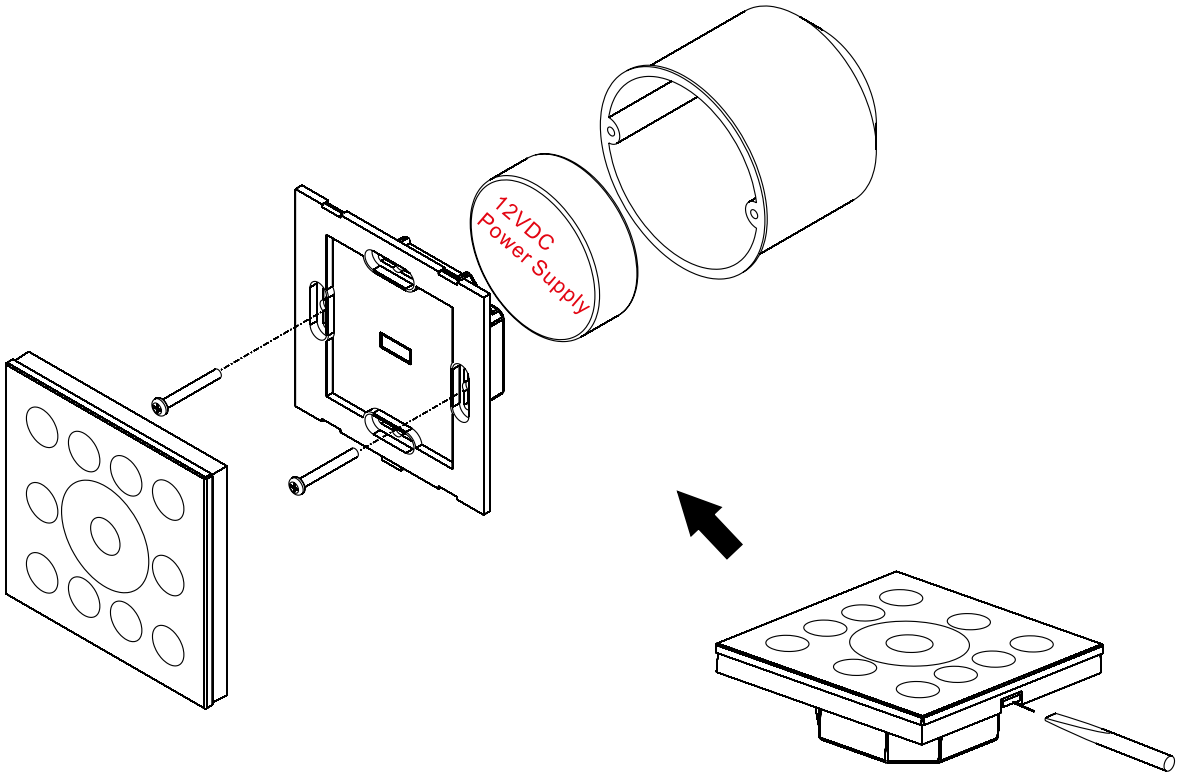
It will circular flow by every 4 addresses. So if we want all the decoders work synchronously, the 1st receiver could be addressed as 001, the 2nd addressed 005…009…013… until to 037. Every 4 by one.

If you need to connect more than 10 DMX decoders, you may set the same addresses.

# Wiring Diagram of a IL-TG-3528-WW-CW-12V Thin Glow™




# Installation



# EP-DMX512-DE-8-CV DECODER

CONSTANT VOLTAGE


## Product Introduction:

EP-DMX512-DE-8-CV (Constant Voltage) decoder are highly reliable, cost-effective decoder. Address selection by button.

Up to 5-channel decoder output can be used as RGBWY decoder, so do 5-channels.

## Performance Parameter

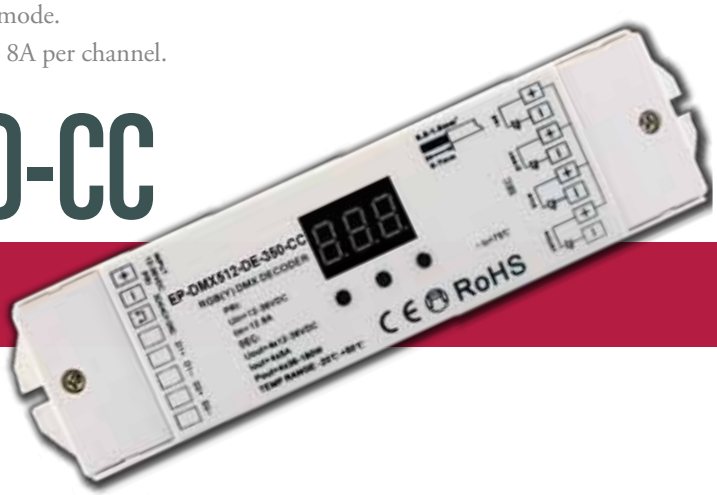
| | |
|---|---|
| Input & output Voltage: | 12-36V |
| Load Current: | 3/4×8A |
| Max Load Power: | 3/4×96-288W |
| Working Temperature: | -20-+50C |
| Load Type: | 0.04-0.1W (regular LED) |
| Appearance Dimension: | L178×W58×H29 |

## Features

1. Standard DMX512 compliant control interface, enable to set the DMX address freely. And show address Via digital numeric display.
2. Stand-alone mode and DMX512 decoder mode can be freely switched by buttons. Under situation of stand-alone mode, it enables to adjust brightness per channel,also can entry the fading operation mode.
3. Three-channel/ four-channel/five-channel output selectable, Max. 8A per channel.

# EP-DMX512-DE-350-CC DECODER

CONSTANT CURRENT




## Product Introduction:

EP-DMX512-DE-350-CC (Constant Current) decoder are highly reliable, cost-effective decoder. Address selection by button.

Up to 5-channel decoder output can be used as RGBWY decoder, so do 5-channels.

## Performance Parameter

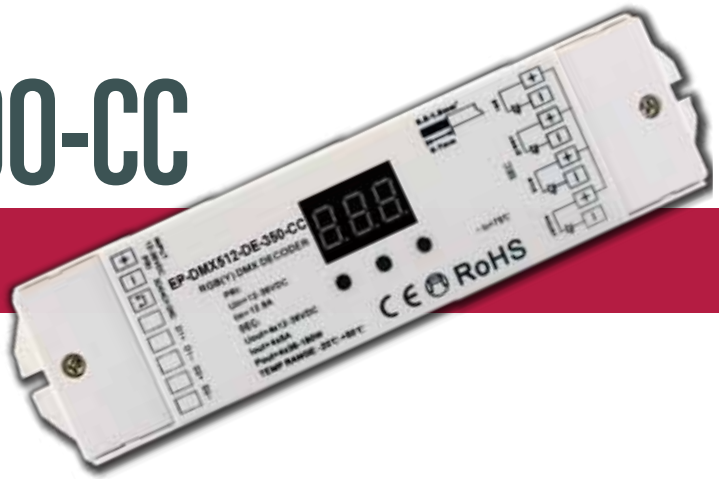
| | |
|---|---|
| Input & output Voltage: | 12-36V |
| Load Current: | 3/4/5×350mA |
| Max Load Power: | 3/4/5×4.2-12.6 |
| Working Temperature: | -20-+50C |
| Load Type: | 1W (regular LED) |
| Appearance Dimension: | L178×W45×H19mm |

## Features

1. Standard DMX512 compliant control interface, enable to set the DMX address freely. And show address Via digital numeric display.
2. Stand-alone mode and DMX512 decoder mode can be freely switched by buttons. Under situation of stand-alone mode, it enables to adjust brightness per channel,also can entry the fading operation mode.
3. Three-channel/ four-channel/five-channel output selectable, Max. 350mA per channel.
4. To work with power repeater to expand output power unlimitedly.

# EP-DMX512-DE-1000-CC DECODER

CONSTANT CURRENT




## Product Introduction:

EP-DMX512-DE-1000-CC (Constant Current) decoder are highly reliable, cost-effective decoder. Address selection by button. Up to 5-channel decoder output can be used as RGBWY decoder, so do 5-channels.

