STELLAR LIGHTING
www.stellarlighting.co.uk

ISL-32 stair light controller

Product Information

ISL-32 stair light controller

These motion sensor-activated LED stair lights switch on automatically to light up your stairs when you reach the top or bottom step. Each set includes the LED controller, 2 x motion sensors with 2 x 5 m extension cable and a daylight sensor. What you'll need, in addition is compatible lights and power supply.

Why choose Stellar Lighting's stair lights?

Flexible options	• Adaptable solution for different types of stairs • Sets can be built into new constructions or existing stairs • Variety of options for quantity and size
Colour choices	• Customisable options to match the surrounding design • Light colour options: can be operated with single colour LED light strips or colour changing (pixel) LEDs
Energy efficient	• Energy efficient LED lights • 50,000 hours of life expectancy for the LED lights • Lights are only on when required
Elegant and practical	• Aesthetic design • The lighting effect makes the stairs an architectural feature of the space • Even illumination of the stairs, regardless of the width of the steps. • Sets are easy to install and use (installation requires a qualified electrician)
Smart automation	• Programmable control unit to adjust the lighting conditions to your preferences and the needs of your environment • Lights turn on and off automatically when required • Adjustable brightness and speed
High-quality	• Manufactured to the highest quality standards • UKCA, CE, FCC and IC certified products • 2 year warranty (if installed by a qualified electrician)

Content of your kit

What are the components of the stair lighting kit?

LED Controller	User Manual	Daylight sensor (30cm)	PIR sensor extension line (5m)	2 x Standard and 2 x narrow detection angle PIR sensor
1 pcs	1 pcs	1 pcs	2 pcs	

- ISL-32 stair light controller
- 2 x standard PIR Motion sensors and 2 x narrow detection angle PIR sensor
- 2 x 5 m motion sensor extension cable
- Daylight sensor (with 30 cm cable)
- User manual

## Important notes on installation and warranty!

All electrical works must be carried out by a fully qualified, registered electrician. Please note that we are unable to refund or replace any item deemed faulty unless it has been installed by a fully qualified electrician. When returning a faulty item we require full details of the installing electrician in order to verify the integrity of both the installation and electrical wiring system including fuse board and circuit protection devices.

Stair lights

Features

- Multiple function PIR sensor stair light controller with daylight sensor.
- 32 channels constant voltage output drive
- 5 – 24 V DC, Max. 1A current per channel
- Dual SPI (TTL) signal output. Compatible with 27 type Integrated Circuit (IC) digital RGB LED strips
- 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 main operation modes
- Two controllers can be connected for dual-cascading operation
- Multiple colour modes
- Adjustable speed and brightness
- Fast self-testing function
- Damaged CV channels can be disabled
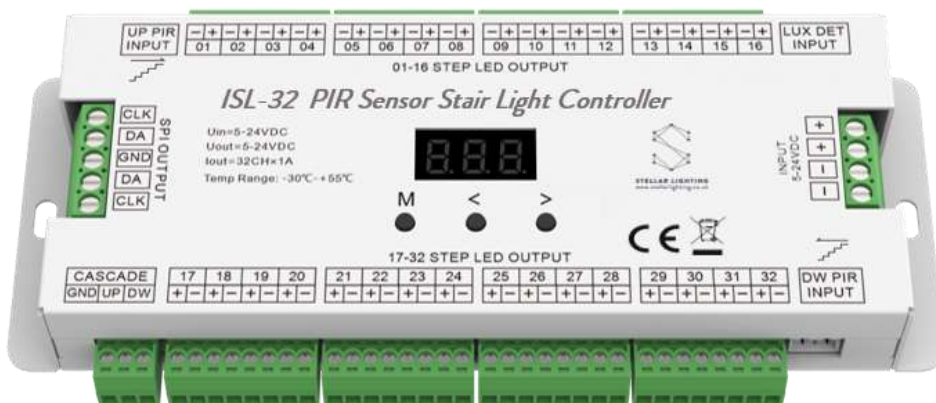
Technical parameters

