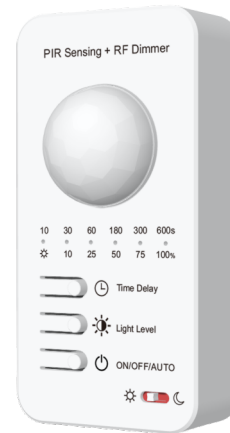# EV-R

PIR Motion Sensor Dimming Controller

- PIR motion sensor dimming controller with daylight detection.
- 3 button operation, 6 indicator lights.
- 3 work modes.
- 5 level dimmer.
- 6 level timer.
- Optional RF 2.4G single-zone or multi-zone dimming remote control.
- Work as RF remote, output RF 2.4G signal, matched with RF LED controller or RF dimmable LED driver optional.
- 3M tape installation, easy and convenient.
- Suitable for kitchen, cabinets, stairs, bedrooms, closets, living rooms, aisles and so on.
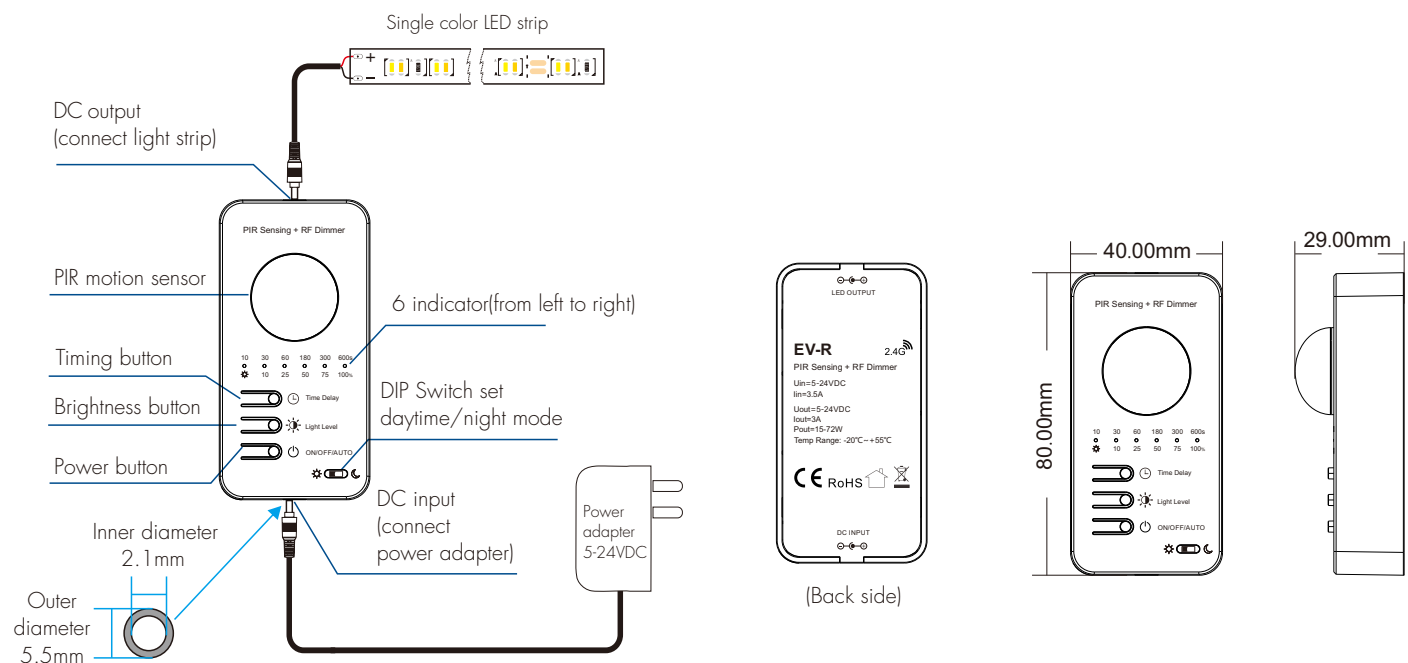
CE RoHS emc RED

Technical Parameters

Input and Output

Input voltage	5-24VDC
Output voltage	5-24VDC
Input current	3.5A
Output current	3A
Output power	15-72W

Warranty and Protection

Warranty	5 years
Protection	Over-heat , Short circuit

Sensor date

Sensitivity angle	120°
Sensing range	2-7m

Dimming data

Input signal	PIR sensor + RF 2.4GHz
Control distance	30m(Barrier-free space)
Dimming gray scale	256 levels
Dimming range	10-100%