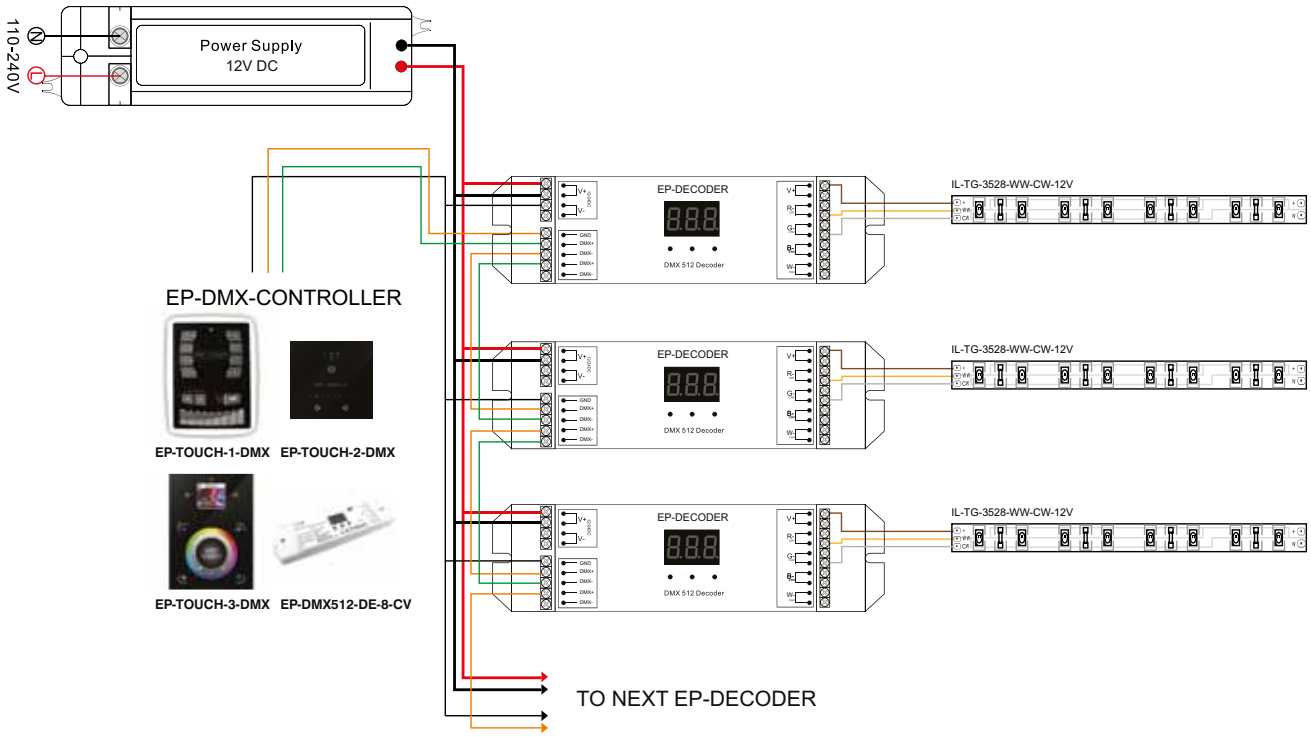
## Performance Parameter

| | |
|---|---|
| Input & output Voltage: | 12-36V |
| Load Current: | 3/4/5×1000mA |
| Max Load Power: | 3/4/5×8.4-25.2 |
| Working Temperature: | -20-+50C |
| Load Type: | 3W (regular LED) |
| Appearance Dimension: | L178×W45×H19mm |

## Features

1. Standard DMX512 compliant control interface, enable to set the DMX address freely. And show address Via digital numeric display.
2. Stand-alone mode and DMX512 decoder mode can be freely switched by buttons. Under situation of stand-alone mode, it enables to adjust brightness per channel,also can entry the fading operation mode.
3. Three-channel/ four-channel/five-channel output selectable, Max. 1000 mA per channel.
4. To work with power repeater to expand output power unlimitedly.

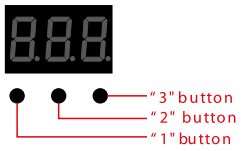
# Wiring Diagram




# Using Instruction

**1 Operation of EP-DMX512-DE-8-CV series:**

Through buttons to set desired DMX512 address, 1 key is to set “hundreds” position, 2 is to set “ten” position, 3 is to set “a” bit.




To open the connection of DMX512 controller, then it can work correctly.

**2 Operation of EP-DMX512-DE-350-CC and EP-DMX512-DE-1000-CC series:**

The only difference between SP-DMX512-DE-350-CC and EP-DMX512-DE-1000-CC series max. Can be 4 channels, EP-DMX512-DE-1000-CC series max. Can be 5CH.


**2.1 Choose mode:**

Press" 1 "and" 2 "key for 2 seconds, r,u digital display flashes, press "3 "key choose 1 or 2 mode. If the board display ru1: stand-alone mode; ru2: slaver mode. press any button for 2 seconds to confirm the mode you need.

**2.2 Choose Channel**

Press" 2 "and" 3" key for 2 seconds, c,h digital display flashes, press the first button to choose 3/4/5 , 3 means total 3 channels, 4 means total 4 channels, 5 means total 5 channels. Press any button for 2 seconds to confirm the amount of channel.

**2.3 Operation under DMX512 SLAVE mode**

Under this mode, DMX512 device is just a standard of DMX512 SLAVE, it can connect DMX512 MASTER signal with DMX512 signal input port. Dimming lighting are operated by DMX512 master.

Through buttons to set desired DMX512 address, the digital numeric display the starting address. For example: the digital numeric display 001, it means this DMX slave include 001,002,003,004 addresses (under situation of 4 CH).

**2.4 Operation under stand-alone mode**

Under stand-alone mode, DMX512 device can be operated as a independent dimming controller, there is no need DMX512 signal. The function as follows: If you choose ru1, after you press any button to confirm, the board will display P00.

**2.5 P Moving mode 5.2.5 P Moving mode**

The first number after P, it can adjust moving mode, total 10 kinds of modes, from P0-P9, press P button, P will be flashing, then you can choose 0-9(10 modes). The second number after P, it can be used adjust moving speed. Total 10 levels of speed. Press P for 2 seconds, P button will be flashing, then you can choose number 0-9 to adjust speed. For example: P27: means P2 moving mode, speed level is 7.

**2.6 C mode**

Press the first button, the digital board will show C, it means DMX512 device enter into C mode. Under this mode, it can adjust fixed colors independently , the fixed color have 8 kinds( C1- C8:red,orange,yellow,green, cyan, blue, purple). The second number after C stands for brightness of color, 8 levels brightness, 1 is the darkest, 8 is the brightest.

**2.7 R mode**

Press the first button, the digital board will show r , it means DMX512 device enter into r mode. Under this mode, it can adjust brightness of the first channel from 0%-100%. Press r button for 2 seconds, r will be flashing, then you can choose brightness you want. 00:0%,FF:100%.

**2.8 G mode**

Press the first button, the digital board will show G , it means DMX512 device enter into G mode. Under this mode, it can adjust brightness of second channel from 0%-100%. Press G button for 2 seconds, G will be flashing, then you can choose brightness you want. 00:0%,FF:100%.

**2.9 B mode**

Press the first button, the digital board will show B , it means DMX512 device enter into B mode. Under this mode, it can adjust brightness of third channel from 0%-100%. Press B button for 2 seconds, B will be flashing, then you can choose brightness you want. 00:0%,FF:100%.

**2.10 Y mode**

Press the first button, the digital board will show Y , it means DMX512 device enter into Y mode. Under this mode, it can adjust brightness of fourth channel from 0%-100%. Press Y button for 2 seconds, Y will be flashing, then you can choose brightness you want. 00:0%,FF:100%.

**2.11 U mode**

Press the first button, the digital board will show U , it means DMX512 device enter into U mode. Under this mode, it can adjust brightness of fifth channel from 0%-100%. Press U button for 2 seconds, U will be flashing, then you can choose brightness you want. 00:0%,FF:100%.

Note: P, C , R, G, B, Y, U mode will be a loop.

