

V3-KX

Knob + RF Dimming 3-Channel LED Controller

DIM/CCT/RGB



CE RoHS

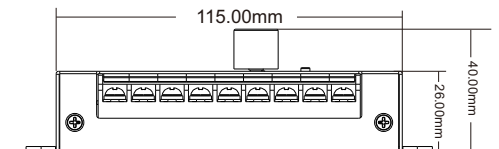
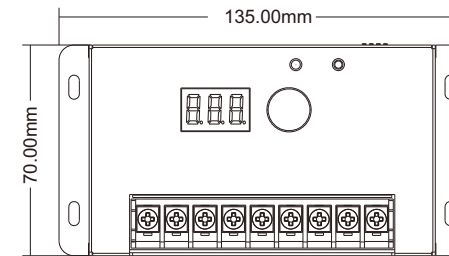
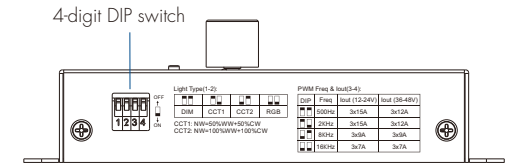
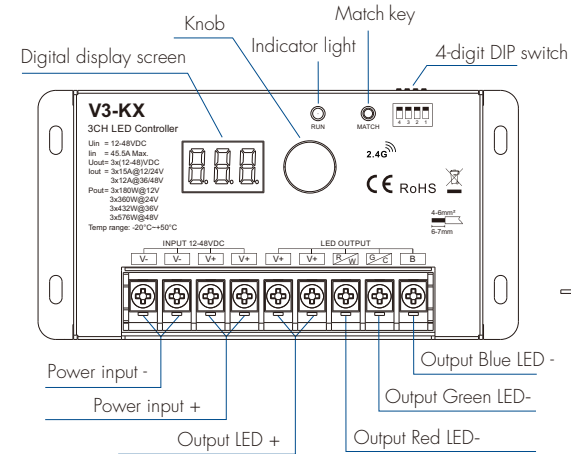
Features

- Knob dimming 3-in-1 LED controller, 3-channel constant-voltage output, suitable for single color, color temperature, RGB LED strips.
- The digital display shows, supports knob adjustment for brightness, color temperature, and RGB color.
- Match with RF 2.4G single-zone or multi-zone remote control optional.
- 4-bit DIP switch set 3 lighting types (DIM/CCT/RGB) and 4 output PWM frequencies (500Hz, 2KHz, 8KHz, 16KHz).
- When control RGB lighting, can run the built-in 10 dynamic modes by the RF remote control.
- Light on/off fade time 3s selectable.

Technical Parameters

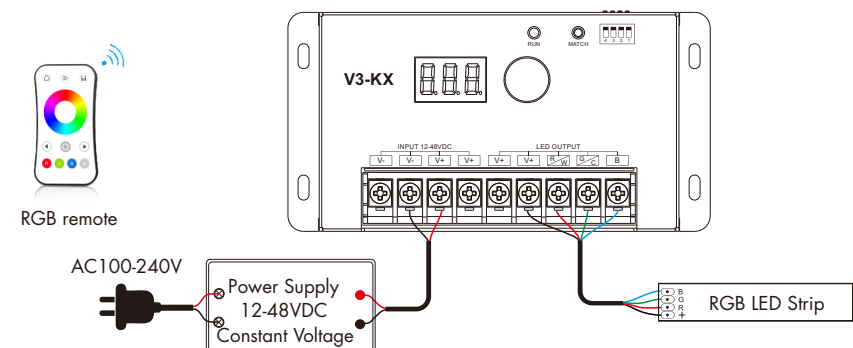
Input and Output		Dimming data		Safety and EMC	
Input voltage	12-48VDC	Input signal	Knob + RF 2.4GHz	EMC standard	EN IEC 55015/ EN IEC 61547 ETSI EN 301 489-1/-3
Input current	45.5A Max.	Control distance	20m(Barrier-free space)	Safety standard	EN 61347-1/-2
Input current	3x(12-48)VDC	Dimming gray scale	4096 (2^12) levels	Radio equipment	ETSI EN 300 440
Output current	3x15A@12/24VDC 3x12A@36/48VDC	Dimming range	0 - 100%	Certification	CE RoHS
Output power	3x180W@12V 3x360W@24V 3x432W@36V 3x576W@48V	Dimming curve	Logarithmic	Environment	
Output type	Constant voltage	PWM frequency	500Hz/2KHz (default) / 8KHz/16KHz	Operation temperature	Ta: -20 °C ~ +50 °C
Warranty and Protection		Package		Case temperature(Max.)	Ta: +68 °C
Warranty	5 years	Size	W140 x L75 x H50mm	IP rating	IP20
Protection	Reverse polarity, Over-heat, Short circuit protection	Gross weight	0.338kg		

