

Ethernet-SPI/DMX Pixel light controller User Manual



BC-204

BC-216



(Please read through this manual carefully before use)

1、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 matrix panel 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 for the connection of different types of led lamp, and to achieve the unified control of all kinds of led lamp in the same project.

2、Specifications

Model	BC-204	BC-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	ArtNet
Output Control IC	2811/2801/6803/3001/8806/9813 Series	
Control Pixels	680/CH X 4CH	340/CH X 16CH
Output DMX512	One port(1X512 Channels)	Two port(2X512 Channels)
Working Temp	-20~55°C	-20~55°C
Product Dimension	L166×W110×H31(mm)	L258×W145×H41(mm)
Weigh(G.W)	510g	1100g

3、Basic Features

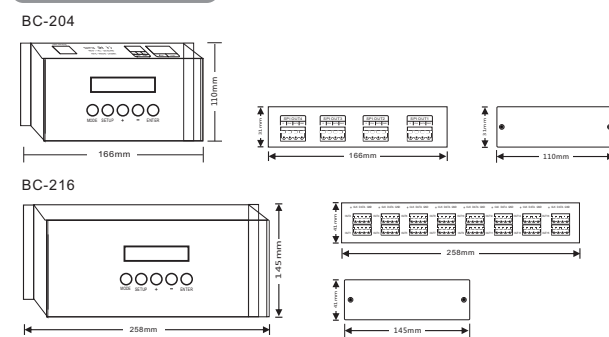
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1. With LCD display and built-in WEB SERVER setting interface, easy operation.
2. Support Ethernet DMX protocol ArtNet, can be expanded to other protocols.
3. Multi SPI (TTL) signal output, up to 5440 pixels control.
4. Output DMX512 signal at the 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.

4、Safety warnings

1. Please don't install this controller in lightning, 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.

5、Dimensions



6、Operating Instructions

1. Key Description

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Button	Short Press Function	Long Press Function
MODE	Switch parameter setting 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. Normal operation

Connecting the lamps, plugging the network cable, after check without problems, power on. The controller will enter into the normal working mode and show the IP address, which is static or dynamic allocation, "STAT" means static allocation, "DHCP" dynamic allocation.



3. Parameter Setting

In normal working modes, press "MODE" to switch parameter setting type, "SETUP" to enter the setup, then press "MODE" to back to previous level.

No.	Setting	LCD display	Value
1	System setup	1.SYSTEM SETUP	
	IP static and dynamic selection	DHCP-YES PRESS OK TO SAVE	"YES", "NO"
	IP Address	STATIC IP 192.168.0.50	
	Subnet Mask	SUBNET MASK 255.255.255.0	
	IC type	PIXEL PROTOCOL 2811	"2811""2801""6803" "3001""8806""9813"
	RGB Sequence	LED RGB SEQ RGB	"RGB""RBG""GRB" "GBR""BRG""BGR"
	DMX Signal RGB Sequence	SIGNAL RGB SEQ RGB	"RGB""BGR"
	Signal configuration	SIGNAL CONFIG ArtNet	Only support the Artnet at present
	LED background luminance selection	LED Back Light ALWAYS ON	"ALWAYS ON""1 MINUTE" "5 MINUTES""10 MINUTES"
2	Channel 1 setup	2.OUT1 SETUP	
	Universe setup	2.OUT1 START UNIVERSE 255	0-255
	DMX Channel	OUT1 STAAT CHANNEL:512	1-512
	Pixel	OUT1 NUM PIXELS: 680	1-680
	Null pixels	OUT1 NULL PIXELS: 680	0-680
	Zig zag pixels	OUT1 ZIG ZAG: 680	0-680
	Reverse Control	OUT1 REVERSED: YES	"YES", "NO"

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3	Channel 2 setup	3.OUT2 SETUP	Same to channel 1
4	Channel 3 setup	4.OUT3 SETUP	Same to channel 1
5	Channel 4 setup	5.OUT4 SETUP	Same to channel 1
6	DMX512 channel setup	6.DMX512 OUTPUT	
	DMX512 output selection	DMX512 OUTPUT YES	"YES", "NO"
	DMX512 universe setup	DMX512 UNIVERSE 255	0-255
7	Load default	7.LOAD DEFAULT	
	Confirm to load default	LOAD DEFAULT YOU SURE?	
8	About	8.ABOUT	
	Model	Ethernet SPI ID:04000012	

Control ICs type:

IC Type	Compatible ICs
2811	TM1803, TM1804, TM1809, TM1812, UCS1903, UCS1909, UCS1912, UCS2903, UCS2909, UCS2912, WS2811 etc.
2801	WS2801, WS2803 etc.
6803	LPD6803, LPD1101, D705, UCS6909, UCS6912 etc.
3001	TLS3001, TLS3002 etc.
8806	LPD8803, LPD8806 etc.
9813	P9813 etc.

4. Test Mode

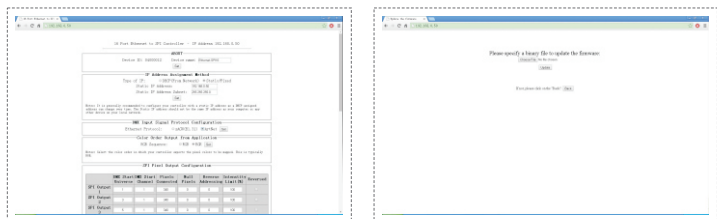
Long press "MODE" to enter the test mode, long press it again to exit. After entering the test mode, press "+" to switch the mode and "SETUP" to set the parameter of the current mode.

NO.	Built-in sequences	NO.	Built-in sequences
1	Solid color: Black(Off)	14	Green chase with trail
2	Solid color: Red	15	Blue chase with trail
3	Solid color: Green	16	white chase with trail
4	Solid color: Blue	17	RGB chase with trail
5	Solid color: Yellow	18	Rainbow chase with trail
6	Solid color: Purple	19	RGB chasing and fading
7	Solid color: CYAN	20	Red chasing Green, chasing Blue
8	Solid color: White	21	Orange chasing Purple, chasing Cyan
9	RGB CHANGE	22	Rainbow chase - 7 Colors
10	full COLOR CHANGE	23	Random twinkle: White over red background
11	RGB FADING	24	Random twinkle: White over green background
12	FULL COLOR FADING	25	Random twinkle: White over blue background
13	Red chase with trail	26	White fading

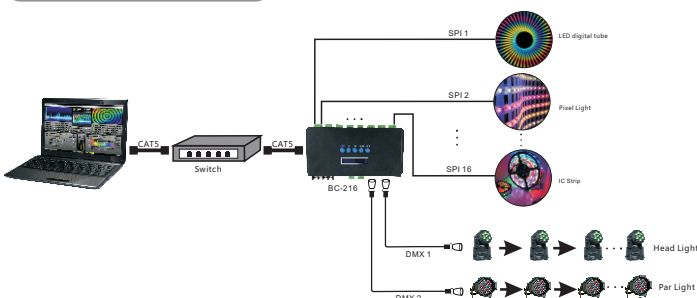
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5. WEB setting ,Firmware upgrading online

Open the web browser of the computer, which is in the same LAN with the controller, input the IP address and press "Enter" to browse the controller's built-in website, then users can set the parameter and upgrade the firmware.



7、Conjunction Diagram



8. 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 chemicals.
7. Product has been updated.

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