# EPIC'S RS232 SERIES

## Product Introduction:

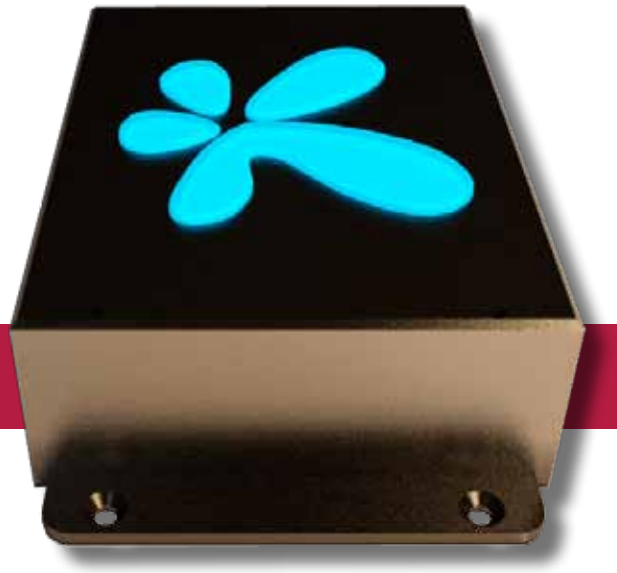
The EP-RS232-ADV LED Controller is a highly professional and intelligent system to control common anode LED lighting or incadescent light bulbs via 2-way RS232 serial commands. The EP-RS232-ADV provides 4 high current channel to create light scenes. The controller can also operate in a standalone mode which includes pre-programmed light sequences. This LED controller is ideal used for flexible ThinGlow™ LED strips. The EP-RS232-ADV LED Controller also operate independantly or integrated into a whole-house control system.

## Key Features

- 4 high current channels with independent control - The highest in the industry. RGB+White.
- Suitable for common anode RGB LED strips, LEDs and incandescent bulbs.
- Standalone mode with 8 preprogrammed light sequences.
- Custom user-editable sequence via RS232.
- Wide-range effect speed adjust.
- Wide-range of external input acessoroes such iPad, relays, and wireless transmitter.
- Complete lists of color and scene serial commands to save programming time.
- Memory for last selected sequence and user-editable sequence.
- Serial TTL interface to control from your microcontroller or PC - interface sold seperately.
- Addressable. Multiple modules can be connected with independent control for each module.
- Small form factor (Al sending sizes).
- PWM of 480 Hz to deliver smooth dimming and a wide range of color spectrum of LED light fixtures.
- Override memory feature that allows last program to continue even in an event whereby the RS232 is disruppted for any reason.
- Reverse polarity protection.
- Work independantly or integrated into a whole-house control system.
- Proprietary power conditioning design to work with magnetic transformers.

## Specifications

| | |
|---|---|
| Power Requirement | External power supply - (power supply sold seperately) |
| Operating Voltage: | Input: 8-24V DC (Class 2) |
| | Output: 8-24V DC (depends on input) |
| Channel Current: | 4.17Amp@12V DC Per Channel |
| | 4.17Amp@24V DC Per Channel |
| UL Number: | E359996 |



**Specificatios (con't)**

| | |
|---|---|
| LED intensity control: | 255 intensity levels/channel |
| Communication Interface: | Serial RS232 and serial TTL interface, 9600 baud, 8 data bits, 1 stop bit, no parity, no handshaking, and no flow control |
| Dimension: | 4" x 6.75" x 1.75" in |
| Weight: | 3.5 lbs |

*Suitable for damp locations

**Control & Indicators**

| | |
|---|---|
| Net ID: | DIP switches |
| Power: | Blue LED on logo, indicates when power is applied |
| RGB Speed: | Blue LED on logo, indicates color changing speed |
| R-G-B output: | RGB LED on board |
| White Output: | White LED on board |

**Enclosure**

Black anodized aluminum with laser engraving
Logo - optical grade acrylic with LEDs

Connectors
Screw terminal up to 10Awg conductor diameter.

**Reccommended Wiring**

18 Awg up to 5 Amp total

*May use distribution board. See distribution page.

## AMPERAGE

| Color/Channel | 12V | Wattage | 24V | Wattage |
|---|---|---|---|---|
| Red | 4.17Amp | 51.04W | 4.17Amp | 100W |
| Green | 4.17Amp | 51.04W | 4.17Amp | 100W |
| Blue | 4.17Amp | 51.04W | 4.17Amp | 100W |
| White | 4.17Amp | 51.04W | 4.17Amp | 100W |
| Total | 16.68Amp | 204.16W | 16.68Amp | 400W |

c UL US LISTED

# Control Manual

Congratulations on your purchase of Epic's RS232-ADV LED Controller. Welcome to a more colorful world brought to you by AIT Technology.

**BUTTON ACTIONS:**

**Button 1:**

Button 1 is used for 2 purposes. If the controller is in color cycle mode, this will increase the speed of the color cycle. The color cycle has 10 selectable speeds. The default speed is 5. A quick press of button 1 while in color cycle mode will result in the speed increasing by 1. The logo will pulse the speed number you have selected. When the speed is on 10 and a quick press of button 1 is done, the speed will go to A long press (more than 1/2 second) of button 1, while in color cycle mode, will reset the speed to the default (5).

**Button 2:**

Button 2 is used to switch through color modes of the controller. With no RGB LED channels on, a quick press of button 2 quickly (less than 1/2 a second) will cycle through the solid colors. The color order is: red, green, blue, magenta, cyan, gold, and (RGB) white. Color cycling will start after the solid colors. Once color cycling starts, a quick press of button 2 will pause the color cycle and the color showing when paused will remain on. A quick press of button 1 will then start the color cycle again.

A long press of button 2 (more than 1/2 second) will result in the RGB channels fading to off. This will work for solid colors as well as the color mode.

White LED Channel:

A short press (less than 1/2 second) of button 2, while not in color cycle mode, will increment the white LED channel by 10%. When the white LED channel has reached 100%, and a short press of button 2 is performed, the logo will pulse 1 time to indicate the white LED channel is at 100%.

A long press (more than 1/2 second) of button 2, while not in color cycle mode, will fade the white LED channel to off if it is on. If a long press of button 2 is performed while the white LED channel is off, the white LED channel will fade up to 100%.

# Serial Commands

**Serial Format:**

The serial format is 9600 baud, 8 bits, no parity, 1 stop bit, and no flow control.

**Color Commands:**

The color commands are in 3 parts, address, color, and level. The command ‘xredyyy<CR>’ is the command for setting the red level. x represents the address of the unit, red represents the color, and y represents the desired LED level from 0 to 100. For example if you wanted to set the red level to 63% on a controller with the address of 4, you would send the command, ‘4red63<CR>’. The '<CR>' represents a carriage return. This command is valid for red, green, blue, and white.

**Preset Color Commands:**

The preset color commands are for preset solid colors. To activate a solid color, the command is the address, followed by the color. For example, if you wanted to set the color pink on a controller with the address of 2, you would send the command, ‘2pink<CR>’. The '<CR>' represents a carriage return. The following list are the valid colors and their commands.

| Color: | Command: | Color: | Command: |
|---|---|---|---|
| Magenta | magenta | Cyan | cyan |
| Gold | gold | RGB White | rgbwhite |
| Orange | orange | Light Blue | ltblue (light blue) |
| Light Green | ltgreen (light green) | Violet | violet |
| Pink | pink | RGB Warm White | rgbww |
| allred | red | allgreen | green |
| allblue | blue | | |

**All LED's Off:**

the command for turning all LED's off is 2 parts, the address and the alloff command. For example, if you wanted to turn all LED's off on a controller with the address of 5, you would send the command, '5alloff<CR>'.

**Global Off:**

This command will turn off all LED's on all controllers connected, regardless of it's address. The command is, 'globaloff<CR>'.

**Color Cycle:**

The command for starting a controller into color cycle mode is the address, followed by 'cycle'. For example, if you wanted to start a color cycle mode on a controller with the address of 3, you would send the command, '3cycle<CR>'.

**Color Cycle Pause:**

The command for starting a controller into color cycle mode is the address, followed by 'cycle'. For example, if you wanted to start a color cycle mode on a controller with the address of 3, you would send the command, '3cycle<CR>'.