Technical parameters

| Controller	
Dimensions	186 mm x 86 mm x 25.5 mm
Input voltage	5 – 24 V DC
Output voltage	32 x (5–24) V DC
Output current	32 CH, 1A/CH
Output power	32 x (5–24) W
Output type	Constant voltage + SPI (TTL)
Protection	Reverse polarity
Operating temperature	Ta: -30 $^{\circ}$C ~ +55°C
Max case temperature	Tc: +85°C
IP rating	IP20
Warranty	2 years

Motion sensor – wide detection range	
Wide range sensor - round	19 mm (inner Ø), 26.5 mm (outer Ø), thread length: 16 mm
Sensor type	PIR
Detection range	Up to 8 meters
Detection angle	~120°
IP rating	IP20
Operating temperature	-20 $^{\circ}$C ~ +50°C
Block time	2.5 s

Motion sensor – narrow detection range	
Narrow range - rectangular	36 mm x 51.3 mm x 15 mm
Narrow range – with face plate	75 mm Ø x 25 mm
Sensor type	PIR
Detection range	1 meters (Can trigger from further)
Detection angle	~30°
IP rating	IP20
Operating temperature	-20 $^{\circ}$C ~ +50°C
Block time	2.5 s

Dimensions

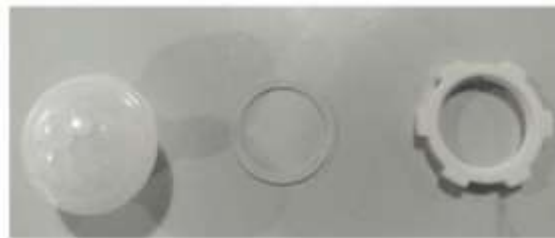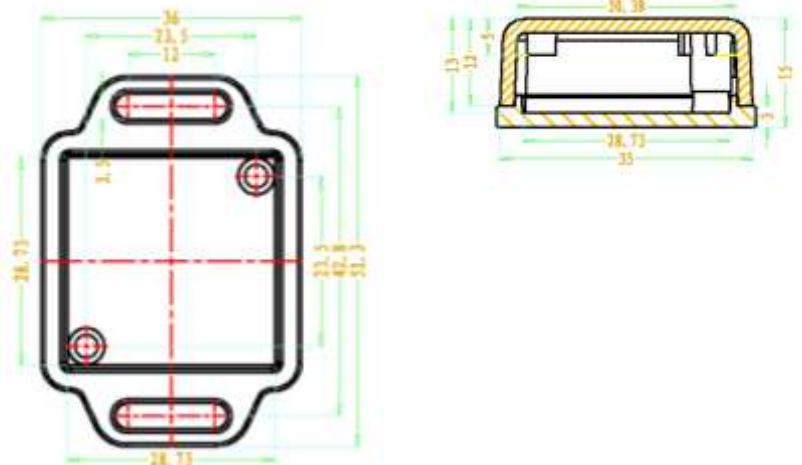## Controller
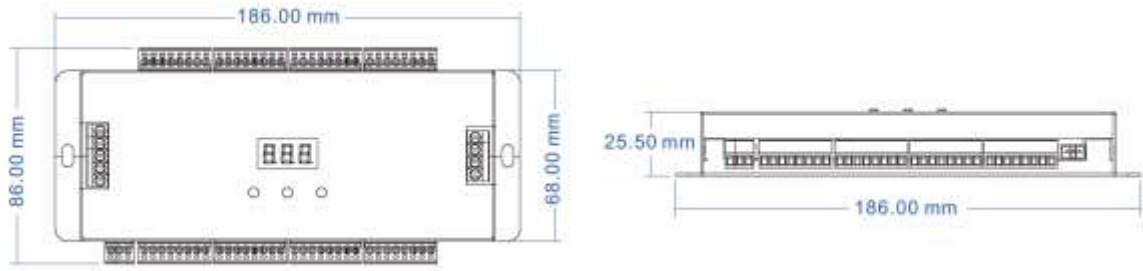
Motion sensor – wide detection range

