ES-CB
Casambi Bluetooth + RF SPI LED Controller

Casambi



CE RoHS

Features

- Dual sensor + dual push switch input RF SPI LED controller.
- Casambi APP control, support on/off, RGB color, color temperature and brightness adjustment, group control, scene editing.
- Support white light, RGB, RGBW, RGBCCT lighting types,
  compatible with 50 IC types of white light/RGB/RGBW/RGBCCT SPI LED light strips.
  The chip type and R/G/B/C/W color sequence can be set via the APP.
- Support single or dual sensor switch control, Compatible with various types of switch signal output type detection probes, including PIR or microwave motion sensor, and laser sensor.
- Support single or dual push switch control.
- Support RF remote switch control and match with RF 2.4G remote control optional.
- Support a variety of light movement effects with single or multi-color settings, adjustable speed and brightness.
- Suitable for staircase light, corridor light control and other scenes.

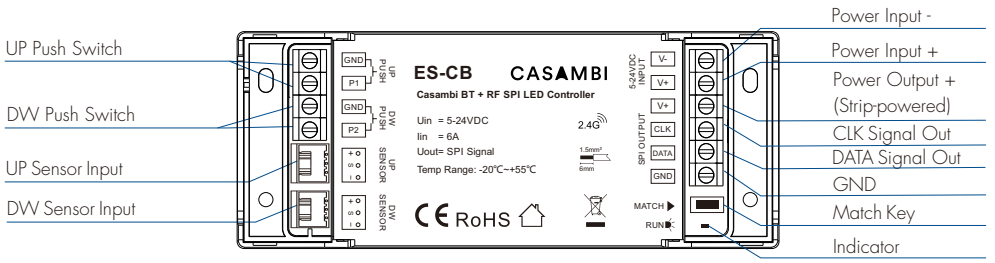
Technical Parameters

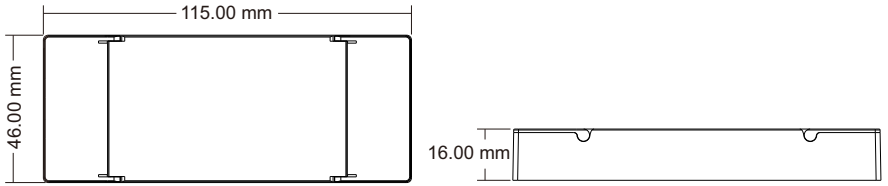
Input and Output	
Input voltage	5-24VDC
Input current	6A
Pixel number	Max. 2000
Input signal	Bluetooth + RF 2.4GHz + Push Switch + Sensor
Output signal	SPI(TTL)

Environment	
Operation temperature	Ta: -20℃ ~ +55℃
Case temperature (Max.)	Tc: +65℃
IP rating	IP20
Package	
Size	120 x 50 x 22mm(LxWxH)
Gross weight	0.0685kg

Safety and EMC	
EMC standard	EN IEC 55015/ EN IEC 61547 ETSI EN 301 489-1/-3/-17
Safety standard	EN 61347-1/-2
Radio equipment	ETSI EN 300 440 ETSI EN 300 328
Certification	CE RoHS
Warranty and Protection	
Warranty	5 years
Protection	Reverse polarity