Mechanical Structures and Installations

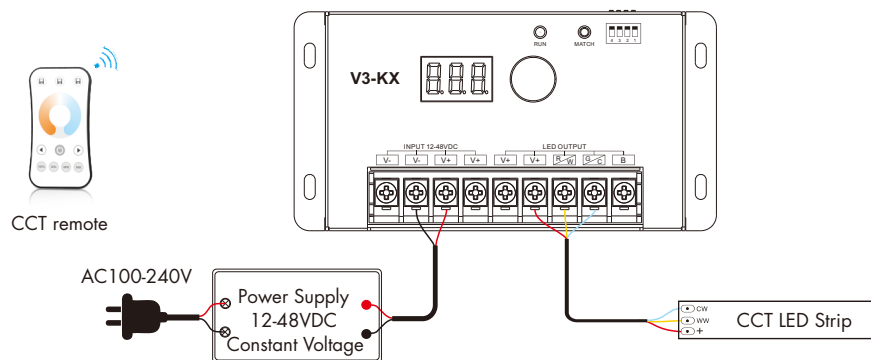


Wiring Diagram

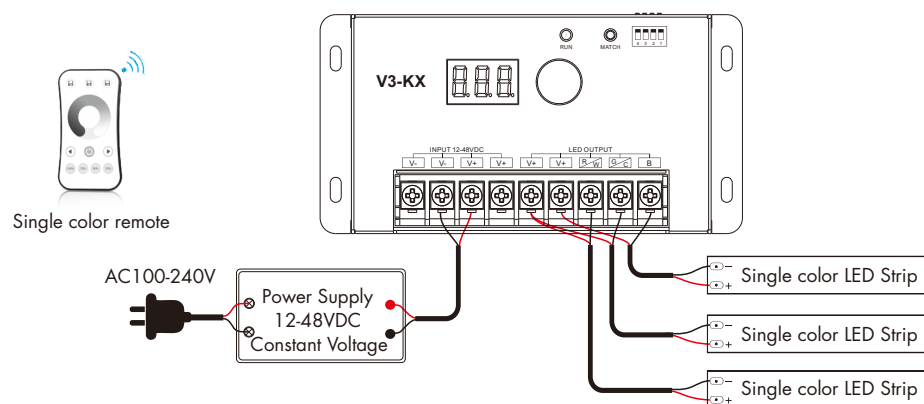
- For RGB(DIP switch 1-2 set to)



- For CCT (DIP switch 1-2 set to )



- For DIM (DIP switch 1-2 set to )



DIP Switch Setting

- DIP switch 1-2 set light type

				
light type	DIM	CCT1	CCT2	RGB

Notes:

CCT1 light type: NW=50%WW+50%CW
CCT2 light type: NW=100%WW+100%CW

Default settings: RGB light type; 2 kHz PWM frequency.

- DIP switch 3-4 set PWM frequency

				
PWM frequency	500Hz	2KHz	8KHz	16KHz
Output current (12 - 24V)	3x1.5A	3x1.4A	3x0.9A	3x0.7A
Output current (36 - 48V)	3x1.2A	3x1.2A	3x0.9A	3x0.7A

Knob Functions

- DIM light type

Short press: Turn on/off the light, when the light is turned off, the digital display shows "OFF".

Double click: Switch between 10% and 100% brightness.

Rotation: Adjust brightness, brightness range 1-100% (5 turns), the digital display shows "001"-"100".

100
Brightness(100%)

OFF
Turn off the light

- CCT light type

Short press: Turn on/off the light, when the light is turned off, the digital display shows "OFF".

Double click: Sequentially switch 3 levels color temperature (Warm White - Neutral white - Cool White), at the same time enter knob adjust color temperature state.

After 5s of no operation, automatically return to knob adjust brightness state.

Rotation: When knob adjust brightness, brightness range 1-100% (5 turns), the digital display shows "001"-"100".

When knob adjust color temperature, color temperature range 2700K-6500K (2 turns), the digital display shows "c27"-"c65".

Adjust brightness by default.

100
Brightness(100%)

c65
Color temperature 6500K (c27-c65)

- RGB light type

Short press: Turn on/off the light, when the light is turned off, the digital display shows "OFF".

Double click: Switch between color light and mixed white light (mixed white light defaults to current color + 50% saturation).

