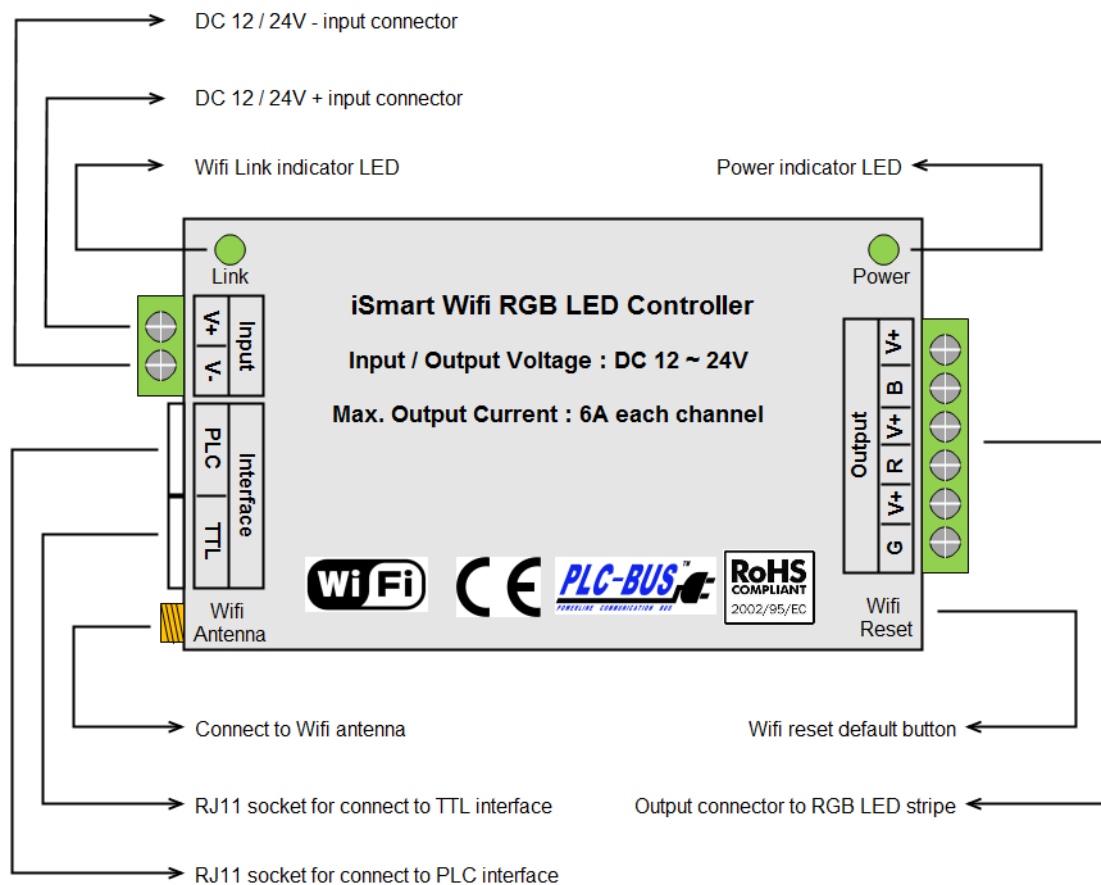


iSmart Wifi RGB LED Controller

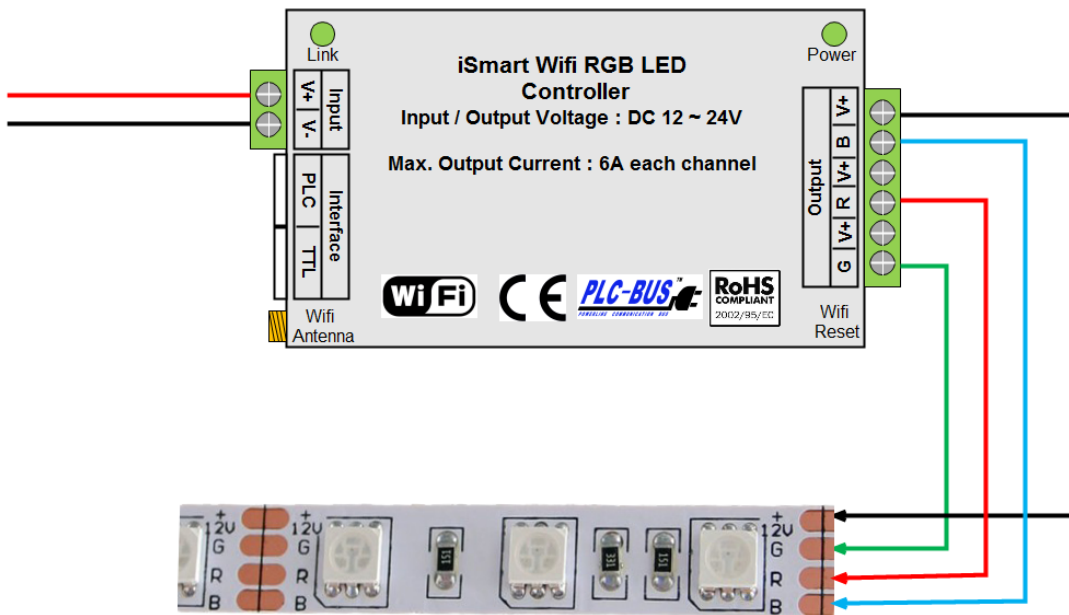
Feature :

- Wifi Access
- Support 12V or 24V RGB LED Stripe
- Support 12V or 24V MR14 LED Spot Light
- Support 3 Channel of LED , each channel max. loading up to 6A
- Control 3 channel individually
- Each channel support up to 256 level dimming
- Fade rate control , up to 128 level of ramp rate
- Remember last dim level
- Support X10 (XM10) and PLCBUS (PLCBUS-4809) interface
- Support up to four X10\PLCBUS address for control Red , Green , Blue and RGB channel by any X10\PLCBUS controller