Package

Size	L90 x W48 x H40mm
Gross weight	0.048kg

Safety and EMC

EMC standard (EMC)	ETSI EN 301 489-1 V2.2.3 ETSI EN 301 489-17 V3.2.4
Safety standard	EN 62368-1:2020+A11:2020
Radio Equipment(RED)	ETSI EN 300 328 V2.2.2
Certification	CE,EMC,RED

Environment

Operation temperature	Ta: -20°C ~ +55°C
Case temperature (Max.)	Tc: +85°C
IP rating	IP20

Mechanical Structures and Installations

Single color LED strip

DC output (connect light strip)

PIR motion sensor

Timing button

Brightness button

Power button

6 indicator(from left to right)

DIP Switch set daytime/night mode

Inner diameter 2.1mm

Outer diameter 5.5mm

DC input (connect power adapter)

Power adapter 5-24VDC

LED OUTPUT

EV-R 2.4G
PIR Sensing + RF Dimmer
Uin=5-24VDC
Iin=3.5A
Uout=5-24VDC
Iout=3A
Pout=15-72W
Temp Range: -20℃~+55℃

CE RoHS

DC INPUT

(Back side)

40.00mm

80.00mm

PIR Sensing + RF Dimmer

10 30 60 180 300 600s
☼ 10 25 50 75 100%

Time Delay
Light Level
ON/OFF/AUTO

29.00mm

Button Operation

1. Three working modes

Short press the power button to switch 3 working modes sequentially: light on, light off, auto-sensing mode.
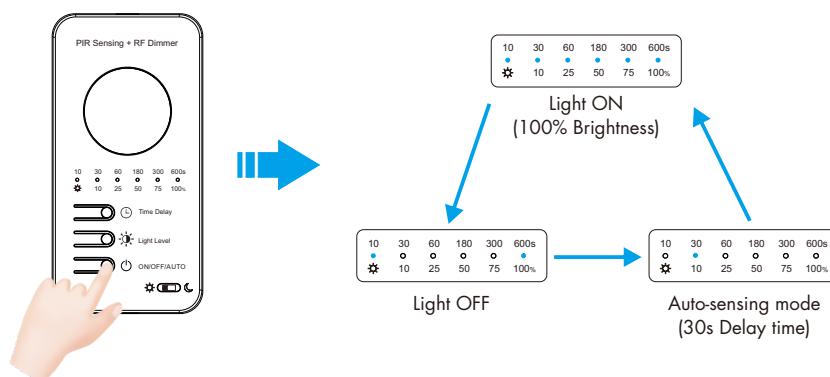
Light ON mode

In light on mode, the LED strip is always on.
In light on mode, adjust the light brightness (10-100%) through the brightness button.
Short press the brightness button to switch 5 levels of brightness:
10% (Indicator1-2 on), 25% (Indicator 1-3 on), 50% (Indicator 1-4 on), 75% (Indicator 1-5 on), 100% (Indicator 1-6 on).
Long press the brightness button to increase or decrease the brightness continuously,
each time you release and long press again, the brightness changes in the opposite direction.
The light on mode is applied in the kitchen and other places where long time lighting is needed, it can be used with RF remote control.
If you short press the time delay button in the light-on mode, it will automatically switch to auto-sensing mode.

Light OFF mode

In light off mode, the LED strip is off, and Indicator 1 and Indicator 6 are on.

Auto-sensing mode

In auto-sensing mode, turn on the light when the PIR sensing probe detects human movement, and turn off the light with automatic delay after the person leaves.
In auto-sensing mode, set the sensing delay off time through time delay button (10-600 seconds),
and adjust the light brightness through brightness button (10-100%).
Short press the time delay button to switch 6 levels of delay time: 10% (Indicator1-2 on), 25% (Indicator 1-3 on), 50% (Indicator 1-4 on), 75% (Indicator 1-5 on), 100% (Indicator 1-6 on).
Short press the brightness button to switch 5 levels of brightness:
10% (Indicator1-2 blinks once), 25% (Indicator 1-3 blinks once), 50% (Indicator 1-4 blinks once), 75% (Indicator 1-5 blinks once), 100% (Indicator 1-6 blinks once).
Auto-sensing mode is used in staircases, corridors, cupboards, bedrooms and other places where light need to be turned on by sensing.
When turning on auto-sensing mode, it is recommended to turn on daylight detection at the same time.

2. Daylight detection

DIP switch set daytime or night mode.

☀🔲 🌙   Daytime mode with daylight sensing turned off

☀ 🔲🌙   Night mode with daylight sensing turned on

In daytime mode, daylight sensing is turned off and infrared motion sensing is used 24 hours a day.
In night mode, the daylight sensing function is enabled,
the light will be turned on only when the ambient light is less than the daylight sensing threshold.
The daylight sensing threshold is fixed at 30 lux by default.