**Color Modes:**

The command for starting a controller into a color mode is the address, followed by the mode. For example, if you wanted to start the color mode ocean on a controller with the address of 3, you would send the command, '3ocean<CR>'. The following list is the available modes, their commands, and the colors in them.

| Mode: | Command: | Colors: |
|---|---|---|
| Sunset | sunset | Amber, Gold, and RGB White |
| Tranquility | ocean | Blue, Light Blue, and Light Green |
| Morning Sky | skylight | Blue and RGB White |
| Romance | love | Red and Pink |
| Royal | royal | Pink and Violet |
| Rainbow | rainbow | All - slow |
| Mardi Gras | party | All - Medium |
| Cool Cabaret | disco | All - Fast |
| USA | usa | Blue, Red, and White |
| Twilight | twilight | Violet and blue |

**Color Cycle Pause:**

To pause a color cycle on a controller, send the address followed by 'pause'. For example, if you wanted to pause a color cycle on a controller with the address of 6, you would send the command, '6pause<CR>'.

**Rate:**

If you want to change the rate or speed of the color cycle, you would send the address, then a value from 0 to 255. The fastest change rate is 0 and the slowest would be 255. For example, if you wanted to set the rate to 2 on a controller with the address of 7, you would send the command, '7rate2<CR>. The default rate is preset to 4.

**Stay:**

This command selects how long, in seconds, the color cycle stays on a solid color before cycling to the next one. You send the address of the controller, then the 'stay' command, the the number of seconds you desire. For example, if you wanted to set the stay value to 5 seconds on a controller with the address of 1, you would send the command, '1stay5<CR>. The default stay value is preset to 0 seconds.

**Ramp:**

This command selects the default ramp rate when LED's change brightness levels. The fastest rate is 0 and goes up to 255. To change the ramp value, you would send the address, then 'ramp', then the ramp value. For example, if you wanted to change the ramp rate to 6 on a controller with the address of 2, you would send the command, '2ramp6<CR>'. The default ramp value is preset to 4.

**Bright:**
This command brightens the red, green, and blue LED's on a controller. To use the bright feature, you would send the address, and then 'bright'. For example, if you wanted to brighten the RGB LED's on a controller with the address of 7, you would send the command, '7bright<CR>'. LED's will be brightened separately, and once any color reaches 100%, it will remain at 100% with each additional bright command.

**All White Mode:**
The controller may be set up with white LEd's on all 4 channels. The channels are labeled on the board and share the color channels, White 1 with Red, White 2 with Green, White 3 with Blue and White 4 with White You can control the white channels by using the optional white commands. The command is the address, followed by wht followed by the channel, followed by a level. For example, if you wanted to set White 3 to level 40% on a controller with the address of 7, you would send the command '7wht340<CR>'.

**Dim:**
This command Dims the red, green, and blue LED's on a controller. To use the dim feature, you would send the address, and then 'dim'. For example, if you wanted to dim the RGB LED's on a controller with the address of 4, you would send the command, '4dim<CR>'. LED's will be dimmed separately, and once any color reaches 0%, it will remain at 0% with each additional dim command.

**DIP Switch Settings:**
The DIP Switches are for enabling different options that are available on the Epic controller. The individual switches are for different options as well as setting the controllers address.

Switches 1-3 are used to set the controllers address. Each switch represents a value, and the sum of all the value is the address. Switch 1 represents 1, Switch 2 represents 2, and Switch 3 represents 4. So if you had Switches 1 & 3 on, the address would be 5. The controllers default address is 0, and that is by having no switches on.

Switch 7 is used to enable Jandy or pool mode. If this switch is down, the controller will respond to the Jandy relay adapter with the following modes - Off, White, Blue, Cyan, Green, Red, Pink, Gold, and Color Cycle.

Switch 8 is used to select the logo LED option. If this switch is on, the logo will light up and pulse with certain button presses. If the options off, it will remain unlighted.

**Address Query:**
You can send the command "address" and the controller will return the address that it is set to.

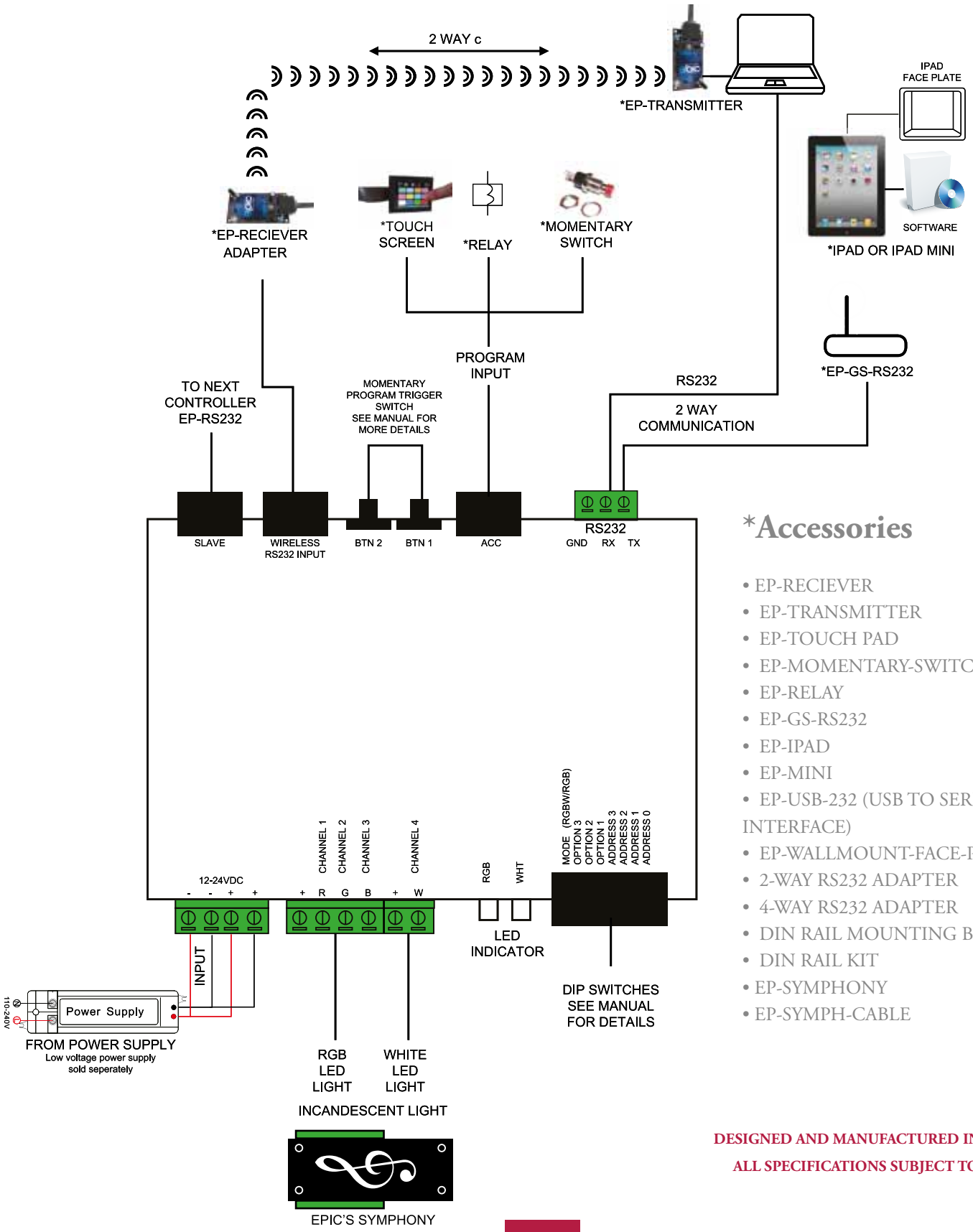
**Help:**
You can send the command "help" and the controller will give you some instructions about basic operation in a small paragraph via the serial connection.

**Status:**
You can send the address followed by the command "status" and the controller will give you all RGB levels and the ramp rate.

Safety Warning: Do not open box, Rs232 controller has no serviceable parts inside. Disconnect electrical power before installing or serviceing this equipment.

This product is to be installed by a qualified person only.

