Manuals+ — User Manuals Simplified.

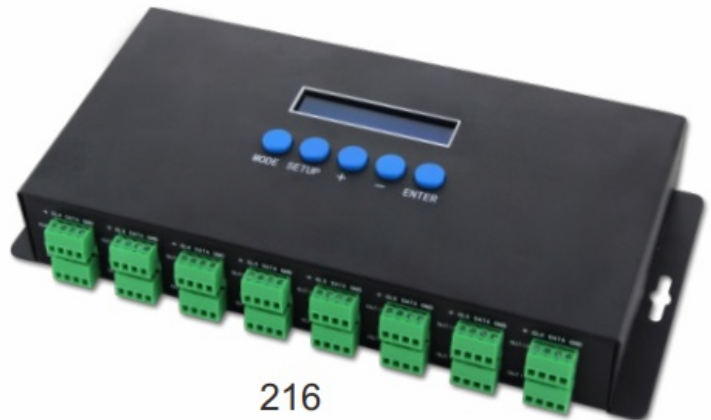# SuperLightingLED 204 Ethernet-SPI-DMX Pixel Light Controller User Manual

SUPERLIGHTINGLED

**Ethernet-SPI/DMX Pixel light controller
User Manual**

204   **216**

**(Please read through this manual carefully before use
Update Time :2019 .11.1**

Contents

Brief Introduction

This Ethernet-SPI/DMX pixel light controller is dedicated to converting the Ethernet signal into SPI pixel signal, which is designed for large project with high-density pixel light, such as matrixpanel lights, construction's contour lamp, etc. Besides converting Ethernet-based control protocols into various LED driving IC signal, it also outputs DMX512 signal at the same time, convenient forthe connection of different types of led lamp, and to achieve the unified control of all kinds of ledlamp in the same project.

Specifications

Model #	204	216
Working Voltage	DC5-DC24V	DC5-DC24V
Output Current	7A X 4CH (Built-in 7. 5A fuse)	3A X 16CH (Built-in 5A fuse)
Input Ethernet control protocol	ArtNet, sACN(E1.31)	ArtNet, sACN(E1.31)
Output Control IC	2811/8904/6812/2904/1814/1914/5603/9812/APA102/2812/9813/3001/8806/6803/2801	
Control Pixels	RGB : 680 Pixelsx4CH RGBW : 512 Pixelsx4CH	RGB : 340 Pixelsx16CH RGBW : 256 Pixelsx16CH
Output DMX512	One port(1X512 Channels)	Two port(2X512 Channels)
Working Temp	-20-55°C	-20-55°C
Product Dimension	L166xW111.5xH31(mm)	L260xW146.5xH40.5(mm)
Weigh(G.W)	510g	1100g

Basic Features

1. With LCD display and built-in WEB SERVER setting interface, easy operation.

2. Support Ethernet DMX protocol ArtNet, sACN(E1.31), can be expanded to other protocols.

3. Multi SPI (TTL) signal output.

4. Output DMX512 signal at the same time, convenient for the connection of different types led lamp.

5. Support various LED driving IC,flexible control.

6. Support online firmware upgrade.

7. Adopt DIP plug-in design for the easily-worn parts, Users can repair the damage caused by wrong wiring or short circuit.
8. Built-in test mode, using a network interface with indicator light, work status is clear when at a glance.

