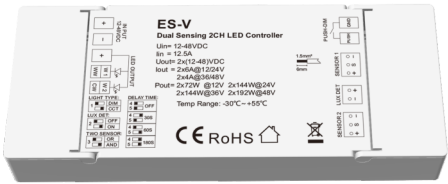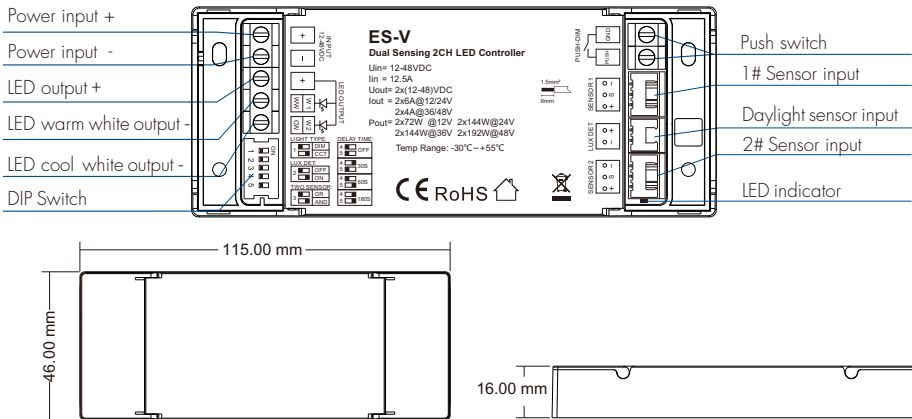# ES-V

Dual Sensing 2CH LED Controller

Features

- Dual sensor inputs to control single color or color temperature low voltage LED strip or other low voltage powered devices.
- Compatible with a variety of sensing probes, including PIR human motion sensor, door sensor, hand sweep sensor, etc.
- Connect the self-reset switch for on/off, brightness and color temperature adjustment.
- DIP switch to set light type, daylight detection switch, delay light off time.
- Can be applied to staircase light control, bedroom, living room, cabinet, wardrobe and other light control.

CE   RoHS

Technical Parameters

Input and Output

Input voltage	12-48VDC
Input current	12.5A
Output voltage	2× (12-48) VDC
Output current	2x 6A@12/24V 2x 4A@36/48V
Output power	2 x 72W @12V 2 x 144W@24V 2 x 144W@36V 2 x 192W@48V

Warranty

Warranty	5 years

Dimming data

Input signal	Push switch
Dimming range	10-100%
Dimming gray scale	4096 (2^12) level
PWM Frequency	2000Hz (default)

Package

Size	L175 x W80 x H45mm
Gross weight	0.21kg

Protection

Protection	Over-heat,Over-load

Safety and EMC

EMC standard	EN IEC 55015/ EN IEC 61547
Safety standard	EN 61347-1/-2 EN 62493
Certification	CE RoHS

Environment

Operation temperature	Ta: -30℃ ~ +55℃
Case temperature(Max.)	Tc: +85℃
IP rating	IP20

Mechanical Structures and Installations

- Power input +
- Power input -
- LED output +
- LED warm white output -
- LED cool white output -
- DIP Switch
- Push switch
- 1# Sensor input
- Daylight sensor input
- 2# Sensor input
- LED indicator

115.00 mm

46.00 mm

16.00 mm

Wiring Diagram

- ES-V for single color (DIP switch 1 set to DIM)

Power Supply 12-48VDC Constant Voltage — AC100-240V — Push switch

Single color LED strip

Low voltage powered device

1# PIR Motion Sensor (or other sensor)