3. Setting the PIR sensitivity

Long press the time delay button and power button at the same time for more than 2 seconds to set the PIR sensing sensitivity:
Long press for 2 seconds, set to high sensitivity (sensing distance 4-7 meters), all indicators flash 1 time;
Long press for 5 seconds, set to medium sensitivity (sensing distance 3-6 meters), all indicators flash 2 times;
Long press for 10 seconds, set to low sensitivity (sensing distance 2-5 meters), all indicators flash 3 times.

4. Setting the light off fade time

The light on fade time is fixed 1 second, the light off fade time can be set 1, 2, 3 seconds.
In the light off mode, long press the time delay button for 2 seconds to switch the three light off fade time in sequence:
1 second light off fade time, indicator 1 blinks once;
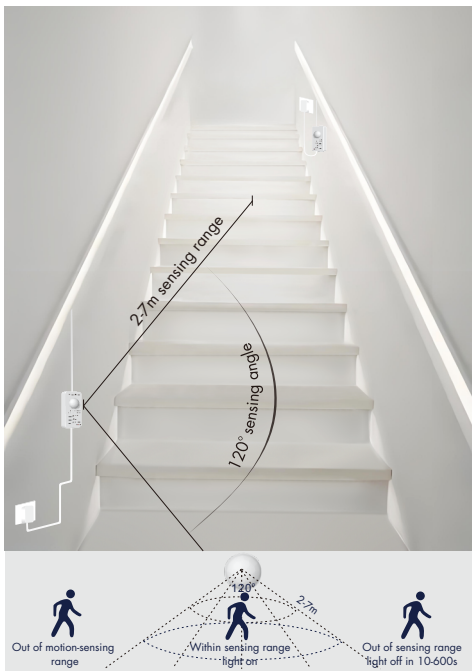2 second light off fade time, indicator 1-2 blinks once;
3 second light off fade time, indicator 1-3 blinks once.

5. Restore factory settings

Long press the power button and brightness button at the same time for 10 seconds to restore the factory settings, all the indicator lights flash 2 times.
Factory default parameters: auto-sensing mode, PIR sensing high sensitivity, 100% brightness, sensing delay off time 30 seconds, light off fade time 1 second.

Stair Light Applications

The stair light application requires a set of sensor dimming controller on each side of the stairs, both up and down.
This will allow you to illuminate the stairs as you go up or down.
WARNING: Two sensor dimming controller must not be connected together to control the same LED strip.

(Auto sensing mode installation diagram, for reference only)

Match Remote Control (Optional)

The PIR motion sensor dimming controller EV-R can be equipped with an optional RF remote to realize both sensor control and remote control at the same time.
When set to auto-sensing mode by the power button, the light can also be switched on/off or the brightness can be adjusted by the remote control,
and the sensor dimming controller maintains the auto-sensing mode unchanged.

Match:
Long press the Power button and Brightness button at the same time for more than 2s,
all LED indicator flash once means it enters the remote control match state.
Immediately press on/off key (single zone remote) or zone key (multiple zone remote) on the remote.
all LED indicator flash 3 times means match is successful.

Delete:
Long press the Power button and Brightness button for 5s to delect all match,
all LED indicator flash 5 times, means all matched remotes were deleted.

Work as RF Remote

The PIR motion sensor dimming controller EV-R can be matched with one or multiple RF LED controller or RF dimmable LED driver,
including single color, dual color, RGB, RGBW, RGB+CCT light type, turn on or turn off the other light by motion detection.
End user can choose the suitable match/delete ways. Two options are offered for selection:

Use the controller's Match key

Match:
Short press the match key of the controller,
immediately press the power button of EV-R.

Delete:
Press and hold the match key of the controller for 5s to delete all match,
The light blinks 5 times means all matched remotes were deleted.

Use Power Restart

Match:
Switch off the power of the controller, then switch on power, repeat again.
Immediately short press the power button of EV-R 3 times.
The light blinks 3 times means match is successful.

Delete:
Switch off the power of the controller, then switch on power, repeat again.
Immediately short press the power button of EV-R 5 times.
The light blinks 5 times means all matched remotes were deleted.

Notice for installation of PIR sensor

1. If the sensor is exposed to direct sunlight, interference signal will be introduced.

2. The sensor should be installed in a dry environment and keep away from windows, air conditioner and fans.

3. Make sure that the sensor stays away from heat source, such as countertops, kitchen appliances which generate
   hot steam, walls and windows in direct sunlight, air conditioner, heating, refrigerators, stoves and so on.

4. There should not be shelter(screen, furniture, large bonsai) within the range of detection.