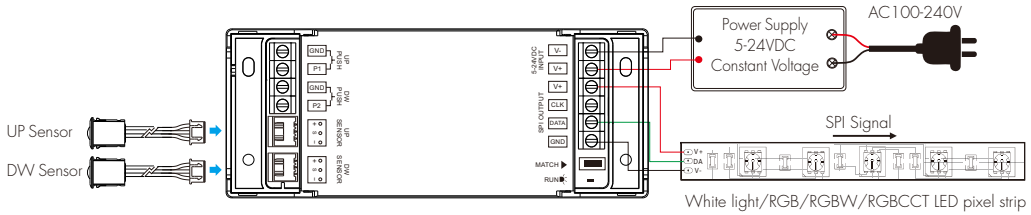
Mechanical Structures and Installations





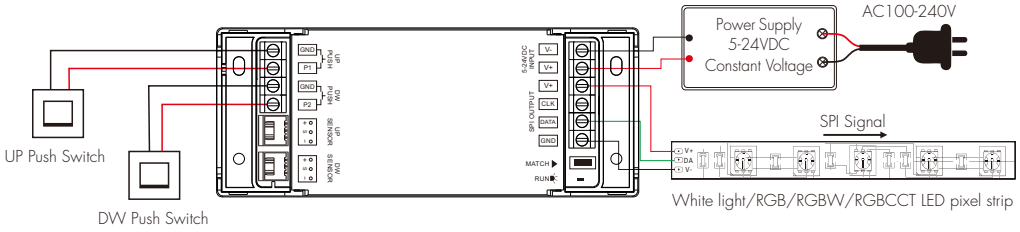
Wiring Diagram

1. Single or dual sensor light control



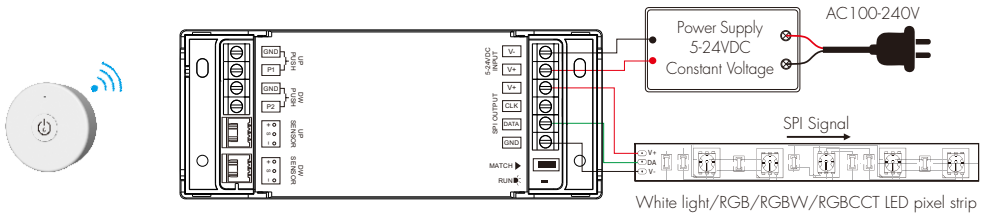
- Please use a sense probe that outputs a 5V level signal.
- Application mode 1: Connect with one PIR or microwave motion sensor to enable the light to turn on when users approaches and turn off when they leave.
  In the Casambi APP, set the light switching mode to synchronous switch and the delay time for turning off the light to 10 seconds or longer.
- Application mode 2: Connect with two PIR or microwave motion sensors, or laser sensors to control staircase lighting.
  In the Casambi APP, set the light switching mode to sequential switch and the delay time for turning off the lights to 30 seconds or longer.

2. Single or dual push switch manual control



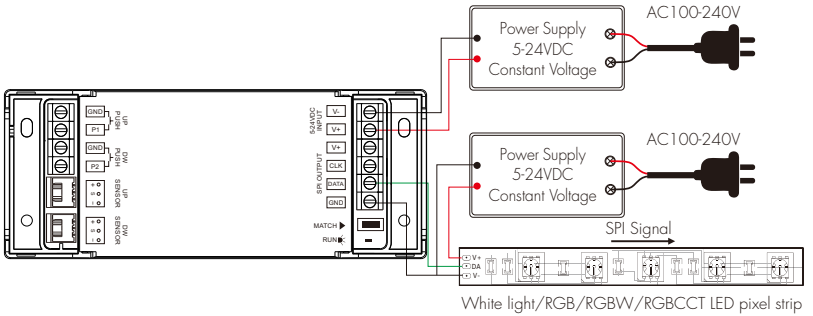
- Application mode 1: Connect with two push switch for stair light manual switch control.
  The UP push switch is installed at the bottom of the stairs; the DW push switch is installed at the top of the stairs.
  Please set the light switching mode to sequential switch and the delay time to 30 seconds or longer in Casambi APP.
- Application mode 2: Connect with one push switch for stair light manual switch control.
  Please set the light switching mode to synchronous switch and disable the delayed off time setting in Casambi APP.
- Short press the push switch to turn on the light; short press the push switch again to turn off the light.

3. RF Remote Lighting Control



- RF remote control match or deletion
  Match: Short press the Match key, immediately short press the on/off button of the remote,
  the LED indicator fast flash means match is successful.
  Delete: Press and hold the Match key for 5s, the LED indicator fast flash means all matched remotes were deleted.
- When matching the RF remote control to control the switch, please set the switch light mode to synchronous switch and disable the delayed off time setting in Casambi APP.
- Support to match R9, RTS, and TWS remote control for use.

4. Connect with SPI pixel strips(LED strip load over 6A)



Note :
1. If the SPI strip is a single wire control method, the DATA and CLK signal outputs of the controller are the same, and 1 controller can connect 2 LED strips.
   If the SPI strip is dual wire control method, 1 controller can connect 1 LED strip.
2. When the SPI strip load does not exceed 6A, the same power supply can power the controller and the SPI strip at the same time.
   When the load on the SPI strip exceeds 6A, separate power supplies are required for the controller and the SPI strip.
   Only DATA/CLK and GND signal lines are connected between controller and SPI strip.

Lighting Types and Configurations

Light type	Model & Profile ID	Application
DIM×1	DIM-1d1 41444	Control the white LED pixel strips. 1 pixel with 1 data, control 1-bead white LED.
DIM×3	DIM-1d3 41445	Control the white LED pixel strips. 1 pixel with 3 data, control 3-bead white LED.
RGB	RGB-SPI 40032	Control the RGB LED pixel strips. 1 pixel with 3 data, control 1 R/G/B LED.
RGBW	RGBW-SPI 41441	Control the RGBW LED pixel strips. 1 pixel with 4 data, control 1 R/G/B/W LED.
RGBCCT	RGBCCT-SPI 41442	Control the RGBCCT LED pixel strips. 1 pixel with 5 data, control 1 R/G/B/WW/CW LED.