*Please note that all measurements are in millimetres

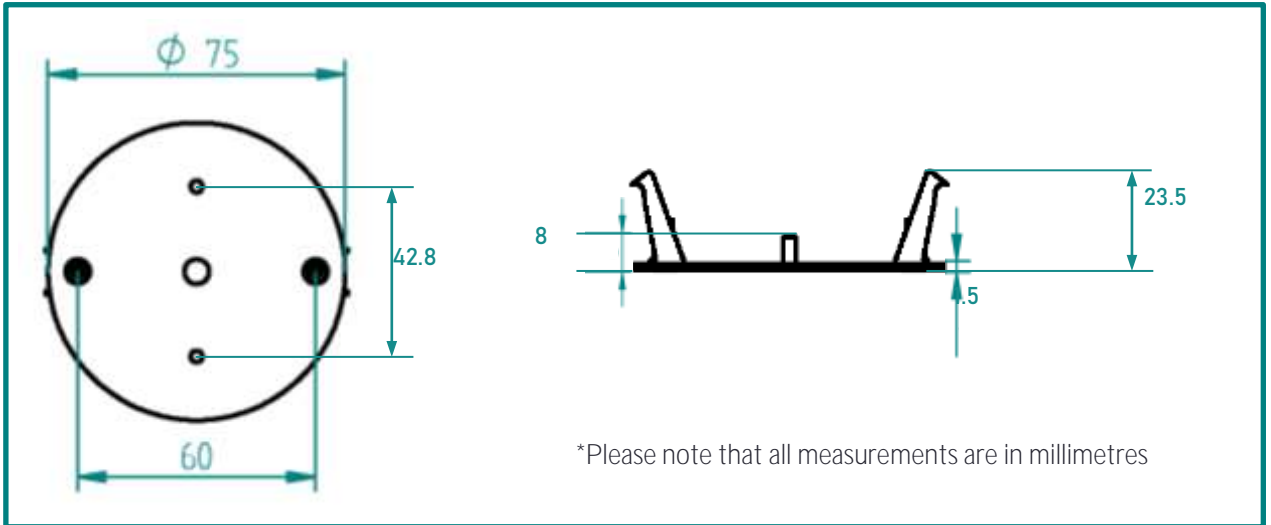## Motion sensor – narrow detection range

*Please note that all measurements are in millimetres

Dimensions

Face plate for recessed application of narrow detection range sensor (optional accessory)

Φ 75
42.8
60
23.5
8
4.5

*Please note that all measurements are in millimetres

Compatibility

LED light compatibility

Constant voltage (CV) LED lights:
- Dimmable
- Single colour
- 5-24 V DC
- Maximum 1 A per channel

SPI (TTL) signal output (addressable pixel RGB LED):
- 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

Power supply compatibility

- The unit can be controlled within the +5V - +24V DC voltage range. Using the device with a power source outside of this range can cause the controller unit to malfunction.
- Port type: 2-pole terminal block
- Recommended voltage: +5V, +12V, +24V DC voltage
- It is recommended to use a switched-mode power supply.
- The connected power supply needs to provide a steady DC voltage and the maximal electrical current required by the unit and the connected LED lights
- Ensure sufficient voltage is available to drive the pixel RGB LED strips. Depending on the type and length of LED strips you're using, you might need multiple power injections for the LED strips (both ends and middle)