- Support up to four X10\PLCBUS address for 8 preset RGB color.
- Communication protocol provided upon request.

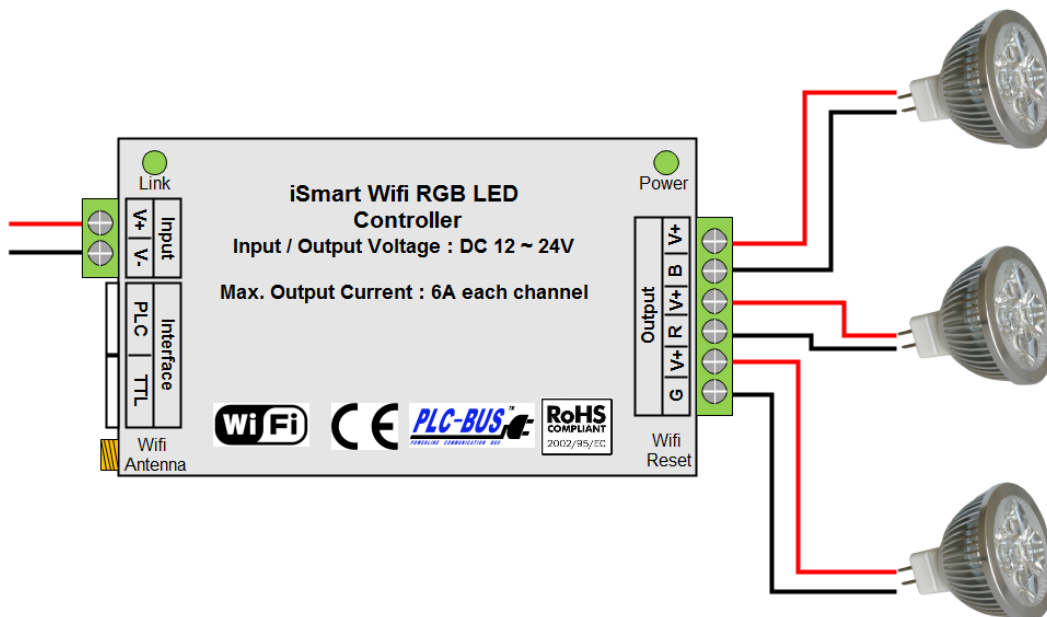
Installation :



Wiring Diagram for RGB LED stripe :



Wiring diagram for 3 channel MR16 LED spot light :



Wifi Setup :

Reset to Default Settings :

When power up the Wifi RGB LED Controller , press and hold the “Wifi Reset” button for 3 seconds and then release , pass and hold for 10 seconds again , then Wifi module will reset to factory default. Following are Wifi default settings.