Casambi APP Connection and Operation

Using Casambi APP for the first time

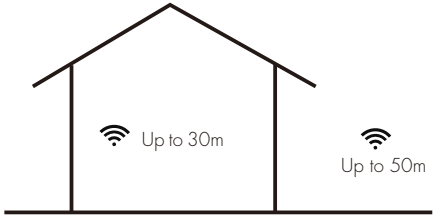
When devices are used for the first time, they need to be added to the network.
A device can only be part of one network.
All Casambi devices are normally supplied in an unpaired state.

1. Download the Casambi APP from the Apple App Store or Google Play Store.
2. The device is powered on and automatically enters the config state.
3. The APP will search for all devices with casambi turned on within the Bluetooth range of the mobile device.
4. When a device is added to the network, it can be controlled by application.

Download on the App Store

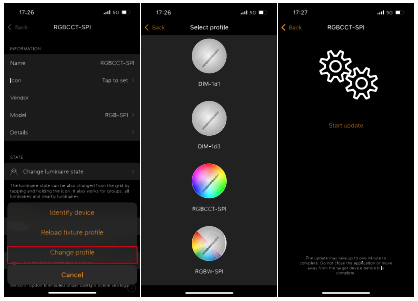
GET IT ON Google Play

Compatible System:
Android 4.4 and ios10.0 or above.

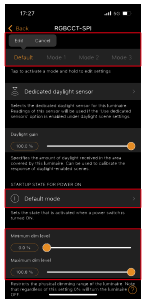


Casambi uses Bluetooth Mesh network technology and each Casambi device can also be used as a repeater for longer distances.
The distance is highly dependent on the surroundings and obstacles such aswalls and building materials.

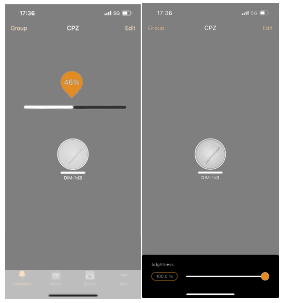
Casambi APP user interface



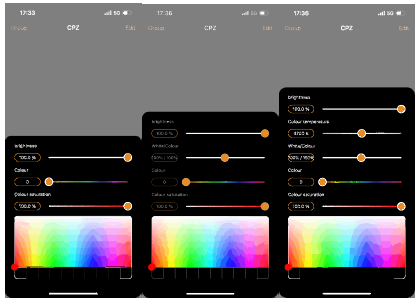
Select the profile:
Double click on the controller icon, change the profile file through the "Model", in the setting interface, as shown in the figure, you can switch 5 kinds of light type, click "Start Update", the device immediately switch to the corresponding light type.



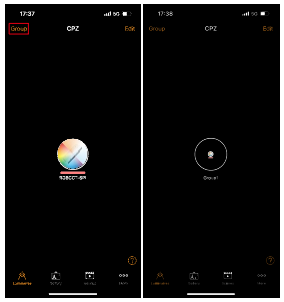
Mode Settings / Startup Status for Power on/ Minimum, Maximum Brightness Settings:
Long press "Mode 1/2/3" to edit/clear/cancel the setting mode.
Short press "Default Mode" to select power on startup state.
Slide the adjustment bar left/right to set the min./max. brightness.



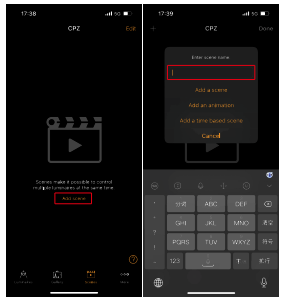
DIM-1d1/DIM-1d3 Lighting Type:
Method 1: Slide left and right at the fixture icon to adjust the brightness.
Method 2: Long press the fixture icon, the brightness bar will be displayed at the bottom of the interface, touch the bar to adjust the brightness.



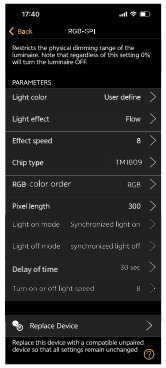
RGB-SPI/RGBW-SPI/RGBCCT-SPI Lighting Type:
Long press the fixture icon, the slider bar and colour selection box will be displayed at the bottom of the interface. Touch the slider and colour selection box to adjust the brightness, colour temperature, RGB colour and colour saturation.