Wiring diagram
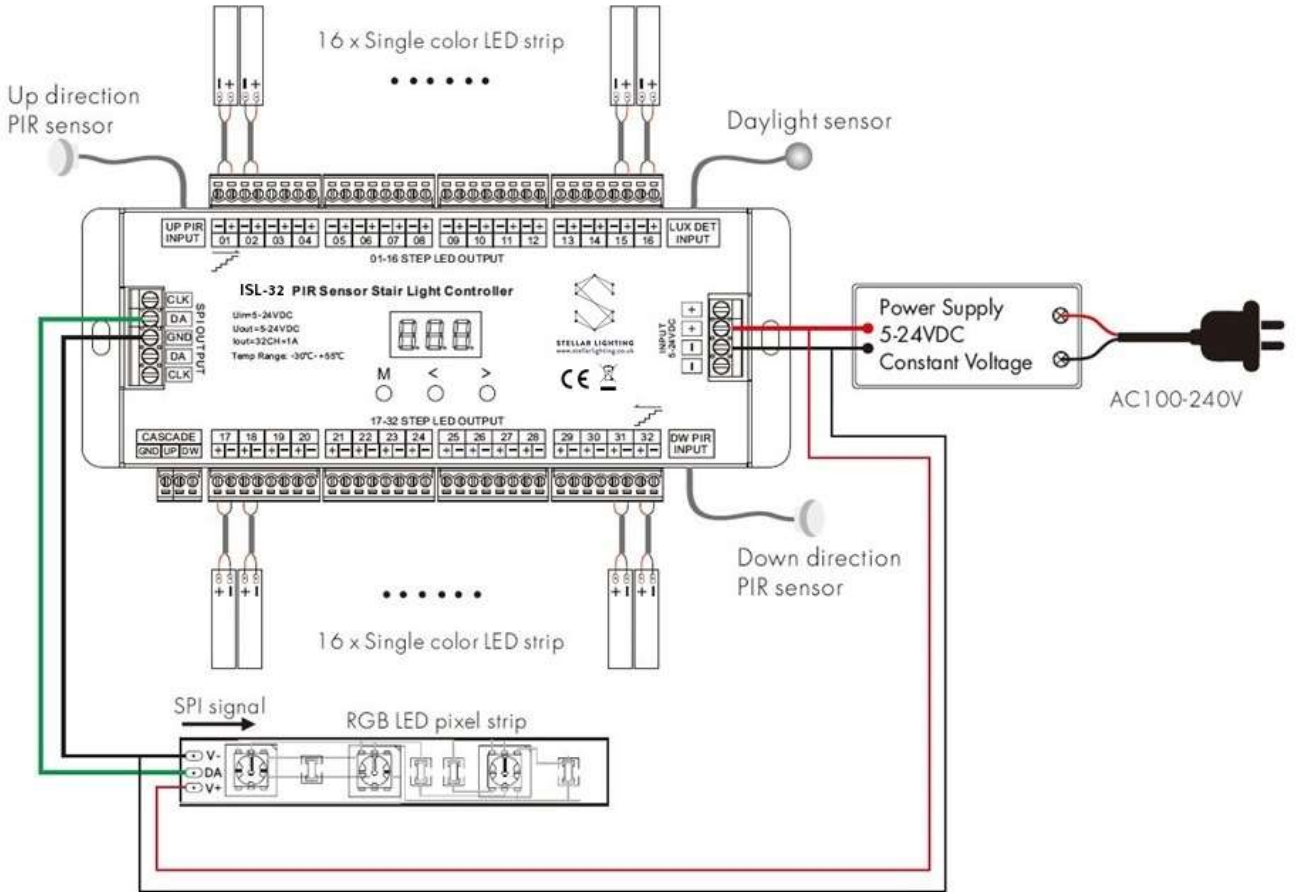

Note: The LED pixel strip requires separate power supply

For more details, please check out our installation guide and video.

OLED screen and key operation

- Short press "M" key to enter the current Work Mode Parameter Setting state
- Long press "M" key for 2 seconds to enter System Mode Parameter Setting state
- When in Parameter Setting State, short press "M" key to switch between settings
- Press "<" or ">" key to adjust selected setting