Default SSID : HF-A11x_AP

Default IP : 10.10.100.254

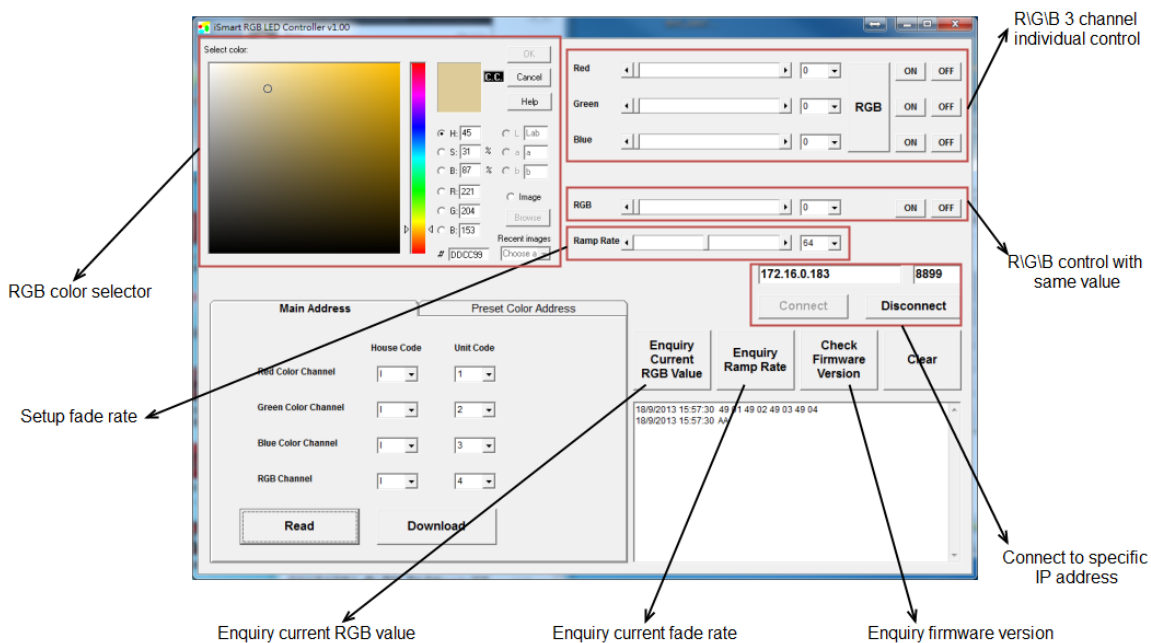
Default Web User Name : admin

Default Web Password : admin

How to join your existing Wifi network :

- 1) Reset Wifi module to factory default and join the default SSID : HF-A11x_AP
- 2) Launch your browser and goto IP : 10.10.100.254 , and enter the default user name and password.
- 3) Goto “STA Interface Setting” Page : input your existing Wifi Network SSID in AP’s SSID field , input your Wifi password in Pass Phrase field.
- 4) If you want to use as DHCP client , please select “DHCP(Auto config)” or input your specific IP address for select “STATIC(fixed IP).
- 5) Goto “Mode selection” Page : select “STA Mode”
- 6) Goto “Device Management” Page , press “Restart” button to restart the module.
- 7) If it success to join your existing Wifi network , “Link” indicator LED will light ON.

Windows program basic control :



Windows program RGB X10 address setup :

R\G\B and RGB map to 4 X10 address. Respond to On , Off , Bright and Dim command.