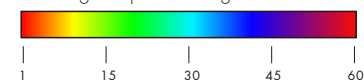
At the same time enter knob adjust color or color saturation state. After 5s of no operation, automatically return to knob adjust brightness state.

Rotation: When knob adjust brightness, brightness range 1-100% (5 turns), the digital display shows "001"-"100".

When knob adjust color, 60 colors total (3 turns), the digital display shows "C01"-"C60".

When knob adjust color saturation, saturation range 0-100 (5 turns), the digital display shows "A00"-"A99"-"AFF". Adjust brightness by default.

Color light adjustment range:



100
Brightness(100%)

C01
Color light Red (C01-C60)

A50
Saturation 50% (A00-A99-AFF)

Match RF Remote Control

There are two ways to match/delete:

Use match key:

Match:

Press and hold match key, the digital display "RLS", enter the remote control matching state. Immediately press on/off key (single zone remote) or zone key (multiple zone remote) on the remote, the digital tube displays "RL0", means match is successful.

Delete:

Press and hold match key for 5s, delete all matches, the digital display "RLE", means all matched remotes were deleted.

Use Power Restart(Standby):

Match:

Power on, power off, and then repeat again. Immediately short press on/off key (single zone remote) or zone key (multiple zone remote) 3 times fastly. The digital display "RL0", means match is successful.

Delete:

Power on, power off, and then repeat again. Immediately short press on/off key (single zone remote) or zone key (multiple zone remote) 5 times fastly. The digital display "RLE", means all matched remotes were deleted.

Light On/Off Fade Time

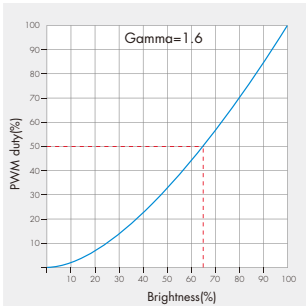
Long press match key 10s, then release the match key, the digital display shows "RES", restore factory default parameter.
Long press match key 15s, the indicator light blink 3 times, the light on/off time will be set to 3s.
Factory default settings: the light on/off time set to 0.5s; no RF remote control matched.

Dynamic Change Mode(Recall by the RF Remote Control)

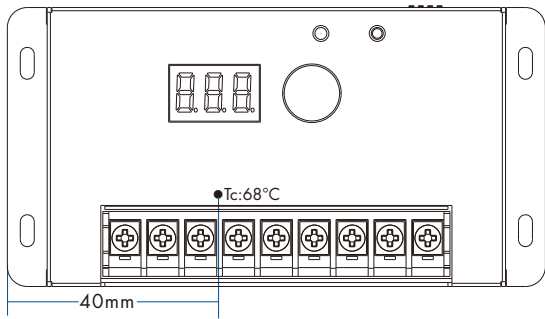
No.	Name	No.	Name
1	RGB jump	6	RGB fade in and out
2	RGB smooth	7	Red fade in and out
3	6 color jump	8	Green fade in and out
4	6 color smooth	9	Blue fade in and out
5	Yellow cyan purple smooth	10	White fade in and out

Note: When using the RF remote control to switch dynamic mode 1-10, the digital display shows "P01" to "P10".

Dimming Curve



TC Point Location



Malfunctions Analysis & Troubleshooting

Malfunctions	Causes	Troubleshooting
No light	1. No power. 2. Wrong connection or insecure.	1. Check the power. 2. Check the connection.
Wrong color	1. Wrong connection of R/G/B wires.	1. Reconnect R/G/B wires.
Uneven intensity between front and rear, with voltage drop	1. Output cable is too long. 2. Wire diameter is too small. 3. Overload beyond power supply capability. 4. Overload beyond controller capability	1. Reduce cable or loop supply. 2. Change wider wire. 3. Replace higher power supply. 4. Add power repeater.
No response from the remote	1. The battery has no power. 2. Beyond controllable distance. 3. The controller did not match the remote	1. Replace battery. 2. Reduce remote distance. 3. Re-match the remote.

Installation Precautions

1. The products shall not be stacked, the distance should be $\geq 20\text{cm}$, so as not to affect lifespan of the products due to poor heat dissipation.
2. The product shall not be installed close to the switching power supply with an interval of $\geq 20\text{cm}$ to avoid radiation interference of the switching power supply.
3. The installation height shall be $\geq 1\text{m}$ from the floor to avoid shortening the remote control distance due to too weak reception signal.
4. The products are not allowed to be close to or covered by metal objects, with an interval of $\geq 20\text{cm}$ to avoid signal attenuation and shorten the remote distance.
5. Avoid installation at the corner of the wall or the corner of the beam, with an interval of $\geq 20\text{cm}$ to avoid signal interference.