Daylight sensor

2# PIR Motion Sensor (or other sensor)
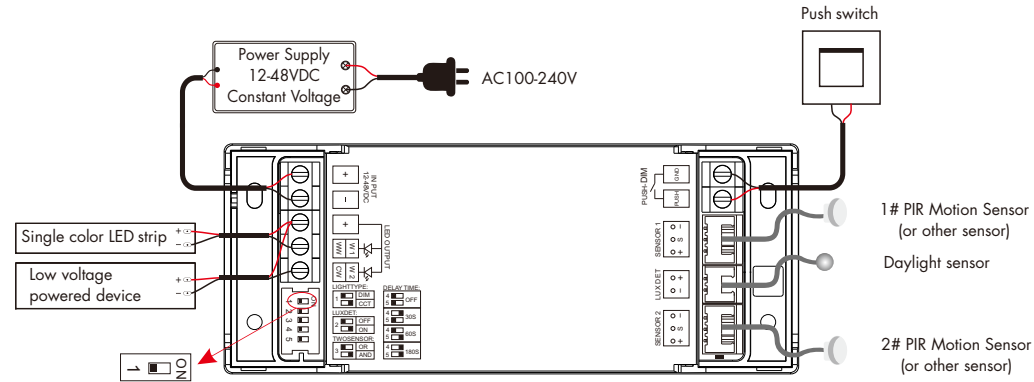
Note: The W2 channel output is not dimmable and is used for inductive control of other low voltage powered devices.

- ES-V for dual color (DIP switch 1 set to CCT)

Power Supply 12-48VDC Constant Voltage — AC100-240V — Push switch

Dual color LED strip

1# PIR Motion Sensor (or other sensor)

Daylight sensor

2# PIR Motion Sensor (or other sensor)
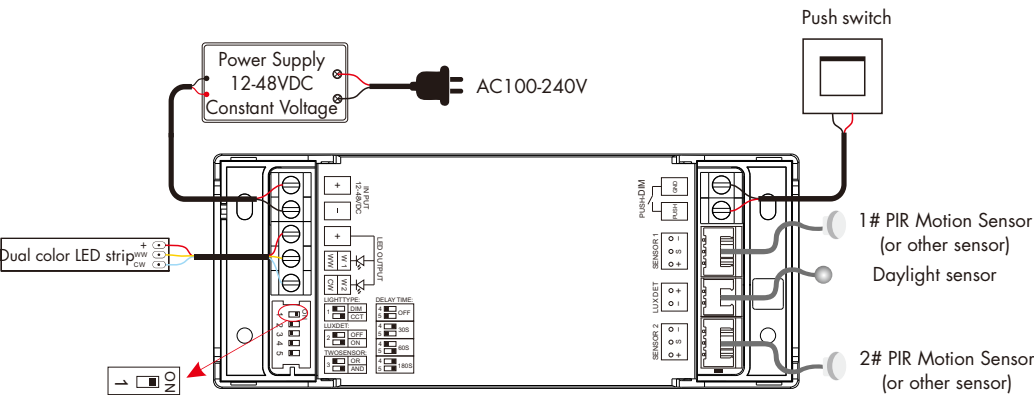
DIP Switch Setting

DIP switch 1: Set single color or color temperature light type.

DIP switch 2: Set light sensing detection on or off, the daylight sensing threshold value is 50Lux.

DIP switch 3: Lights off when both sense inputs are off at the same time, set to AND for dual door control sensing only; Lights on when either sense input is on, set to OR for other sensing probes.

DIP switches 4 & 5: For PIR motion sensing, set the light off time delay: 30s, 60s, 180s; Set to OFF when connecting other sensing probes.

Sensor Wire Define

Wire length: 1m

Power input +

5V level or PWM signal, high is ON, low is OFF

Power input -
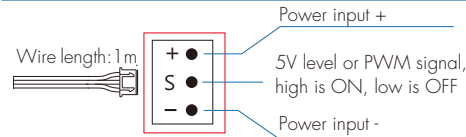
Push Dim Function

The self-reset switch interface can be connected to a self-reset panel switch or a self-reset button to dim the light.
The brightness and color temperature values of the controller can only be adjusted by the self-reset switch,
and the sensor probe input only controls the light on and off.

1. Single color light type

● **Short press:** Turn on or off the light.
● **Long press (1-6s):** Brightness increases or decreases continuously, each time you release and then long press again,
  the brightness changes in the opposite direction, brightness range 10%-100%.
● **Double click:** Switch 10% or 100% brightness.

2. Color temperature light type

● **Short press:** Turn on or off the light.
● **Long press (1-6s):** Default long press to adjust the brightness, the brightness increases or decreases continuously,
  every time you release and then long press again, the brightness changes in the opposite direction,
  the brightness range 10%-100%.
  In the light off state or color temperature adjustment state, long press to adjust the color temperature,
  every time you release and long press again, the color temperature changes in the opposite direction.
● **Double click:** In the light on state, switch three levels of color temperature (Warm White - Positive White - Cool White),
  and at the same time, enter the state of long-press to adjust the color temperature.