Safety warnings

1. Please don't install this controller in lightening, intense magnetic and high-voltage fields.
2. To reduce the risk of component damage and fire caused by short circuit, make sure correct connection.
3. Always be sure to mount this unit in an area that will allow proper ventilation to ensure a fitting temperature.
4. Check if the voltage and power adapter suit the controller.
5. Don't connect cables with power on, make sure a correct connection and no short circuit checked with instrument before power on.
6. Please don't open controller cover and operate if problems occur.
   The manual is only suitable for this model; any update is subject to change without prior notice.
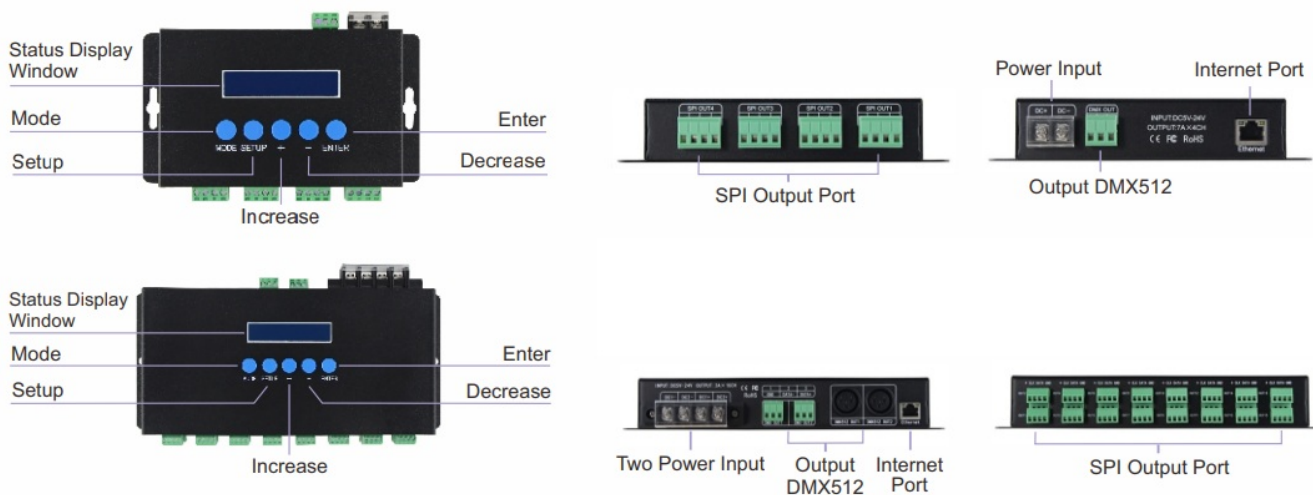
Dimensions

Unit: mm
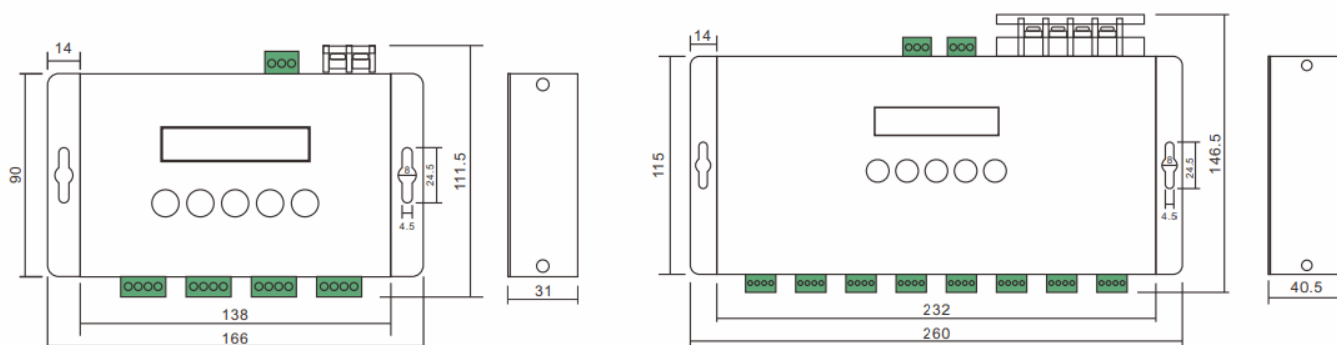
Operating Instructions

204 216 Instruction of interface and ports:

Notice: The controller should connect with two power supplies.
The 2st power supply support SPI 1-8, the 1nd power supply support SPI 9-16, (The two power input can share the same unit power supply when the power is sufficient).

