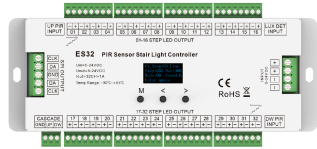


# PIR Sensor Stair Light Controller

Model No.: ES32

PIR sensor/Daylight Sensor/Max 32 step/Compatible with 27 kinds IC/Max 960 pixels/OLED display



## Features

- PIR sensor stair light controller with daylight sensor.
- 32 channels constant voltage output drive low voltage LED strip, Max. 1A current per channel.
- 2 groups SPI(TTL) signal output, drive 27 kinds IC digital RGB LED strip, IC type and R/G/B order can be set. Compatible ICs: TM1803, TM1804, TM1809, TM1812, UCS1903, UCS1909, UCS1912, UCS2903, UCS2909, UCS2912, WS2811, WS2812, TM1829, TM1914A, GW6205, GS8206, LPD6803, LPD1101, D705, UCS6909, UCS6912, LPD8803, LPD8806, WS2801, WS2803, P9813, SK9822.
- Easy operation with OLED display and 3 buttons.
- four work light mode selectable.
- Two stair light controller can cascade.
- Built-in multiple color mode, speed 1-8 grade adjustable.
- Push switch can also be as induction signal input.
- With fast self-testing function.

## Technical Parameters

Input and Output	
Input voltage	5-24VDC
Output voltage	32 x {5-24}VDC
Output current	32CH, 1A/CH
Output power	32 x {5-24}W
Output type	Constant voltage + SPI(TTL)

Warranty and Protection	
Warranty	5 years
Protection	Reverse polarity

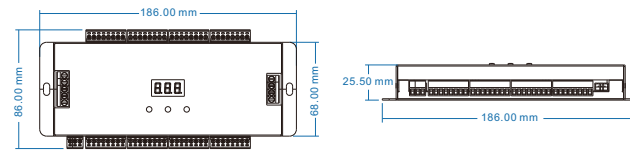
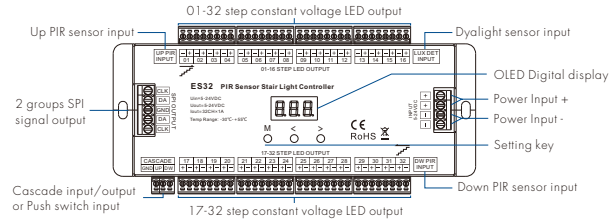
Environment	
Operation temperature	Ta: -30°C ~ +55°C
Case temperature (Max.)	Tc: +85°C
IP rating	IP20

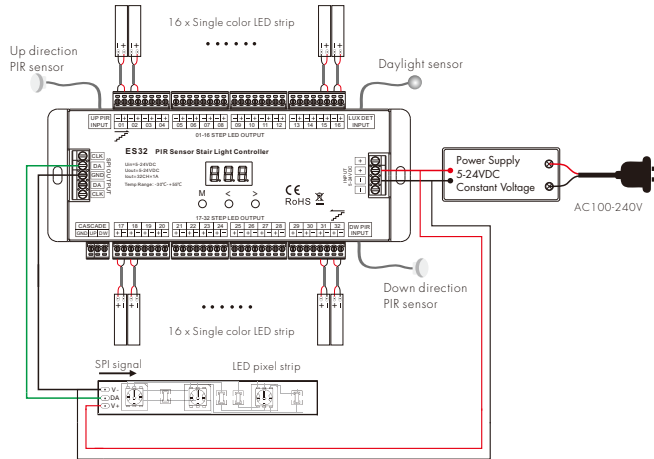
Safety and EMC	
EMC standard [EMC]	EN55032:2015, EN61000-3-2:2014, EN61000-3-2:2013, EN55024 :2010/A1:2015
Safety standard [VD]	EN 61347-1:2015 EN 61347-2-11:2015
Certification	CE,EMC,LVD

CE RoHS LVD

## Mechanical Structures and Installations



## Wiring Diagram



Note: The LED pixel strip also use separate power supply.

## OLED screen and key operation



1. Short press M key, enter current work light mode parameter setting state.
2. Long press M key for 2s, enter system parameter setting state, to switch four work light mode, set SPI chip type and RGB order, set daylight sensor threshold.
3. When in parameter setting state, short press M key to switch between multiple parameter item, press < or > key for parameter adjustment.
4. Long press M key or wait 1.5s to quit parameter setting state.
5. Long press M & > key for 2s, start up direction induction light testing.
6. Long press M & < key for 2s, start down direction induction light testing.
7. Long press < & > key for 2s, restore factory default parameter.
8. The fourth line display color mode name defaultly, and will display induction signal input indication or light on/off state.
9. When induction light control process is over, the light will turn off after 10s automatically.

## System parameter setting

```
WorkMode:CV+SD_L
Chip:TM1809 RGB
DefRGB:FF FF 80
LuxSet:OFF *050
```

### WorkMode:

Switch between four work light mode.

**CV\_Step:** Only multiple constant voltage LED strip light mode.

**SD\_Line:** Only 1 or 2 straight line digital pixel LED strip light mode.

**SD\_Step:** Only multiple Z-shape digital pixel LED strip light mode.

**CV+SD\_L:** Multiple constant voltage LED strip + 1 or 2 straight line digital pixel LED strip light mode.

**Chip:** Switch between 10 class chip (below table)

and 6 kinds RGB order (RGB, RBG, GRB, GBR, BRG, BGR).