# EP-RS232-ADV
# OVERVIEW




## *Accessories

- EP-RECIEVER
- EP-TRANSMITTER
- EP-TOUCH PAD
- EP-MOMENTARY-SWITCH
- EP-RELAY
- EP-GS-RS232
- EP-IPAD
- EP-MINI
- EP-USB-232 (USB TO SERIAL INTERFACE)
- EP-WALLMOUNT-FACE-PLATE
- 2-WAY RS232 ADAPTER
- 4-WAY RS232 ADAPTER
- DIN RAIL MOUNTING BRACKET
- DIN RAIL KIT
- EP-SYMPHONY
- EP-SYMPH-CABLE

DESIGNED AND MANUFACTURED IN THE USA

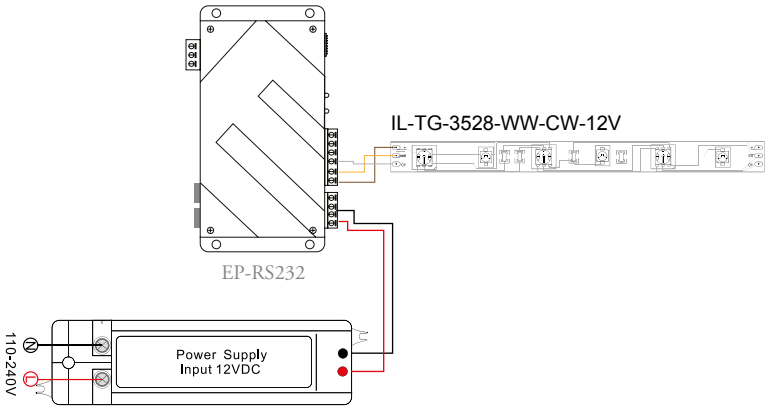
ALL SPECIFICATIONS SUBJECT TO CHANGE

# EP-RS232-ADV

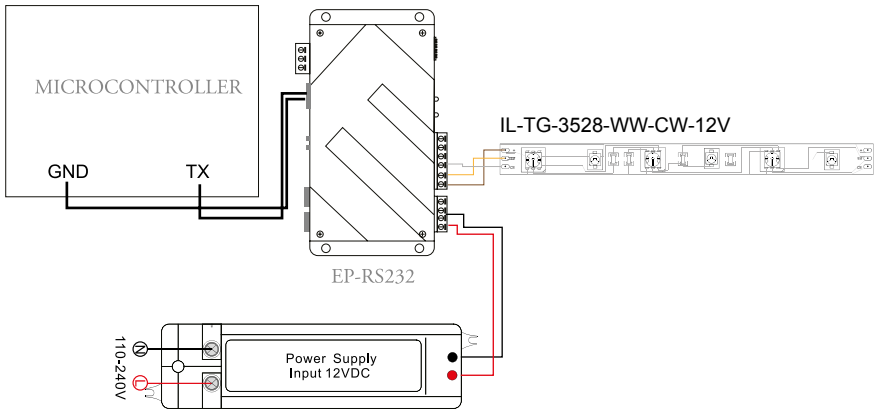
# OVERVIEW

## WIRING OPTION

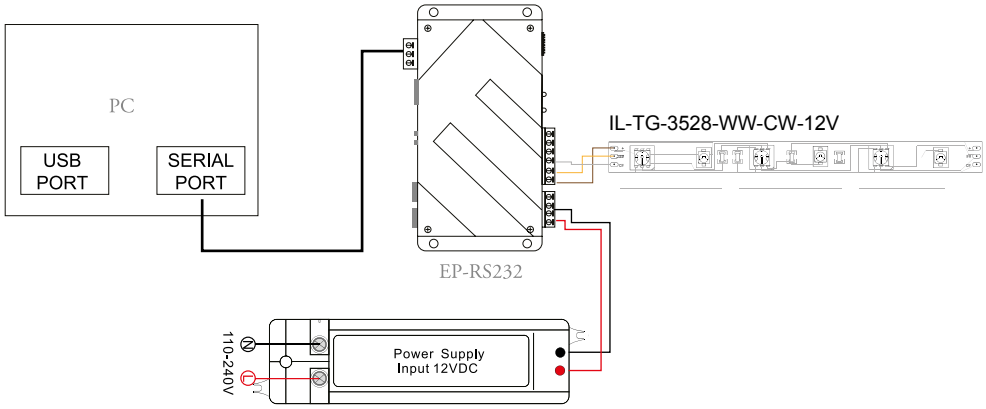
COMMON ANODE LED STRIP CONNECTION



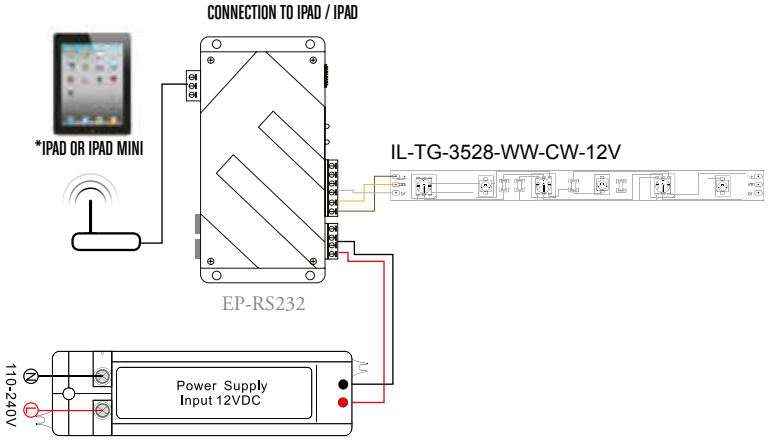

CONTROLLER CONNECTION TO A MICROCONTROLLER (SERIAL TTL INTERFACE)



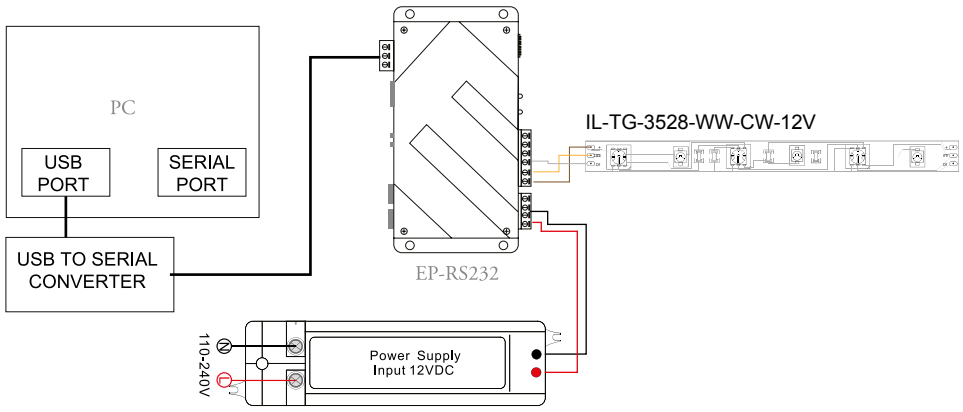

CONTROLLER CONNECTION TO A COMPUTER SERIAL PORT



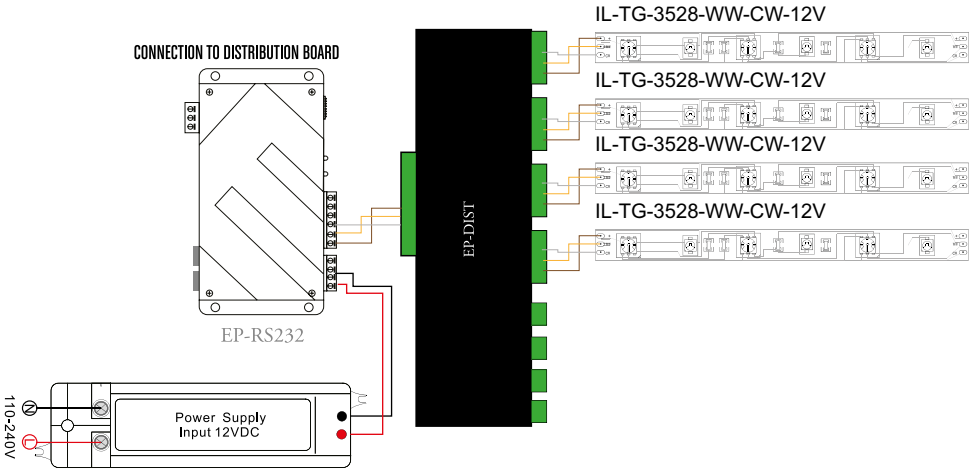
## CONNECTION TO IPAD / IPAD




## CONTROLLER CONNECTION TO A COMPUTER USB PORT




## CONNECTION TO DISTRIBUTION BOARD



# EPIC'S RS232 PRO

## Product Introduction:

The EP-RS232-PRO LED Controller is a highly professional and intelligent system to control common anode LED lighting or incadescent light bulbs via 2-way RS232 serial commands. The EP-RS232-PRO provides 4 high current channel to create light scenes. The controller can also operate in a standalone mode which includes pre-programmed light sequences. This LED controller is ideal used for flexible ThinGlow™ LED strips. The EP-RS232-PRO LED Controller also operate independantly or integrated into a whole-house control system.