Wiring instructions of SPI output port

To output LPD6803/LPD8806/P9813/WS2801 controlling signal , it required at least three lines :

DATA	6803/8806/9813/2801 DATA
CLK	6803/8806/9813/2801 CLK
GND	GND connect with the chip GND

To output WS2811/ TLS3001/TM1814/SK6812 controlling signal, it required at least two lines

DATA	WS2811/ TLS3001 DATA
GND	GND connect with the chip GND

Connect the Lamps positive supply to the + of the SPI output ports.

1. Key Description

Button	Short Press Function	Long Press Function
MODE	Switch setting parameter type	Enter test exit mode
SETUP	Enter and switch setup	
+	Increase current set value	Increase current set value rapidly
–	Decrease current set value	Decrease current set value rapidly
Enter	Confirm and enter into next set value	

2. Operating and setting instructions

Ethernet-SPI/DMX pixel light controller with two working models.

Respectively normal working mode and test mode.

(1) Normal working mode

Normal mode is based on Ethernet transferring Artnet protocol into a control signal which can be received by various pixel lamps; Connecting the lamps, plugging the network cable, after checking, power on. The controller will enter into the network detection.

UNABLE TO
OPERATE …

After detecting without problems, the controller will enter into normal working mode and show the IP address, IP address has static and dynamic allocation. STAT for static allocation, DHCP for dynamic allocation, the controller default IP address is static.

IP ADDRESS – STAT
192.168.0.50

This controller also comes with key lock function, no operation after 30 seconds, the system enters the lock state, then LCD shows.

PRESS AND HOLD M
BUTTON TO UNLOCK

Long press "MODE" to unlock, unlocked before next operation.
(2) Parameter Setting
In normal working mode, press "MODE" to switch parameter setting type, "SETUP" to enter the setup, then press "ENTER" to get back to previous level.

NO.	Setting	LCD display	Value
1	System setup	1SYSTEM SETUP	
	IP static and dynamic selection	DHCP-YES PRESS OK TO SAVE	YES: Dynamic IP NO: Static IP(Default)
	IP Address	STTC IP 192.16A8.I0.50	Static IP address (Default) : 192.168.0.50
	Subnet Mask	SUBNET MASK255. 255. 255.0	(Default) 255.255.255.0
	IC type	PIXEL PROTOCOL 2811	-2811(Default)-8904-6812-2904-1814-1914″ -5603-98 1 2″″APA 102-2812-98 1 3-300 1″ -8806-6803-2801-
	RGB Sequence	LEO RGB SEC) RGB	-RGB(Default)″ -RBG- -CRS' -GBR- -BRG″ MGR' -RCM″ -RGWB″RBGW″ -RBWG' 6R WGB″ -RWBG″ 'GRBW″ -GRWB″ -GBRW - GBWR″ -GWRIr *GWBR″ -BRGW″ -BRWG″ -BGRW' -BGWR″ -BWRG* 'BWGR″ -WRGB ″ -WRBG*-WGRIK -WGBR4 -WBRG″ -WBGR'
	Si gnal configuration	SIGNAL CONFIG sACN(E1 31)	Protocol selection: -sACN(E1.3.1)(Default)″, -ArtNet″
	LCD background dormancy time selection	ALWAYS Ught ALWAYS ON	"ALWAYS ON" -1 MINUTE″ "5 MINUTES' 10 MINUTES'
2	Channel 1 setup	20uT1 SETUP	204:OUT1-4 SETUP 216:OUT1-16 SETUP
	Universe setup	2OUT1 START UNIVERSE 256	Universe settings range: sACN(E1.31) Protocol:1-65536 ArtNet Protocol: 1-256

	DMX Channel	OUT I START CHANNEL 512	DMX channel range : 1-512 The default value : 1

