Rayrun VDA10024CB-U Programmable Constant Voltage LED Driver Instruction Manual

Contents

Rayrun VDA10024CB-U Programmable Constant Voltage LED Driver

Programmable Constant Voltage LED Driver

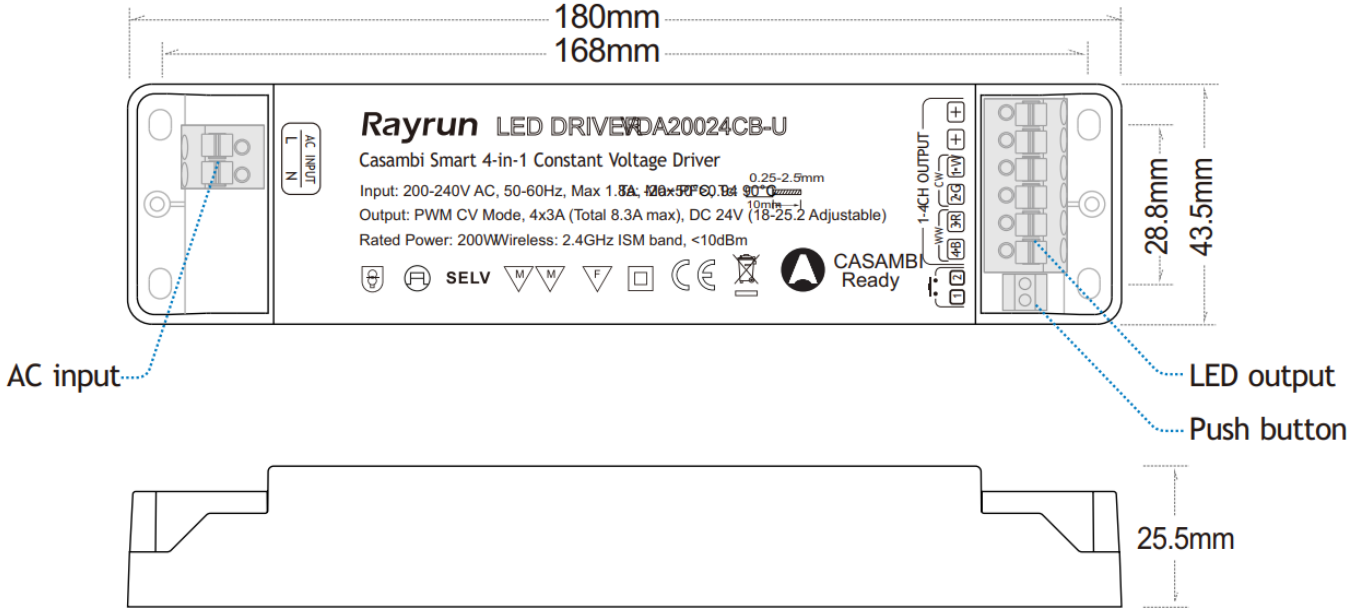
Model: VDA10024CB-U / VDA15024CB-U / VDA20024CB-U

- High power and small size
- Single color to RGBW application
- GaN & SiC components
- High efficiency and power factor
- Fine tuning of output voltage
- PWM frequency adjustable
- Fading speed adjustable
- Full protection function

Introduction

This LED driver is designed to drive single color to RGB+White constant voltage LED products at DC18-25V (24V as default). With advanced circuit design, GaN and SiC components, it has excellent performance in a compact footprint.
The output function can be changed by profile option via Casambi app, user can also fine tune the output voltage to match the lighting fixture, change the PWM frequency and adjust the fading speed via the Casambi app.
There’s push button function on the driver, user can connect a normally open push switch to control the light. The control function can be defined to control brightness, scenes or groups via the Casambi app.

Dimension & layout



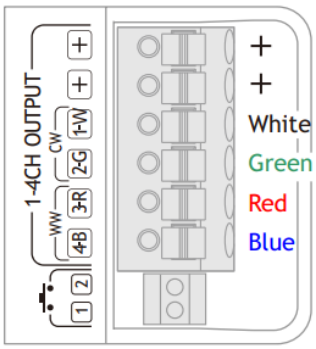
Select output function

The output function can be selected from single color, tunable white, RGB, RGBW and 4-ch dimmer options via the Casambi app.