Group Control:
In the main interface, click "Group" in the upper left corner, select the fixture you want to group, and create a group. The main interface shows the new group, and then you can control the group.



Scene Settings:
Click "Edit" in the upper right corner of the scene interface to add, edit or delete scenes.



Parameter Settings:
Double click the controller icon in the main interface to enter the parameter setting interface.

Parameter name	Parameter value
Light color	User define, R/G/B 3 color, 7 color, Red+Yellow, Red+Purple, Green+Yellow, Green+Cyan, Blue+Cyan, Blue+Purple, Red+White, Yellow+White, Green+White, Cyan+White, Blue+White, Purple+White
Lighting effect	Flow, Chase, Float, Trail, Trail+black section, Jump, Follow, Breath, Pile, Rebound.
Effect speed	The speed at which lighting effects move, 1-10 levels are optional, the 10th level is the fastest speed.
R/G/B/C/W color order	Select the corresponding R/G/B/C/W sequence according to the color sequence of the strip. (RGB, RBG, GRB, GBR, BRG, BGR, RGBW, RBGW, GRBW, GBRW, BRGW, BGRW, WRGB,WRBG, WGRB, WGBR, WBRG, WBGR, RGBWC, RBGWC, GRBWC, GBRWC, BRGWC, BGRWC, RGBCW, RBGCW, GRBCW, GBRCW, BRGCW, BGRCW, WCRGB, WCRBG, WCGRB, WCGBR, WCBRG, WCBGR, CWRGB, CWRBG, CWGRB, CWGBR, CWBRG, CWBGR)
Pixel length	Pixel length of the light strip, setting range 8-2000.
Light on mode	Synchronized light on, sequential light on.
Light off mode	Synchronized light off, sequential light off, sequential reverse light off.
Sensor delay off Time	5s,10s,30s,1min, 3min, 5min,10min, 30min, 60min, cancel.
Turn on or off light speed	The speed at which each pixel turns on or off, when lights are sequentially switched on or off. 1-10 levels are selectable, level 10 is the fastest speed.

List of light strip chip types:

Light type	IC type	Compatible IC type	Output signal
DIM-1d1 DIM-1d3 RGB	TM1809	TM1804, TM1812, UCS1903, UCS1909, UCS1912, UCS2903, UCS2909, UCS2912, WS2811,WS2812, SM16703P	DATA
	TM1829		DATA
	TM1914A		DATA
	GW6205		DATA
	GS8206	GS8208	DATA
	LPD6803	LPD1101,D705,UCS6909,UCS6912	DATA,CLK
	LPD8803	LPD8806	DATA,CLK
	WS2801	WS2803	DATA,CLK
	P9813		DATA,CLK
	SK9822		DATA,CLK
	TM1803		DATA
	TLS3001	TLS3002	DATA
	MBI6120		DATA
	UCS5603		DATA
	UCS2603		DATA
	SM16714D		DATA
RGBW	TM1814B		DATA
	SK6812	WS2813, WS2814	DATA
	UCS8904B		DATA
	UCS2904		DATA
	SM16804		DATA
	SM16714		DATA
	UCS7604		DATA
	UCS7804		DATA
RGBCCT	SM16825		DATA
	SM18605E		DATA
	USC2905		DATA
	FW1906		DATA
	WS2805		DATA

Note:

1. The white strip type does not support light color settings.
   Custom color refers to the color monochrome set with Casambi APP or RF remote control.
   Color multicolor can only be selected through the parameter setting screen.
2. Different light types have different lists of strip chip selection types.
   When changing the type of light, select the correct type of strip chip.
3. When the static or dynamic mode color display is not consistent with the APP interface, please set the correct RGB color sequence of the light strip.
4. The maximum length of the light strip is 2000 pixels, for example, a light strip of 5 meters long with 60 pixels per meter, can be set the length to 300 pixels.
   When the set of the light strip length is less than the actual length, the back part of the light strip can not be controlled.
   When the dynamic mode loop interval time is too long, it may be because the pixel length setting value is too large, please reset the correct pixel length.
5. When used with dual-channel induction sensors or dual-channel push switches in stair lighting applications, it is recommended to set the lighting to turn on and off in sequence.
6. Lighting can be operated using an sense probe, push switch, or RF remote control.
   Automatic delayed off can be achieved by setting a delayed off time.
7. The switch on/off speed setting is only used for sequential switching on and off.

Factory Default Parameter Setting

Press and hold the Match key at the same time for 10s to restore the factory default parameters.

Factory default parameters: strip chip type TM1809, RGB color sequence, 300 pixels length, sequential light on, sequential light off, 30s delay off time.