- Long press "M" key or wait 15 seconds to quit parameter setting state
- Long press "M" & ">" keys for 2 seconds to start up direction induction light testing
- Long press "M" & "<" keys for 2 seconds to start down direction induction light testing
- Long press "<" & ">" keys for 2 seconds to restore factory default settings
- The fourth line displays the light on mode (CV_Step only) or the colour mode and will display sequence signal input or light on/off state
- When light sequence is over, the duration of the lights staying on depends on
- the speed settings (see operation modes for more details)
- For speed 1-8 level, the turn off delay time is 45/40/35/30/25/20/15/10s respectively.
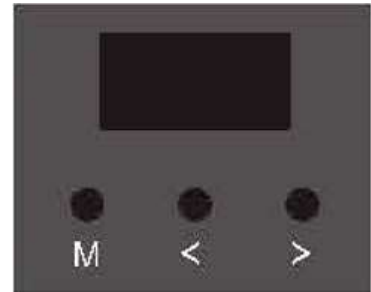
System parameter setting

```
WorkMode:CV_Step
Off: Delay  sync
Push:Cascade
LuxSet:OFF  *050
```

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

- Long press "M" key for 2 seconds to enter System Mode Parameter Setting state
- WorkMode: Switch between the four main operation modes:
  - CV_Step: single colour, constant voltage LED step light mode (8-32 steps)
  - SD_Line: addressable pixel RGB LED linear side light mode (1-2 lines)
  - SD_Step: addressable pixel RGB LED step light mode (8-160 steps, 2-120 pixels/step, maximum pixel: 960)
  - CV+SD_L: single colour, constant voltage LED step light mode (8-32 steps) + addressable Pixel RGB LED linear side light mode (1-2 lines)

Operation

- In WorkMode CV_Step only:
  - OFF: set the mode how the lights turn off mode when the sequence is over:
    - Delay sync: turn off all the lights together, after the delay time (set by the mode's speed setting)
    - One by one: turn off the lights one by one
  - Push: Set the push switch behaviour
    - Cascade: turn on the lights one and off (after the delay time) one by one
    - Light on: turn on all light together and turn off together after the delay time
- In WorkMode SD_Line, SD_Step and CV+SD_L modes only:
  - Chip: set the compatible pixel RGB LED type (see table below)
  - RGB: set the RGB order (RGB / RBG / GRB / GBR / BRG / BGR)
  - DefRGB: set the user-defined RGB hex value for the custom colour mode (for pixel RGB output only)
- LuxSet: set the daylight sensor sensitivity. If the sensor picks up value over the set value, the sensor will not trigger the lights. The number after *shows the currently detected value
 - Values: OFF / 10 / 30 / 50 / 100 / 150 / 200

Digital pixel RGB LED strip 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

Main operation modes

CV_Step: single colour, constant voltage LED strip light mode
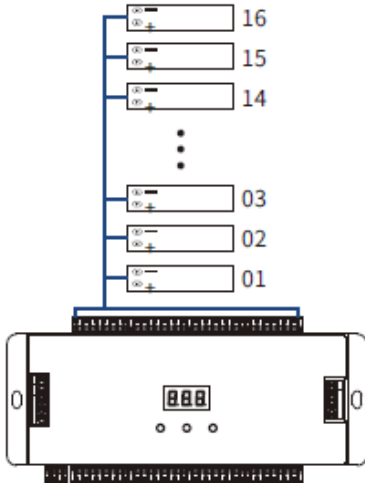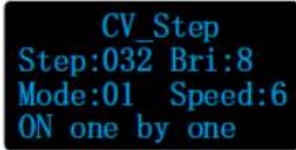
- **Step**: set the number of steps (OO8 – O32)
- **Mode**: set the sequence of the lights turning on:

1	Cascade (one by one)
2	Follow 5 (all off, five on)
3	Inverse cascade (all on, one off)

- **Bri**: set the brightness of the lights (1-8), 8 being the brightest
- **Speed**: set the speed of the lights turning on along with the duration, how long the lights stay on (1-8), 8 being the fastest