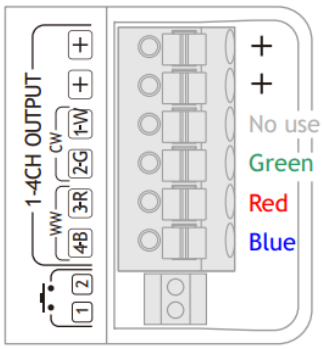
To change the function, please power on the unit and make sure the unit is unpaired and then tap the ‘Change profile’ option via Casambi app and then select desired profile.

Output channel map

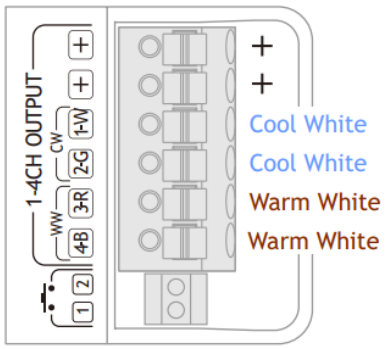
The output terminal will be mapped to specific function with different profile setting. Please refer to the following diagram of the output terminal mapping for RGBW, RGB, tunable white, single color and 4-ch dimmer application.



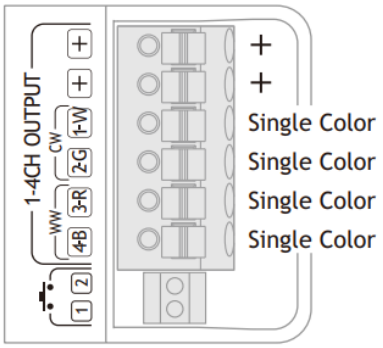
RGBW



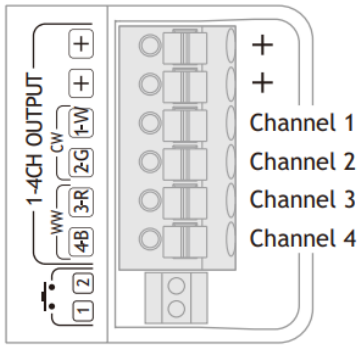
RGB



Tunnable white



Single Color



4-ch Dimmer

- **Advanced feature – Change PWM frequency**

The output PWM frequency can be adjusted from 500Hz to 20.4KHz with several options. Please open the setting page of the paired driver on the Casambi app and tap ‘PWM frequency’ in the ‘PARAMETERS’ section. (Fig.1-2)

This feature is used to resolve flicker or audible noise issues in certain applications. The efficiency of the driver decreases as the frequency increase and may generate excessive heat and cause protection. To ensure more stable working, please do not set to higher frequency if no noise or flicker issues occurred.

- **Advanced feature – Change fading speed**

  The color/brightness fading speed can be adjusted on the app. Please open the setting page of the paired driver on the Casambi app and tap ‘Fading speed’ in the ‘PARAMETERS’ section. (Fig.1-3). The fading speed can be adjusted from ‘direct’ to ‘very slow’ in 7 options.

- **Advanced feature – Trim output voltage**

  The output voltage can be adjusted from 75% to 105% of rated value in 1% steps. For rated voltage of 24V, the output voltage can be adjusted from 18V to 25.2V.

  With this feature, user would be able to adjust the total power consumption, compensate the brightness fade for linear light at far end, or adjust the color hue of mixed RGB or RGBW application.

  To fine tune the output voltage, please open the setting page of the paired driver on the Casambi app and tap ‘Voltage trim’ in the ‘PARAMETERS’ section (Fig.1-4), then input the percentage value of rated voltage.