## Key Features

- 4 high current channels with independent control - The highest in the industry. RGB+White.
- Suitable for common anode RGB LED strips, LEDs and incandescent bulbs.
- Standalone mode with 8 preprogrammed light sequences.
- Custom user-editable sequence via RS232.
- Wide-range effect speed adjust.
- Wide-range of external input acessoroes such IPAD, relays, and wireless transmitter.
- Complete lists of color and scene serial commands to save programming time.
- Memory for last selected sequence and user-editable sequence.
- Addressable. Multiple modules can be connected with independent control for each module.
- Small form factor (Al sending sizes).
- PWM of 480 Hz to deliver smooth dimming and a wide range of color spectrum of LED light fixtures.
- Override memory feature that allows last program to continue even in an event whereby the RS232 is disruppted for any reason.
- Reverse polarity protection.
- Work independantly or integrated into a whole-house control system.
- Proprietary power conditioning design to work with magnetic transformers.

## Specifications

| | |
|---|---|
| Power Requirement | External power supply - (power supply sold seperately) |
| Operating Voltage: | Input: 8-24V DC (Class 2) |
| | Output: 8-24V DC (depends on input) |
| Channel Current: | 4.17Amp@12V DC Per Channel |
| | 4.17Amp@24V DC Per Channel |
| UL Number: | E359996 |

**Specificatios (con't)**

| | |
|---|---|
| LED intensity control: | 255 intensity levels/channel |
| Communication Interface: | Serial RS232<br>9600 baud, 8 data bits, 1 stop bit, no parity, no handshaking, and no flow control |
| Dimension: | 4" x 5" x 1.75" in |
| Weight: | 2.5 lbs |

**Control & Indicators**

| | |
|---|---|
| Power: | Blue LED on board/or logo |
| RGB Speed: | Blue LED on board/or logo |
| R-G-B output: | RGB LED on board |
| White Output: | White LED on board |

**Enclosure**

Black anodized aluminum with laser engraving
Logo - optical grade acrylic with LEDs

Connectors
Screw terminal up to 10Awg conductor diameter.

**Reccommended Wiring**

18 Awg up to 5 Amp total
*May use distribution board. See distribution page.

## AMPERAGE

| Color/Channel | 12V | Wattage | 24V | Wattage |
|---|---|---|---|---|
| Red | 4.17Amp | 51.04W | 4.17Amp | 100W |
| Green | 4.17Amp | 51.04W | 4.17Amp | 100W |
| Blue | 4.17Amp | 51.04W | 4.17Amp | 100W |
| White | 4.17Amp | 51.04W | 4.17Amp | 100W |
| Total | 16.68Amp | 204.16W | 16.68Amp | 400W |

c UL us LISTED

# Control Manual

Congratulations on your purchase of Epic's RS232-PRO LED Controller. Welcome to a more colorful world brought to you by AIT Technology.

**BUTTON ACTIONS:**

**Button 1:**

Button 1 is used to switch through color modes of the controller. With no RGB LED channels on, a quick press of button 1 quickly (less than 1/2 a second) will cycle through the solid colors. The color order is: red, green, blue, magenta, cyan, gold, and (RGB) white. Color cycling will start after the solid colors. Once color cycling starts, a quick press of button 1 will pause the color cycle and the color showing when paused will remain on. A quick press of button 1 will then start the color cycle again.

A long press of button 1 (more than 1/2 second) will result in the RGB channels fading to off. This will work for solid colors as well as the color mode.

**Button 2:**

Button 2 is used for 2 purposes. If the controller is in color cycle mode, this will increase the speed of the color cycle. The color cycle has 10 selectable speeds. The default speed is 5. A quick press of button 2 while in color cycle mode will result in the speed increasing by 1. The logo will pulse the speed number you have selected. When the speed is on 10 and a quick press of button 2 is done, the speed will go to A long press (more than 1/2 second) of button 2, while in color cycle mode, will reset the speed to the default (5).

White LED Channel:

A short press (less than 1/2 second) of button 2, while not in color cycle mode, will increment the white LED channel by 10%. When the white LED channel has reached 100%, and a short press of button 2 is performed, the logo will pulse 1 time to indicate the white LED channel is at 100%.

A long press (more than 1/2 second) of button 2, while not in color cycle mode, will fade the white LED channel to off if it is on. If a long press of button 2 is performed while the white LED channel is off, the white LED channel will fade up to 100%.

# Serial Commands

**Serial Format:**

The serial format is 9600 baud, 8 bits, no parity, 1 stop bit, and no flow control.

**Color Commands:**

The color commands are in parts, color, and level. The command ‘xredyyy<CR>’ is the command for setting the red level. red represents the color, and y represents the desired LED level from 0 to 100. For example if you wanted to set the red level to 63%, you would send the command, ‘red63<CR>’. The '<CR>' represents a carriage return. This command is valid for red, green, blue, and white.

**Preset Color Commands:**

The preset color commands are for preset solid colors. To activate a solid color, the command is the color. For example, if you wanted to set the color pink, you would send the command, ‘pink<CR>’. The '<CR>' represents a carriage return. The following list are the valid colors and their commands.

| Color: | Command: | Color: | Command: |
|---|---|---|---|
| Magenta | magenta | Cyan | cyan |
| Gold | gold | RGB White | rgbwhite |
| Orange | orange | Light Blue | ltblue (light blue) |
| Light Green | ltgreen (light green) | Violet | violet |
| Pink | pink | RGB Warm White | rgbww |
| allred | red | allgreen | green |
| allblue | blue | | |

**All LED's Off:**
The command for turning all LED's off, the alloff command. For example, if you wanted to turn all LED's off on a controller, you would send the command, 'alloff<CR>'.

**Global Off:**
This command will turn off all LED's on all controllers connected, regardless of it's address. The command is, 'globaloff<CR>'.

**Color Cycle:**
The command for starting a controller into color cycle mode is 'cycle'. For example, if you wanted to start a color cycle mode on a controller with the address of 3, you would send the command, '3cycle<CR>'.

**Color Cycle Pause:**
The command for starting a controller into color cycle mode is the address, followed by 'cycle'. For example, if you wanted to start a color cycle mode on a controller, you would send the command, '3cycle<CR>'.

**Color Modes:**
The command for starting a controller into a color mode is the mode. For example, if you wanted to start the color mode ocean on a controller, you would send the command, 'ocean<CR>'. The following list is the available modes, their commands, and the colors in them.

| Mode: | Command: | Colors: |
|---|---|---|
| Sunset | sunset | Amber, Gold, and RGB White |
| Tranquility | ocean | Blue, Light Blue, and Light Green |
| Morning Sky | skyLight | Blue and RGB White |
| Romance | love | Red and Pink |
| Royal | royal | Pink and Violet |
| Rainbow | rainbow | All - slow |
| Mardi Gras | party | All - Medium |
| Cool Cabaret | disco | All - Fast |
| USA | USA | Blue, Red, and White |
| Twilight | twilight | Violet and blue |

**Color Cycle Pause:**
To pause a color cycle on a controller, send 'pause'. For example, if you wanted to pause a color cycle on a controller, you would send the command, '6pause<CR>'. If the pause command is sent again, the cycle will resume.

**Rate:**
If you want to change the rate or speed of the color cycle, you would send a value from 0 to 255. The fastest change rate is 0 and the slowest would be 255. For example, if you wanted to set the rate to 2 on a controller, you would send the command, 'rate2<CR>. The default rate is preset to 4.