Red color channel X10 address

Green color channel X10 address

Read the existing setting from EPPROM

Download the address setting into EPPROM

Blue color channel X10 address

RGB channel X10 address

Windows program Preset RGB X10 address setup :

Each X10 address , map to two different RGB value.

Such as C1 ON = R255 , G192 , B 128 , C2 OFF = R0 , G64 , B32

Total support up to 4 address , 8 preset color.

Address 1 RGB settings

Address 2 RGB settings

Read the existing setting from EPPROM

Download the address setting into EPPROM

Address 4 RGB settings

Address 3 RGB settings

Address	House	Unit	ON			OFF		
			Red	Green	Blue	Red	Green	Blue
Address 1	C	1	255	192	128	0	0	0
Address 2	C	2	0	64	32	255	0	255
Address 3	C	3	0	0	0	255	255	255
Address 4	C	4	0	255	255	0	0	0

Communication Protocol :

For every command , command format have 5 element.

STX|Command|Data1|Data2|ETX

STX always be AA

ETX always be FF

Command Summary Table :

Command Name	Command (Hex)	Remark
OFF	AA 10 AA FF AA 10 BB FF AA 10 CC FF AA 10 DD FF	Red Channel Off Green Channel Off Blue Channel Off RGB All Off
ON	AA 20 AA FF AA 20 BB FF AA 20 CC FF AA 20 DD FF	Red Channel On Green Channel On Blue Channel On RGB All On
R\G\B Control 1	AA 30 AA XX FF AA 30 BB XX FF AA 30 CC XX FF AA 30 DD XX FF	Red Channel dim level Green Channel dim level Blue Channel dim level RGB dim level
R\G\B Control 2	AA 40 X1 X2 X3 FF	RGB dim level
Firmware Enquiry	AA 50 FF	Enquiry firmware version
Fade rate setup	AA 60 XX FF	Setup fade rate
X10 address setup	AA 80 AA X1 X2 FF AA 80 BB X1 X2 FF AA 80 CC X1 X2 FF AA 80 DD X1 X2 FF	Red channel X10 address Green channel X10 address Blue channel X10 address RGB X10 address
Setting Enquiry	AA 81 AA FF AA 81 BB FF AA 81 CC FF	X10 address enquiry Fade rate enquiry RGB value enquiry
X10 preset address setup	AA 82 AA (XX) FF AA 82 BB (XX) FF AA 82 CC (XX) FF AA 82 DD (XX) FF	Setup X10 preset address 1 Setup X10 preset address 2 Setup X10 preset address 3 Setup X10 preset address 4
X10 preset address enquiry	AA 83 AA FF	Enquiry X10 preset address

- Command 10 : OFF

For off command , device will save the current dim level into controller's EPPROM. So when you turn ON again , will restore to last dim level. This command can control R\G\B channel to turn OFF individually or turn OFF together. When controller accept command , will feedback 0xAA.

For turn OFF Red Channel :

AA 10 AA FF

For turn OFF Green Channel :

AA 10 BB FF

For turn OFF Blue Channel :

AA 10 CC FF

For turn OFF R\G\B three channel :

AA 10 DD FF

- Command 20 : ON

For on command , device will read the last dim level from EPPROM and turn it on. This command can control R\G\B channel to turn ON individually or turn ON together. When controller accept command , will feedback the last dim level in hex format.

For turn ON Red Channel :

AA 20 AA FF

For turn ON Green Channel :

AA 20 BB FF

For turn ON Blue Channel :

AA 20 CC FF

For turn ON R\G\B three channel :

AA 20 DD FF

- Command 30 : RGB Control

For RGB control command , you can control R\G\B channel with specific value. Value is 0x00 to 0xFF. When controller accept command , will feedback 0xAA.