	Pixel	OUT1 NUM PIXELS: 680	204 : Pixel range : 0-680 The default value : 680 216: Pixel range : 0-340 The default value : 340
	Null pixels	OUT1 NULL PIXELS: 680	204 : Null pixel range : 0-680 The default value : 0 216 : Null pixel range : 0-340 The default value : 0
	Zig zag pixels	OUT1 ZIG ZAG: 680	204: Zig zag pixel range : 0-680 The default value : 0 216: Zig zag pixel range : 0-340 The default value : 0
	Reverse Control	OUT1 REVERSED:YES	YES: Reverse control NO (Default): Not reverse control
3	Channel 2 setup	3OUT2 SETUP	Same to channel 1
4	Channel 3 setup	40073 SETUP	Same to channel 1
5	Channel 4 setup	5OUT4 SETUP	Same to channel 1
6	DMX512 channel setup	6DMX512 OUTPUT	204: One DMX512 channel 216: Two DMX512 channels
	DMX512 output selection	DMX512 OUTPUT YES	YES(Default): Output NO: Not output
	DMX512 universe setup	DMX512 UNIVERSE:255	DMX512 Domain settings range : 1-256
7	Load default	7LOAD DEFAULT	
	Confirm to load default	LOAD DEFAULT YOU SURE?	
8	About	8ABOUT	

	Model	Ethernet.SPI4 ID0400 0012	

Control ICs type:

IC Type	Compatible ICs	Type
2811	TM1803, TM1804, TM1809, TM1812, UCS1903, UCS1909, UCS1912 UCS2903, UCS2909, UCS2912, WS2811, WS2812B, SM16703P , GS8206 etc	RGB
2812	TM1803, TM1804, TM1809, TM1812, UCS1903, UCS1909, UCS1912 UCS2903, UCS2909, UCS2912, WS2811, WS2812B, SM16703P , GS8206 etc	
2801	WS2801, WS2803 etc	
6803	LPD6803, LPD1101, D705, UCS6909, UCS6912 etc	
3001	TLS3001, TLS3002 etc	
8806	LPD8803, LPD8806, LPD8809, LPD8812 etc	
9813	P9813 etc	
APA102	APA102, SK9822 etc	
1914	TM1914 etc	
9812	UCS9812 etc	
5603	UCS5603 etc	
8904	UCS8904 etc	RGBW
1814	TM1814 etc	
2904	SK6812RGBW, UCS2904B, P9412 etc	
6812	SK6812RGBW, UCS2904B, P9412 etc	

(3) Test mode
Long press "MODE" to enter the test mode, press it again to exit, after entering the test mode, press "+" "-" to switch the mode and "SETUP" to set the parameter of the current mode. After enter into test mode, the LCD will show operation tips, as below:

**PRESS AND HOLD M
FOR NORMAL MODE
PRESS "+"OR"-"
TO CHOOSE MODE**

NO.	Built-in sequences	NO.	Built-in sequences
1	Solid color: Black(Off)	13	Blue chase with trail
2	Solid color: Red	14	Rainbow chase – 7 Colors
3	Solid color: Green	15	Green chasing Red, chasing Black
4	Solid color: Blue	16	Red chasing Green, chasing Black
5	Solid color: Yellow	17	Red chasing White, chasing Blue
6	Solid color: Purple	18	Orange chasing Purple, chasing Black
7	Solid color: CYAN	19	Purple chasing Orange, chasing Black
8	Solid color: White	20	Random twinkle: White over red background
9	RGB CHANG	21	Random twinkle: White over blue background
10	full COLOR CHANGE	22	Random twinkle: White over green background
11	Red chase with trail	23	Random twinkle: White over purple, background
12	Green chase with trail	24	Random twinkle: White over orange background

3. WEB setting, Firmware upgrading online.

In addition to set parameters by buttons, you can also set it through the Web browser of computer. The parameter settings between the two are the same.

WEB operation instructions:
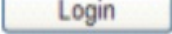
Open the web browser of the computer, which is in the same LAN with the controller, input the IP address (such as the default IP: 192.168.0.50), and press "Enter" to browse the controller's built-in website, as shown below:

User Login

Controller Name: [Ethernet-SPI16]
Password: [   ]
Note - Default Password: 12345

[Login]

Enter the default password 12345 Click [Login] to enter the parameter setting page.