**Stay:**
This command selects how long, in seconds, the color cycle stays on a solid color before cycling to the next one. You send the 'stay' command, the the number of seconds you desire. For example, if you wanted to set the stay value to 5 seconds on a controller, you would send the command, '1stay5<CR>. The default stay value is preset to 0 seconds.

**Ramp:**
This command selects the default ramp rate when LED's change brightness levels. The fastest rate is 0 and goes up to 255. To change the ramp value, you would send 'ramp', then the ramp value. For example, if you wanted to change the ramp rate to 6 on a controller, you would send the command, 'ramp6<CR>'. The default ramp value is preset to 4.

**Bright:**
This command brightens the red, green, and blue LED's on a controller. To use the bright feature, you would send 'bright'. For example, if you wanted to brighten the RGB LED's on a controller, you would send the command, 'bright<CR>'. LED's will be brightened separately, and once any color reaches 100%, it will remain at 100% with each additional bright command.

**All White Mode:**
The controller may be set up with white LEd's on all 4 channels. The channels are labeled on the board and share the color channels, White 1 with Red, White 2 with Green, White 3 with Blue and White 4 with White You can control the white channels by using the optional white commands. The command is the address, followed by wht followed by the channel, followed by a level. For example, if you wanted to set White 3 to level 40% on a controller with the address of 7, you would send the command '7wht340<CR>'.

**Dim:**
This command Dims the red, green, and blue LED's on a controller. To use the dim feature, you would send 'dim'. For example, if you wanted to dim the RGB LED's on a controller, you would send the command, 'dim<CR>'. LED's will be dimmed separately, and once any color reaches 0%, it will remain at 0% with each additional dim command.

**Address Query:**
You can send the command "address" and the controller will return the address that it is set to.

**Help:**
You can send the command "help" and the controller will give you some instructions about basic operation in a small paragraph via the serial connection.

Safety Warning: Do not open box, Rs232 controller has no serviceable parts inside. Disconnect electrical power before installing or serviceing this equipment. This product is to be installed by a qualified person only.

## Warranty

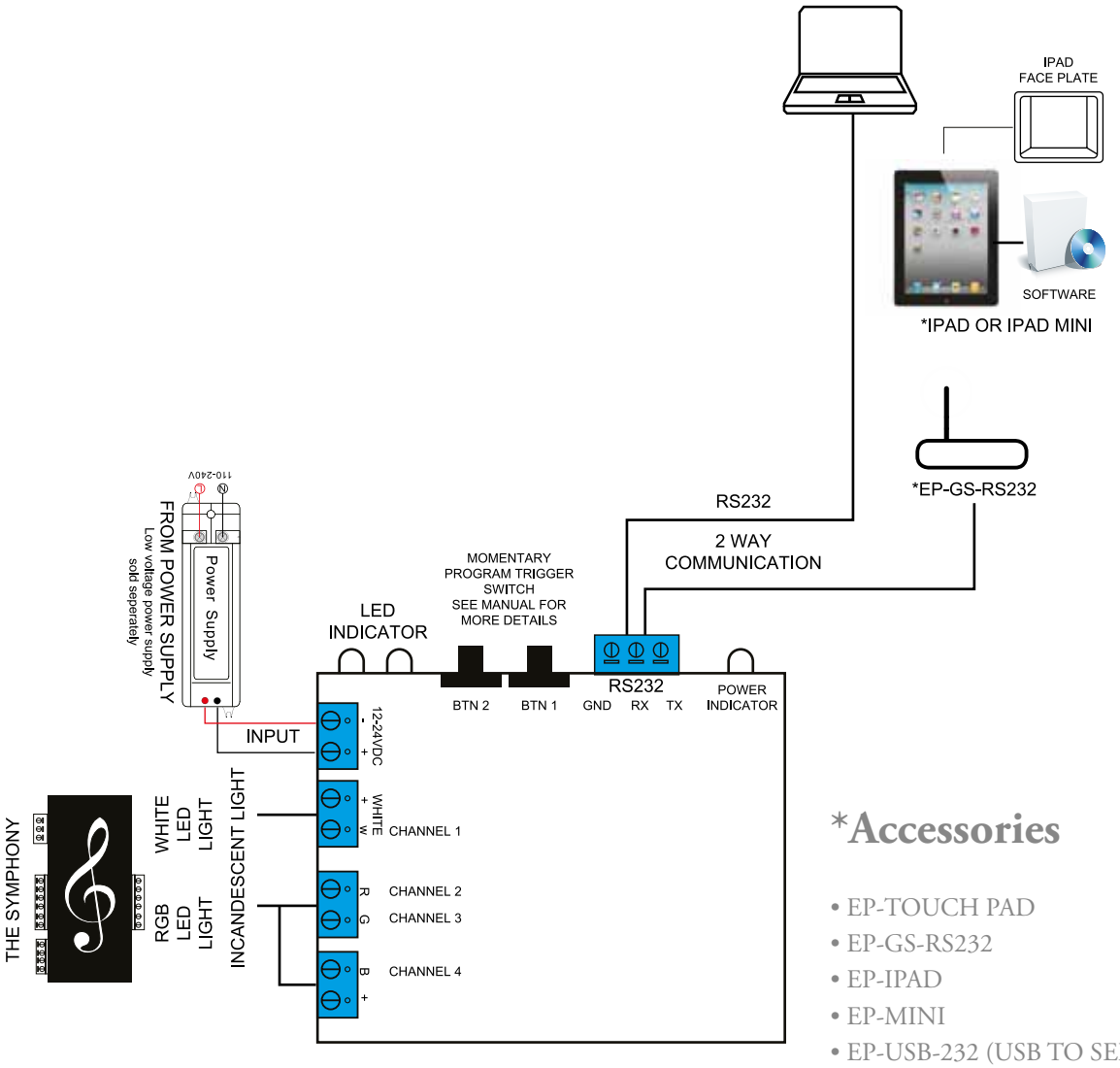
AIT warrants its products to be free from defects in material and workmanship. The exclusive remedy for this warranty is AIT factory replacement of any part or parts of such product which shall within 12 months after delivery to the pirchaser be returned to AITfactory with all transportation charges prepaid and which AIT determines to its satisfaction to be defective. This warranty shall not extend to defects in assembly by other than AIT or to any article which has been repaired or altered by other than AIT or or to any article which AIT determined has been subjected to improper use. AIT assumesno responsibility for the design characteristics od any unit or its operation in any circuit or assembly. This warranty is in lieu of all other warranties, express or implied; all other liabilities or obligations on the part of AIT, including consequential damages, are hereby expressly excluded.

Note: Carefully check the control for shipping damage. Report any damage to the carrier immediately. Do not attempt to operate the drive if visible damage is evident to either the circuit or to the electronic components.

All information contained in the manual is intended to be correct, however information and data in this manual are subject to change without notice. AIT makes no warranty of any kind with regards to this information or data. Further, AIT is not responsible for any ommissions or errors or consequential damage caused by the user of the product. AIT reserves the right to make manufacturing changes which may not be included in the manual.

Warning
Improper installation or operation of this control may cause injury to personnel or control failure. The control must be installed in accordance with local, state, and national safety codes. Make certain that the power supply is disconnected before attempting to service or remove any components. The power disconnect point is out of sight. Lock it in disconnected position and tag to prevent unexpected application of power. Only a qualified electrician or service personnel should perform any electrical troubleshooting or maintenance.