These parameter is valid only for the work mode with SPI output.

**DefRGB:** RGB hex value for userdefine color.

The parameter is valid only for the work mode with SPI output.

**LuxSet:** Daylight sensor threshold or disable (10, 30, 50, 100, 150, 200lux,OFF).

With sufficient ambient light, the PIR sensor does not turn on the light.

The digital value after \* is current detected LUX value.

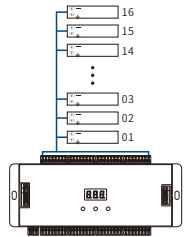
## Compatible IC type list:

No.	IC type	Output signal
1	TM1809, TM1804, TM1812, UCS1903, UCS1909, UCS1912, UCS2903, UCS2909, UCS2912, WS2811, WS2812	DATA
2	TM1829	DATA
3	TM1914A	DATA
4	GW6205	DATA
5	GS8206	DATA
6	LPD6803, LPD1101, D705, UCS6909, UCS6912	DATA, CLK
7	LPD8803, LPD8806	DATA, CLK
8	WS2801, WS2803	DATA, CLK
9	P9813	DATA, CLK
10	SK9822	DATA, CLK

### Constant voltage LED strip light mode

```
CV Step
Step:032
Mode:01 Speed:6
ON one by one
```

**Step:** Total step number, 008-032  
**Mode:** White mode number, 01-03  
**Speed:** Speed grade, 1-8, 8 is the fastest speed.



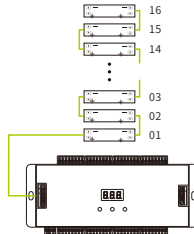
#### White mode list:

No.	Name
01	ON one by one
02	All OFF, Five ON
03	All ON, one OFF

### Z-shape digital pixel LED strip light mode

```
SD Step
Step:030 Dot:010
Mode:09 Speed:6
Color queue
```

**Step:** Total step number, 008-160  
**Dot:** Pixel dot number of each step, 002-120  
 The Step number x Dot number must < 960  
**Mode:** Color mode number, 01-12  
**Speed:** Speed grade, 1-8, 8 is the fastest speed

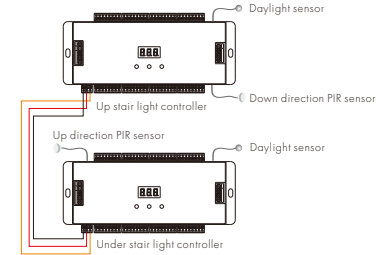


#### Color mode list:

No.	Name
01	Red
02	Orange
03	Yellow
04	Green
05	Cyan
06	Blue
07	Purple
08	White
09	Color queue ( 7 color + White)
10	Color chase ( 7 color + White)
11	Color fade (6 color fade)
12	Rxxx Gxxx Bxxx (User define)

### Two stair light controller cascade connection

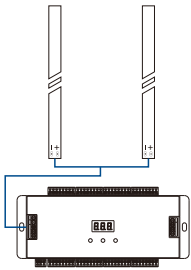
The under stair light controller connect Up direction PIR sensor and daylight sensor.  
 The up stair light controller connect Down direction PIR sensor and daylight sensor.  
 Two stair light controller connect cascade UP/DW line.



### Straight line digital pixel LED strip light mode

```
SD Line
Dot: 300
Mode:09 Speed:6
Color queue
```

**Dot:** Pixel dot number, 032-960  
**Mode:** Color mode number, 01-12  
**Speed:** Speed grade, 1-8, 8 is the fastest speed.



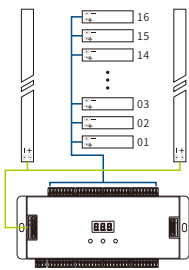
#### Color mode list:

No.	Name
01	Red
02	Orange
03	Yellow
04	Green
05	Cyan
06	Blue
07	Purple
08	White
09	Color queue ( 7 color + White)
10	Color chase( 7 color + White)
11	Color fade (6 color flow)
12	Rxxx Gxxx Bxxx (User define)

### Constant voltage LED strip + Straight line digital pixel LED strip light mode

```
CV Step+SD Line
Step:032 Dot:300
Mode:09 Speed:6
Color queue
```

**Step:** Total step number, 008-032  
**Dot:** Pixel dot number, 032-960  
**Mode:** Color mode number, 01-12  
 The mode number is used for straight line digital pixel LED strip only.  
 The mode for constant voltage LED strip is fixed On one by one.  
**Speed:** Speed grade, 1-8, 8 is the fastest speed.



#### Color mode list:

No.	Name
01	Red
02	Orange
03	Yellow
04	Green
05	Cyan
06	Blue
07	Purple
08	White
09	Color queue ( 7 color + White)
10	Color chase ( 7 color + White)
11	Color fade (6 color flow)
12	Rxxx Gxxx Bxxx (User define)

### Two Push switch as up/down induction signal input connection

The under push switch connect cascade UP port of the stair light controller.  
 The up push switch connect cascade DW part of the stair light controller.  
 The push switch operation will ignore daylight sensor threshold setting.