The users can set the parameter and upgrade the firmware on website.

Upgrade the firmware online:
To find the column "Firmware Update"on website (as below)

Then click to enter the firmware

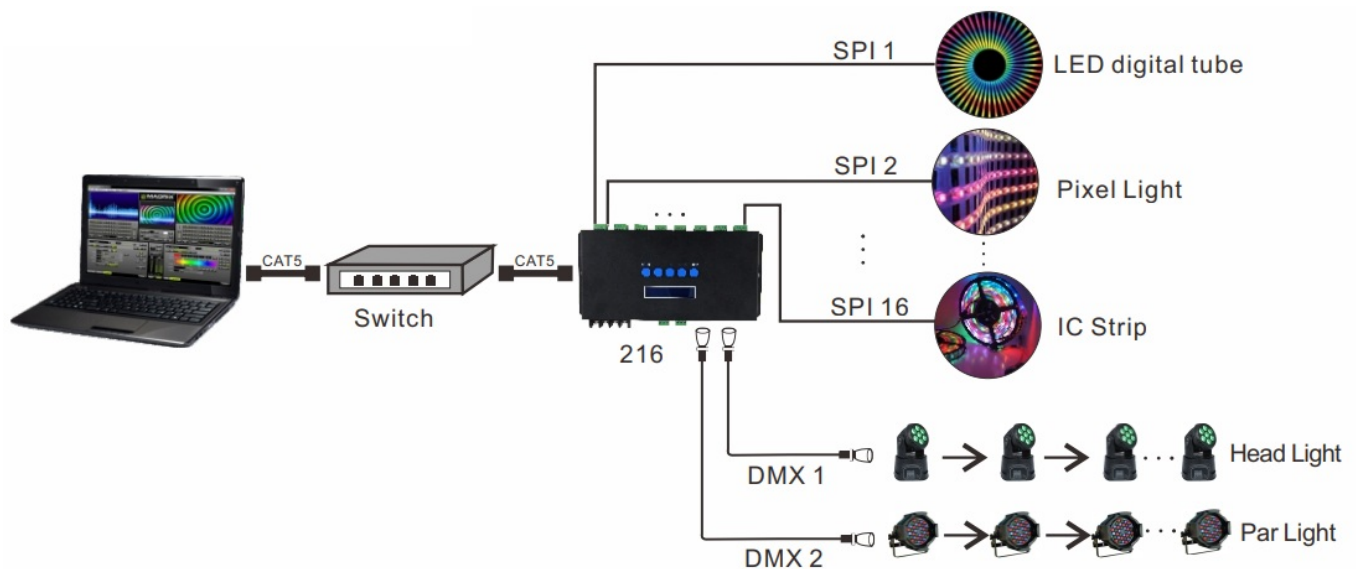update page(as below), click , then choose the BIN file you need to upgrade, then click

 enter into firmware updating page, After upgrade, the website will auto matically back to the login
screen. Choose file Update

Conjunction Diagram

After-Sales

From the day you purchase our products within 3 years, if being used properly in accordance with the instruction, and quality problems occur, we provide free repair or replacement services except the following cases:

1. Any defects caused by wrong operations.
2. Any damages caused by inappropriate power supply or abnormal voltage.
3. Any damages caused by unauthorized removal, maintenance, modifying circuit, incorrect connections and replacing chips.
4. Any damages due to transportation, breaking, flooded water after the purchase.
5. Any damages caused by earthquake, fire, flood, lightning strike etc force majeure of natural disasters.
6. Any damages caused by negligence, inappropriate storing at high temperature and humidity environment or near harmful chemical.

Documents / Resources

SuperLightingLED 204 Ethernet-SPI-DMX Pixel Light Controller [pdf] User Manual
204, 216, 204 Ethernet-SPI-DMX Pixel Light Controller, 204, Ethernet-SPI-DMX Pixel Light Controller, Pixel Light Controller, Light Controller, Controller