Speed	Duration	Speed	Duration
1	45s	5	25s
2	4Os	6	2Os
3	35s	7	15s
4	3Os	8	1Os

LED channel output disable mode

To enter the LED channel output disable menu: long press "M", "<" and ">". Once in the menu, change a channel's status with "<" or ">" and use "M" to jump to the next channel. This way, the controller can still function if a channel burns out or gets damaged.
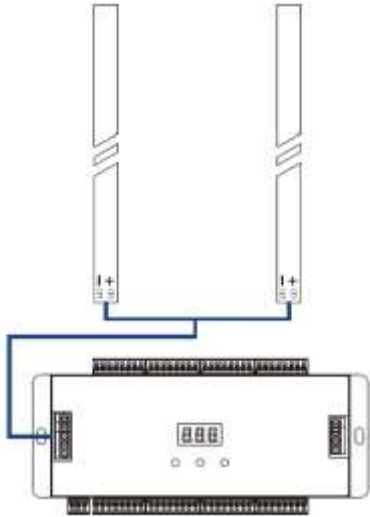
SD_Line: Addressable pixel RGB LED side light

```
        SD_Line
Dot: 300  Bri:8
Mode:09   Speed:6
Color queue
```

- **Dot**: set the pixel number of the LED strip: 032 – 960
- **Mode**: set the colour mode (see table below)
- **Bri**: set the brightness of the lights (1-8), 8 being the brightest
- **Speed**: set the speed of the lights turning on along with the duration, how long the lights stay on (1-8), 8 being the fastest

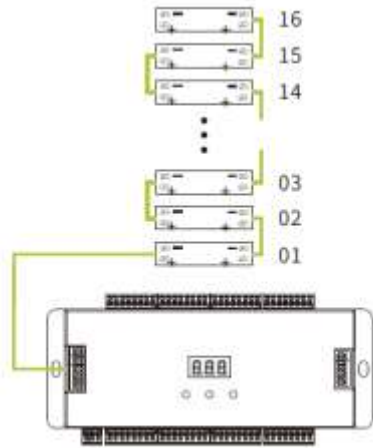| No.	Colour mode
1	Red
2	Orange
3	Yellow
4	Green
5	Blue
6	Purple
7	White
8	Colour queue (7 colours + white)
9	Colour chase (7 colours + white)
10	Colour gradient (6 colours)
11	Custom colour (defined in system menu)

SD_Step mode: Addressable pixel RGB LED stair light

- **Step**: set the number of steps (008 – 160)
- **Dot**: set the number of pixels per step (002 – 120)
  The Step value x Dot value <= 960
- **Mode**: set the colour mode (see table below)
- **Speed**: set the speed of the lights turning on along with the duration, how long the lights stay on (1-8), 8 being the fastest

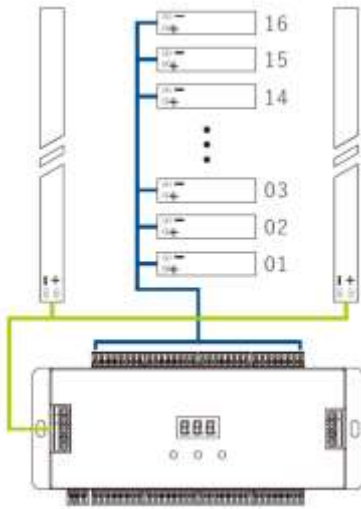| No.	Colour mode
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2	Orange
3	Yellow
4	Green
5	Blue
6	Purple
7	White
8	Colour queue (7 colours + white)
9	Colour chase (7 colours + white)
10	Colour gradient (6 colours)
11	Custom colour (defined in system menu)

Main operation modes

CV+SD_L mode: single colour, constant voltage LED + Addressable pixel RGB LED side light

```
CV_Step+SD_Line
Step:032 Dot:300
Mode:09  Speed:6
Color queue
```