For control Red Channel :

AA 30 AA XX FF [XX = Desire red channel dim level , min. value is 0x00 , max. value is 0xFF]

For control Green Channel :

AA 30 BB XX FF [XX = Desire green channel dim level , min. value is 0x00 , max. value is 0xFF]

For control Blue Channel :

AA 30 CC XX FF [XX = Desire blue channel dim level , min. value is 0x00 , max. value is 0xFF]

For control R/G/B Channel :

AA 30 DD XX FF [XX = Desire R/G/B dim level , min. value is 0x00 , max. value is 0xFF]

- Command 40 : RGB Control with different value

For this command , similar with command 30 , but this command format is control RGB value in one command. Value is 0x00 to 0xFF. When controller accept command , will feedback 0xAA.

AA 40 X1 X2 X3 FF [X1=Red channel value , X2=Green channel value , X3=Blue channel value]

- Command 50 : Enquiry firmware version

For this command , will enquiry firmware version , controller will return current firmware version.

AA 50 FF

Controller will return current firmware version , for example : it will return 0x01 0x00 0x07 , that mean the current firmware version is 1.07

- Command 60 : Setup fade rate

For this command , you can define the fade rate. Value is 0x00 to 0x80. Total 128 levels. When controller accept command , will feedback 0xAA.

AA 60 XX FF [XX=Desire fade rate , min. is 0x00 , max. is 0x80]

For X10 \ PLCBUS interface. Red \ Green \ Blue and RGB will map to four different X10 address. So you can send different X10 On or Off command to control 3 channel's On and Off accordingly. For example :

A1 = Red Channel , A2 = Green Channel , A3 = Blue Channel , A4 = RGB Channel

If you send out A1 ON , then Red Channel to turn ON.

If you send out A4 OFF , then R\G\B will turn OFF.

This controller only support X10 ON \ OFF \ Bright and Dim command only. For Bright command , it will step up 16 level. If current dim level reach > 239 , will turn into 255 (Full bright). For Dim command , it will step down 16 level. If current dim level reach < 16 , it will turn into 0 (Totally OFF) Bright and Dim command only affect on X10 R\G\B\RGB address only. Not affect on X10 preset address.

Controller also support up to 4 X10 address for mapping to 8 preset R\G\B value.

For example :

A1 ON = 255,0,0 (R=255,G=0,B=0) , A1 OFF = 32,64,128(R=32,G=64,B=128)

For X10 House Code and Unit Code mapping table :

X10 House Code	Value(Hex)		X10 Unit Code	Value(Hex)
A	41		1	01
B	42		2	02
C	43		3	03
D	44		4	04
E	45		5	05
F	46		6	06
G	47		7	07
H	48		8	08
I	49		9	09
J	4a		10	0a
K	4b		11	0b
L	4c		12	0c
M	4d		13	0d
N	4e		14	0e
O	4f		15	0f
P	50		16	10

- Command 80 : Setup X10 R\G\B\RGB address

For setup Red Channel X10 address :

AA 80 AA X1 X2 FF [X1=House Code , X2=Unit Code]

For setup Green Channel X10 address :

AA 80 BB X1 X2 FF [X1=House Code , X2=Unit Code]

For setup Blue Channel X10 address :

AA 80 CC X1 X2 FF [X1=House Code , X2=Unit Code]

For setup RGB Channel X10 address :

AA 80 DD X1 X2 FF [X1=House Code , X2=Unit Code]

For example :

If you want to setup Red Channel X10 address is N10 , command is :

AA 80 AA 4e 0a FF

- Command 81 : Enquiry X10 R\G\B\RGB address , fade rate and Enquiry current R\G\B value

For this command , you can enquiry current X10 R\G\B\RGB address , fade rate and current R\G\B value.

For enquiry R\G\B\RGB X10 address.

AA 81 AA FF

Controller will return X1 X2 X3 X4 X5 X6 X7 X8

X1=Red house , X2=Red Unit , X3=Green House , X4=Green Unit , X5=Blue House , X6=Blue Unit , X7=RGB House , X8=RGB Unit

For example , if return value is : 50 01 4F 02 4E 03 4D 04

So Red Channel is P1 , Green Channel is O2 , Blue Channel is N3 , RGB Channel is M4

For enquiry fade rate :

AA 81 BB FF

For enquiry current R\G\B value :

AA 81 CC FF

- Command 82 : Setup X10 preset address
- Command 83 : Enquiry X10 preset address