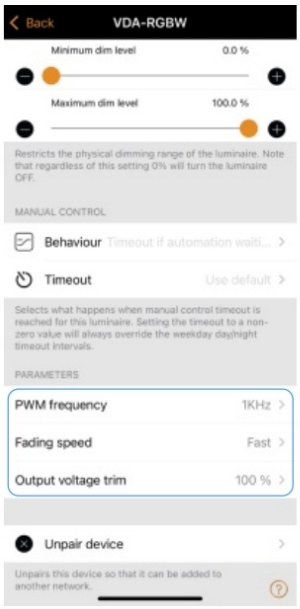


Fig.1

Fig.2

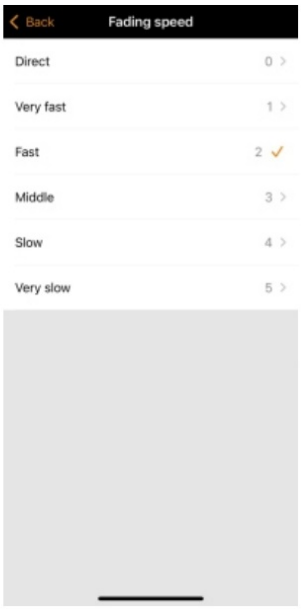


Fig.3

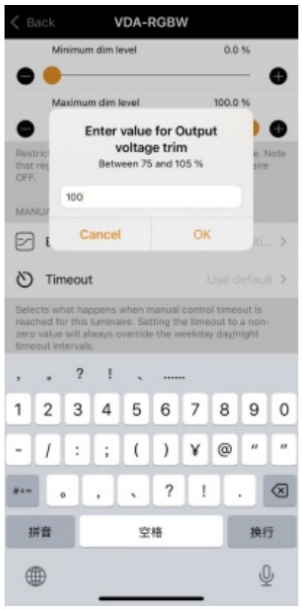


Fig.4

Specification

Model	**VDA20024CB-U**	**VDA15024CB-U**	**VDA10024CB-U**
Input Voltage	AC 200-240V		
Input Frequency	47-63Hz		
Power Factor	>0.98@110V, >0.94@220V		

Efficiency	>95% at rated power	>94% at rated power	
Rated Output Power	200 Watts	150 Watts	100 Watts
Output Voltage	DC 24V nominal, 75-105% (18-25.2V) adjustable		
Output Current	3.5A max each channel,total max 8.33A	3.5A max each channel,total max 6.25A	2A max each channel,total max 4.2A
Standby Power Consumption	<0.5W		
Wireless Connection	Casambi protocol based on bluetooth		
App Support	Casambi Smart App on iOS and Android platform		
RF Band	2.4GHz ISM band		
Wireless Transmit Power	<8dBm		
Wireless Distance	>15 meters at open area		
Protection	Overheat / overload / output short circuit		
Working Temperature	-25 – +50°C		
Output Mode	Single color/ CCT/ RGB / RGBW / 4-ch dimming, PWM CV mode with commonanode connection. Profile set from app		
Output Voltage Tuning	75%-105% of rated voltage with 1% step, adjustable from app		
Output PWM frequency	500Hz-20.4KHz adjustable from app		
Gradient speed	6 level, from direct to very slow		
Auxilary Control	Push button function, managed by Casambi app		
Cable Connector	Push connector with cable strain relif cover		
Dimension	WHL: 43.5*25.5*180 mm		
Net Weight	225 grams		

Frequently Asked Questions (FAQ)

Q: How do I adjust the output voltage of the LED driver?
A: You can fine-tune the output voltage using the Casambi app by selecting the profile option and making the necessary adjustments.

Q: Can I control the LED driver wirelessly?
A: Yes, the LED driver operates wirelessly using the 2.4GHz ISM band, allowing for convenient control via the Casambi app.

Documents / Resources

	Rayrun VDA10024CB-U Programmable Constant Voltage LED Driver [pdf] Instruction Manual VDA10024CB-U, VDA15024CB-U, VDA20024CB-U, VDA10024CB-U Programmable Constant Voltage LED Driver, VDA10024CB-U, Programmable Constant Voltage LED Driver, Constant Voltage LED Driver, Voltage LED Driver

References

- User Manual