- Step: set the number of steps (008 – 032)
- Dot: set the pixel number of the LED strip: 032 – 960
- Mode: set the colour mode (see table below)
  The mode number only applies to the RGB pixel side lights
  The mode for the constant voltage step lights turning on is fixed to cascade (one by one)
- Speed: set the speed of the lights turning on along with the duration, how long the lights stay on (1-8), 8 being the fastest

| No.	Colour mode
1	Red
2	Orange
3	Yellow
4	Green
5	Blue
6	Purple
7	White
8	Colour queue (7 colours + white)
9	Colour chase (7 colours + white)
10	Colour gradient (6 colours)
11	Custom colour (defined in system menu)

Main operation modes

Connecting two stair light controllers for cascade operation

- The bottom stair light controller connects to: Up direction PIR sensor and daylight sensor
- The top stair light controller connects to: Down direction PIR sensor and daylight sensor
- Two stair light controllers connect via the Cascade UP/DW connectors
- The push switch function must be set as cascade input

Daylight sensor

Down direction PIR sensor

Top stair light controller

Up direction PIR sensor

Daylight sensor

Bottom stair light controller
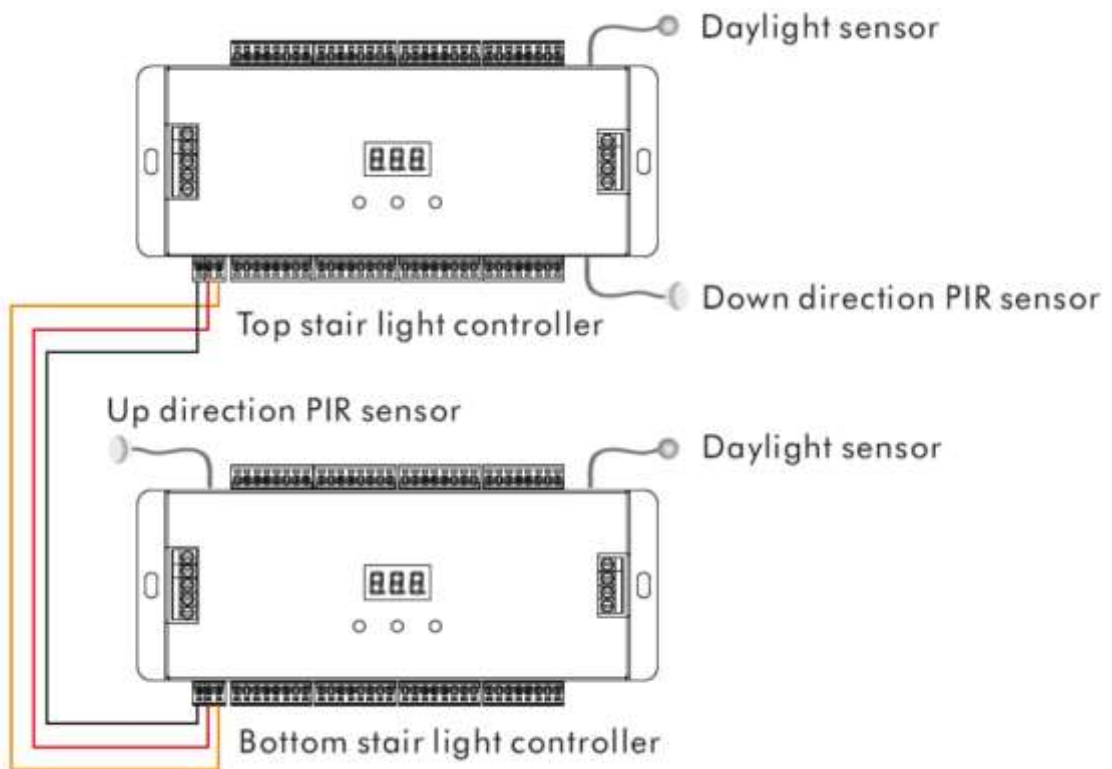
Main operation modes

Two Push switch as up/down induction signal input connection

- The bottom push switch connects to the cascade UP port of the stair light controller
- The top push switch connects to the cascade down port of the stair light controller
- The push switch operation will disable the daylight sensor
- The push switch operation can be set in the System parameter settings in CV_Step mode, however it applies to any mode selected
- Cascade: turns the lights on and off one by one
- Light on: turns on and off all the lights together (after the delay time set by speed)
- When the push switch function is set to "Light on", the push operation will turn on all the lights together
- The light will turn off after 20s (@speed 8) automatically
- For speed 1-8 level, the turn off delay time is 90/80/70/60/50/40/30/20s.