# EP-RS232-PRO
# OVERVIEW




## *Accessories

- EP-TOUCH PAD
- EP-GS-RS232
- EP-IPAD
- EP-MINI
- EP-USB-232 (USB TO SERIAL INTERFACE)
- EP-WALLMOUNT-FACE-PLATE
- DIN RAIL MOUNTING BRACKET
- DIN RAIL KIT
- EP-SYMPHONY
- EP-SYMPH-CABLE

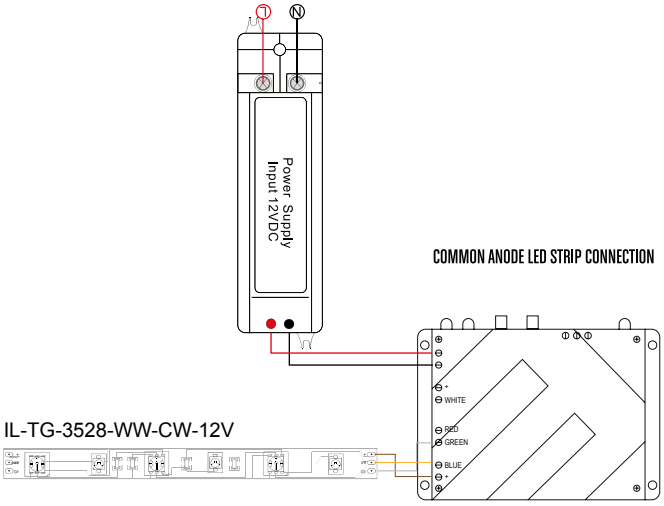
**DESIGNED AND MANUFACTURED IN THE USA**

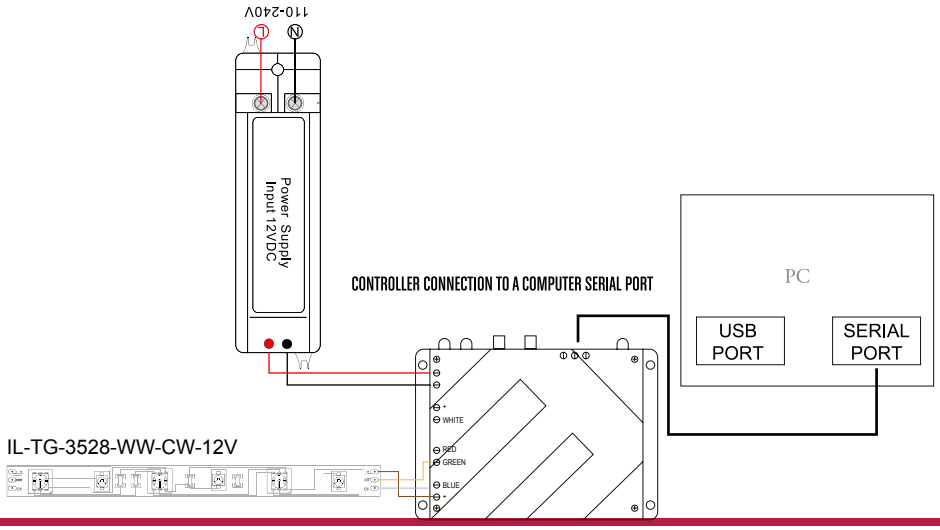
**ALL SPECIFICATIONS SUBJECT TO CHANGE**

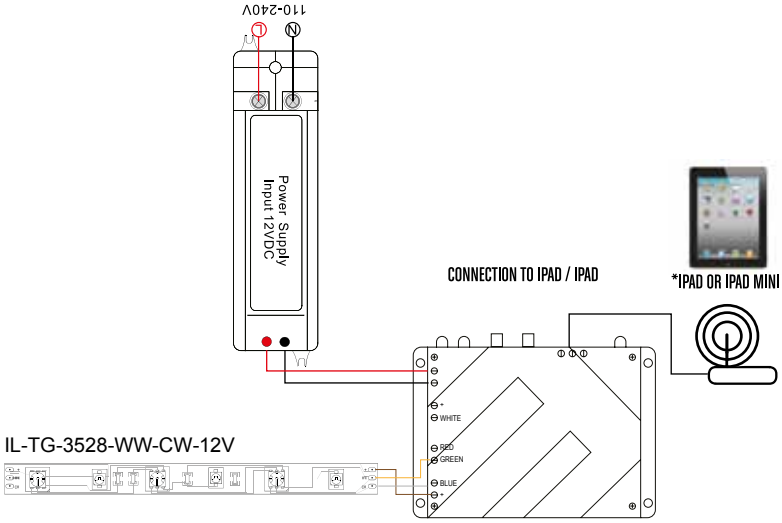
# EP-RS232-PRO

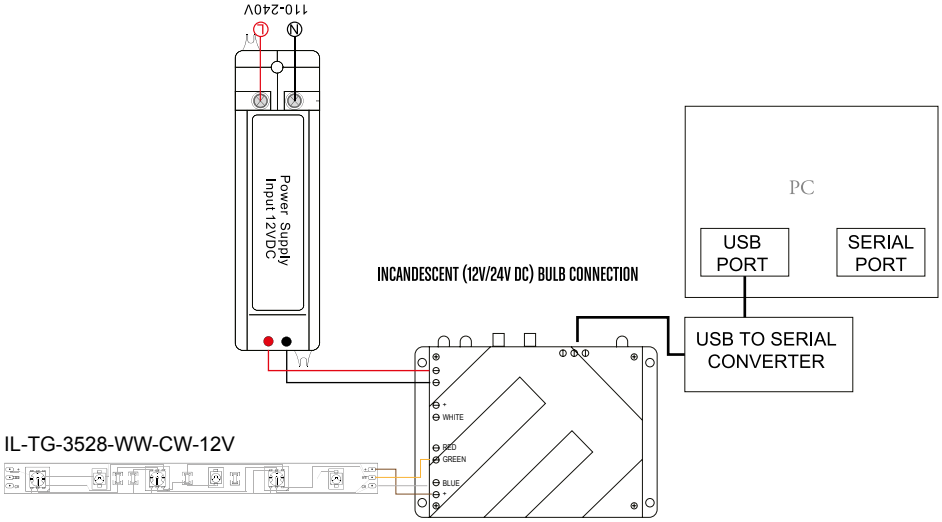
## OVERVIEW

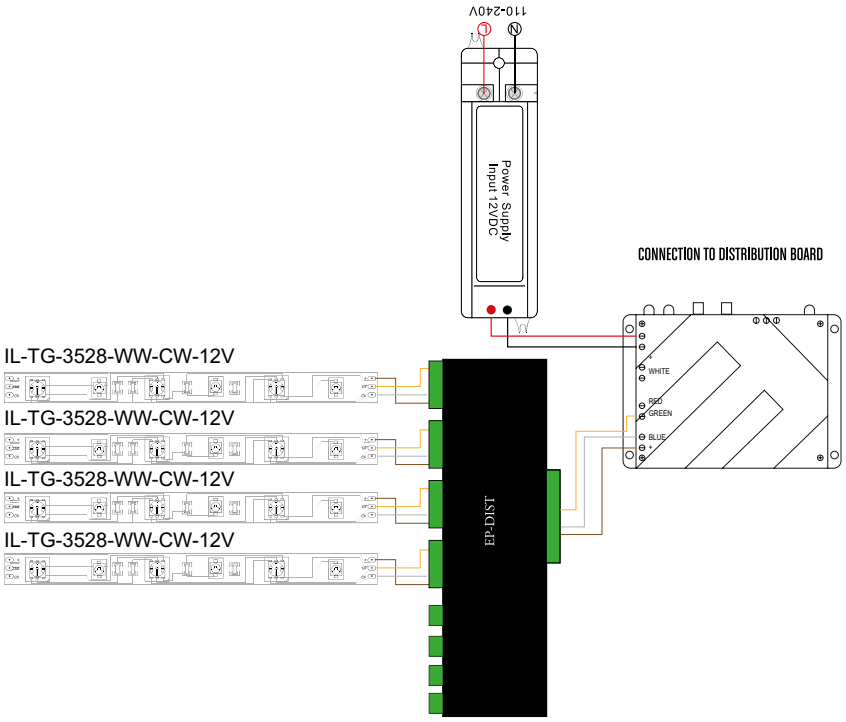
## WIRING OPTION




110-240V
Power Supply
Input 12VDC
PC
USB PORT
SERIAL PORT
USB TO SERIAL CONVERTER
INCANDESCENT (12V/24V DC) BULB CONNECTION
WHITE
RED
GREEN
BLUE
IL-TG-3528-WW-CW-12V


110-240V
Power Supply
Input 12VDC
CONNECTION TO DISTRIBUTION BOARD
WHITE
RED
GREEN
BLUE
IL-TG-3528-WW-CW-12V
IL-TG-3528-WW-CW-12V
IL-TG-3528-WW-CW-12V
IL-TG-3528-WW-CW-12V
EP-DIST