LDT-KNOB-RGB-3CV-1A

Compact Wired Rotary RGB Controller

A compact wired rotary controller for RGB constant-voltage LEDs. The nut-mounted knob fits a suitable panel without requiring a separate RF remote.

Model specifications

Product function	Wired rotary constant-voltage LED controller
Lighting type	RGB
Input / output voltage	5-24 VDC
LED output channels	3
Maximum output current	1 A/channel
Maximum output power	3 x (5-24 W)
PWM frequency	2 kHz
Dimming resolution	4096 levels
RF function	Not supported
Operating temperature	-30 to +50 °C
Maximum case temperature	+80 °C
IP rating	IP20
Knob diameter	26.4 mm
Mounting hole	8 mm diameter
Panel thickness	1-6 mm
Protection	Reverse polarity

No RF, Wi-Fi or Bluetooth control. A suitable DC power supply is required separately.

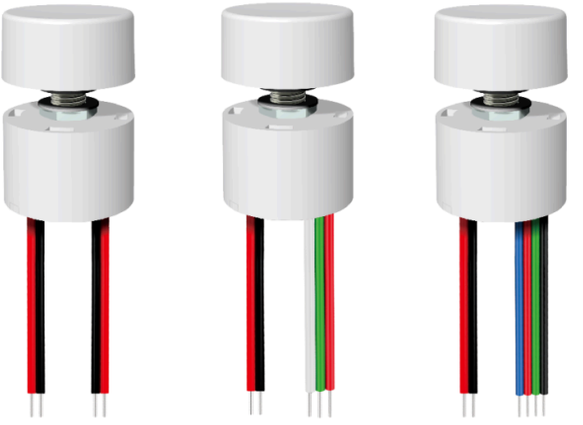
The following technical-reference pages retain the complete diagrams, dimensions, settings and installation instructions. Select the lighting variant stated on this cover; family diagrams may also illustrate other variants.

DIM / DUO / RGB

Knob Dimming Constant Voltage LED Controller

- Single color, dual color temperature or RGB constant voltage LED knob dimmer.
- Knob support on/off, brightness, color temperature, RGB color and fade speed adjustment.
- 4096 level 0-100% smooth dimming, no flicker.
- Anti-reverse connection protection.
- Nut way fixed mounting, can be mounted on a variety of different materials 1-6mm thick plate.

CE RoHS



DIM DUO RGB

Technical Parameters

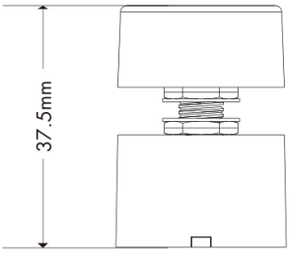
Input and Output			
Model	DIM	DUO	RGB
Input voltage	5-24VDC	5-24VDC	5-24VDC
Output voltage	5-24VDC	5-24VDC	5-24VDC
Output current	3A/CH	1.5A/CH	1A/CH
Output power	15-72W	2x(7.5-36)W	3x(5-24)W
PWM Frequency	2000Hz	2000Hz	2000Hz
Light type	Single color	Color temperature	RGB

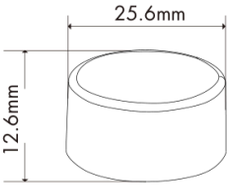
Safety and EMC	
EMC standard	EN IEC 55015/ EN IEC 61547 ETSI EN 301 489-1/-3
Safety standard	EN 61347-1/-2
Certification	CE RoHS
Package	
Size	L80xW45xH30mm
Gross weight	0.030kg

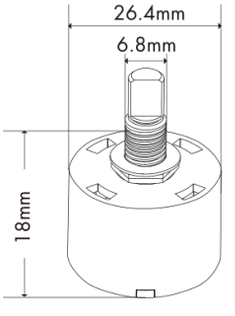
Environment	
Operation temperature	Ta: -30°C ~ +50°C
Case temperature (Max.)	Tc: +80°C
IP rating	IP 20
Warranty and Protection	
Warranty	5 years
Protection	Reverse polarity

Mechanical Structures and Installations

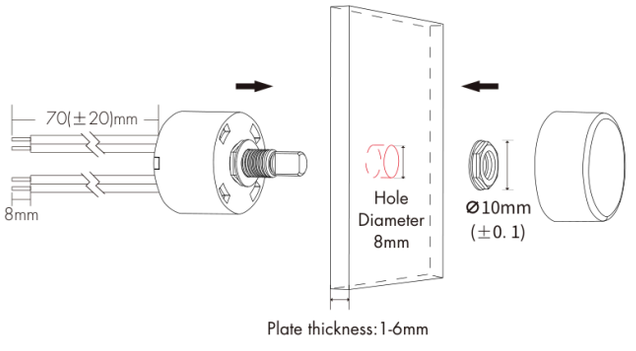
Size:







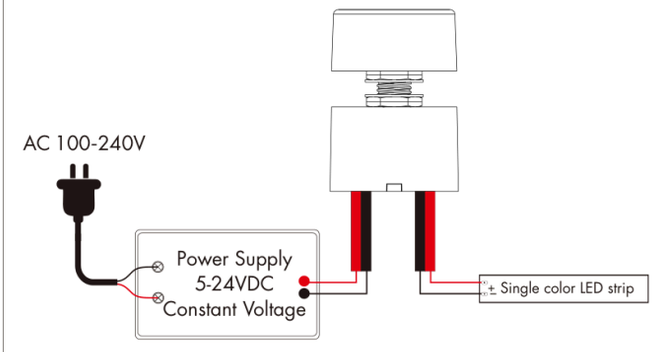
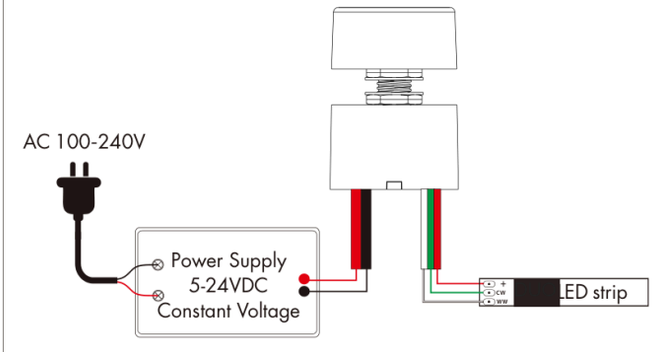
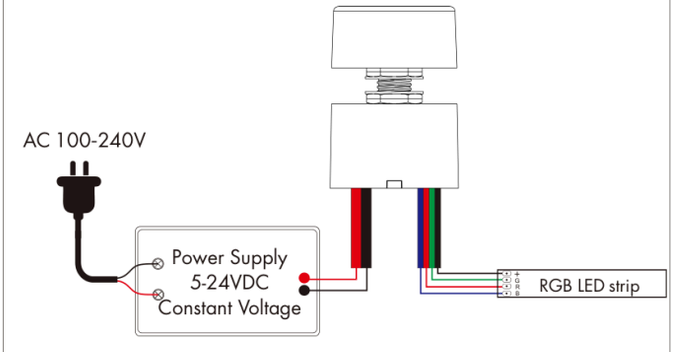
Installation:



Installation steps:

1. Pre-drill an 8mm diameter hole in the plate.
2. Pull out the dimmer knob cap, remove the nut, and push the dimmer screw post through the plate, then tighten the nut to fix the dimmer and press the knob cap on the dimmer.

Wiring and Knob Functions

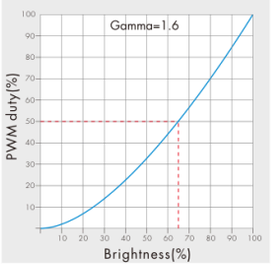
Model	Wiring diagram	Knob function
DIM		**Short press:** Turn on/off the light. **Double click:** Switch between10% or 100% brightness. **Rotate:** Adjust brightness, dimming range 5-100% (1 circle, 20 levels). **Long press for 2s:** Enter fade-in and fade-out mode. Multiple long presses to switch 5 levels fade speed (1s, 2s, 5s, 10s, 30s) in sequence. Every 2s to switch one level, the output LED flash once. Rotating the knob will automatically exit the fade mode.
DUO		**Short press:** Turn on/off the light. **Double-click:** Switch between 3 level color temperatures. (cool white - normal white - warm white) in sequence. At the same time, enter the knob adjusting color temperature state. After 5s of no operation, it will automatically return to the knob adjusting brightness state. **Rotate:** Adjust brightness (1 circle, 20 levels) under the knob adjusting brightness state. Adjust color temperature (1 circle, 21 levels) under the knob adjusting color temperature state. Default knob adjust brightness. **Long press for 2s:** Enter the color temperature fade mode. Multiple long presses to switch 5 levels fade speed (1s, 2s, 5s, 10s, 30s) in sequence. Every 2s to switch one level, the output LED flash once. Double-click or rotate the knob, it will automatically exit color temperature fade mode.
RGB		**Short press:** Turn on/off the light. **Double click:** Switch between color light or mixed white light (mixed white light default current color + 50% saturation). At the same time enter the state of adjusting the color (red - yellow - green - cyan - blue - violet) or color saturation by rotating knob. After 5s of no operation, it will automatically return to the knob adjusting brightness state. **Rotate:** Adjust brightness (1 circle, 20 levels) under the knob adjusting brightness state; Adjust RGB color (3 circles, 60 levels) under knob adjusting color state; Adjust color saturation (1 circle, 21 levels) under the knob adjusting color saturation state. Default knob adjust brightness. **Long press for 2s:** Enter color fade mode. Multiple long presses to switch 5 levels fade speed (1s, 2s, 5s, 10s, 30s) in sequence. Every 2s to switch one level, the output LED flash once. Double click or rotate the knob will automatically exit the color fade mode.

Attention:

1. Default rotate the knob to adjust the brightness.
2. Rotate the knob counterclockwise to adjust the brightness until the light is turned off, then short press the knob again, the light will automatically return to 5% brightness.
3. Every time you enter the dynamic fade mode, the default fade speed will start from 1s.

Dimming Curve

DIM dimming curve



DUO/RGB dimming curve