Top push switch

Bottom push switch
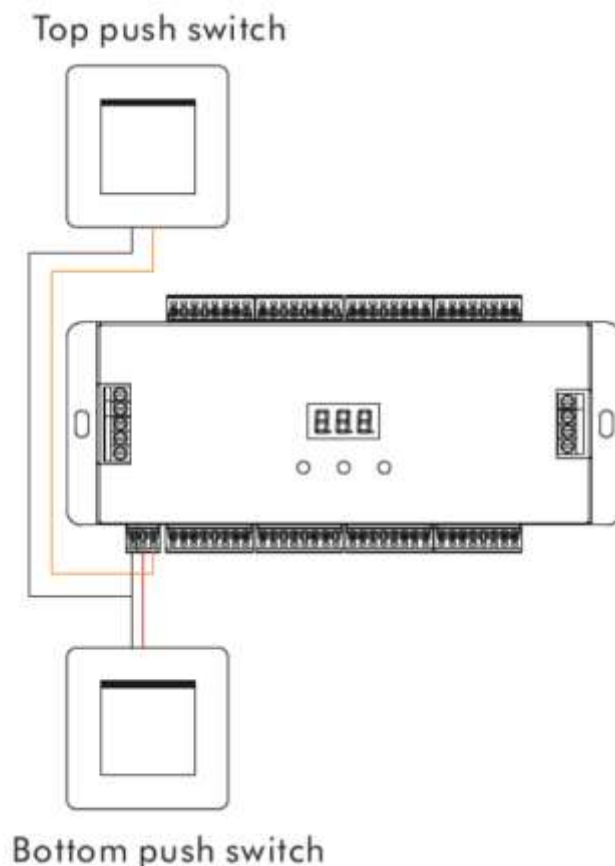
UK and EU notes

United Kingdom

Waste Electrical and Electronic Equipment Regulations 2013

The waste electrical and electronic equipment regulations in the UK promote the purpose of recycling, recovering and reuse of products and components, thereby, intending to reduce the amount of electrical and electronic waste from being disposed off at landfill sites.

The WEEE logo on the box or on the product signifies the collection and the intent of recycling the product, as shown in the logo below.

For disposing of the electrical and electronic equipment, please contact your local waste disposal services for correct disposal.

Regulations on restriction of Hazardous substances

The product complies with the requirements of the restriction of the use of certain hazardous substances in electrical and electronic equipment regulation 2012.

European Union

Waste Electrical and Electronic Equipment

The directive of waster electrical and electronic equipment serves for the purpose of promoting the recycling, reuse and other means of recovery or restoration of such waste so as to reduce the disposal. The product or packaging of the product marked with the WEEE logo indicating the collection of electrical and electronic equipment has the logo as shown below.

 The symbol indicates to not dispose this product into the normal household waste. Instead, the product shall be disposed of properly at the designated collection points. For more information, please contact your local waste disposal services.

RoHS compliance

The product is in compliance with the RoHS directive 2011/65/EU where the restriction of use of hazardous substances has been adhered to.

If you have any questions or comments regarding our products, please contact us on

info@stellarlighting.co.uk

STELLAR LIGHTING
www.stellarlighting.co.uk

Stair light controller	Model number: ISL-32
Input voltage: 5-24 V DC	Output voltage: 5-24 V DC
Output current: 32 x 1 A	Output type: Constant voltage + SPI (TTL)
STELLAR LIGHTING www.stellarlighting.co.uk	Manufacturer: Stellar Lighting Ltd. (5 London Wall Buildings, London, EC2M 5NS, UK) Contact details: www.stellarlighting.co.uk/contact Made in China

UK CA   C E   FC   IC