Available Sensor Heads

Optional motion sensor head:

Model / name	Product pictrue	Size	Sensor data
ER-C PIR motion sensor		26mm / 16mm / 18mm / 20mm	Sensitive field: ≤1.5m Sensitivity angle: 30 Delay-off time: 2s
E1-M Contactless human motion sensor		52mm / 7mm	Sensitive field: 0.5-5m Sensitivity angle: 120 Delay-off time: 10-300s
EL-C laser sensors		32mm / 32mm / 47.5mm / 15mm / 24mm	Sensitive field: 0.05-2.5m Sensitivity angle: 20° Delay-off time: 0-60s

Optional door sensor head:

Model / name	Product pictrue	Size	Sensor data
ED(C) Door sensor		32.3mm / 10.5mm / 31.5mm / 33mm / 8mm / 13mm / 22.5mm	Sensitive field: ≤8cm Sensitive angle:15-30°

Optional hand sweep sensor head:

Model / name	Product pictrue	Size	Sensor data
E1-W Contactless hand sweep sensor		52mm / 7mm	Sensitive field: ≤5 cm Dimming range: 5-100%
EB(C) Hand sweep sensor		32.3mm / 10.5mm / 31.5mm / 33mm / 8mm / 13mm / 22.5mm	Sensitive field: ≤10cm Sensitive angle:15-30°

Typical Induction Probe Application Installation

● **Connect with two PIR motion sensing probes for staircase light control.**
Two PIR motion sensing probes are installed at the top and bottom of the stairs.
When a person enters the sensing range at the top or bottom of the staircase,
the PIR motion sensing probes are triggered and the light is automatically switched on, with a delay to switch off the light.
If LUX detection is set to be on, it will be turned on only when the ambient light is low.

DIP switch setting:

LUX detection ON

LUX detection OFF

ON 1 2 3 4 5   OFF 30S 60S 180S

The installation method in the picture is for reference only.
Please choose a reasonable location for installation according to the actual situation.
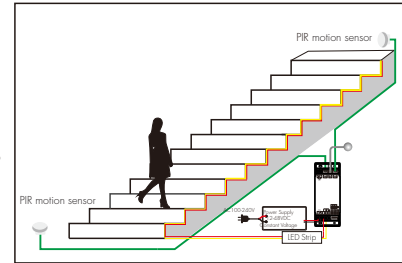
DIP switch 2 sets light sensing detection on or off.
DIP switch 3 must set to OFF,
DIP switch 4&5 set the light off delay time: 30s, 60s, 180s.
DIP switches 2/4/5 should only be used for stair light PIR motion sensing control.

● **Connect with one or two door sensing probes for single/double door light sensing switch.**

Single Door Installation: Connect any of the door sensing probes and DIP switch 3 to set two sensor input OR.
When the door is open, the light is on; when the door is closed, the light is off.

Double Door Installation: Connect two door sensing probes at the same time, and DIP switch 3 to set two sensor input AND.
When either door is open, the light is on; when both doors are closed, the light is off.

DIP switch setting:

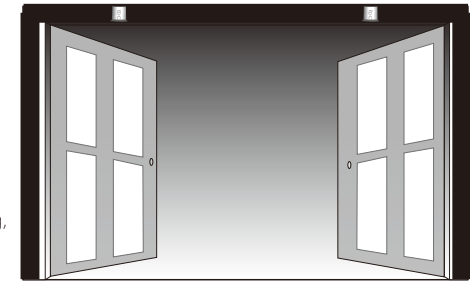ON 1 2 3 4 5   Two sensor input OR   Two sensor input AND
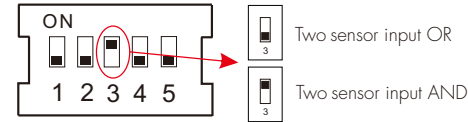
DIP switch 3 set to ON should only be used for dual door control sensing,
set to OFF for other sense inputs.
When the door control, hand swipe or touch sensing probe is connected,
DIP switches 2&4&5 must set to OFF, i.e., no LUX detection, no light delay off.

Packing List

| LED Controller 1pcs | User Manual 1 pcs | Daylight sensor (30cm) 1 pcs | PIR sensor (1.2m) 2 pcs | PIR sensor extension line(5m) 2 pcs |