



STELLAR LIGHTING

www.stellarlighting.co.uk

Intelligent Stair Lighting

Installation Guide





Intelligent stair lighting

These motion sensor-activated LED stair lights switch on automatically to light up your stairs when you reach the top or bottom step.

This Installation Guide will take you through the process of installing your intelligent stair lighting system.

This Guide covers:

- Contents of your set
- Safety notices
- Fitting profiles
- Installing motion sensors
- Testing your lights
- Installing the control unit
- Finishing steps





Intelligent stair lighting

Your set includes:

- Intelligent stair lighting touchpad control unit (SCR1 or SCR2)
- LED stair lighting strips with 1 m, two-core wire tails
- Aluminium profile and end caps for each light strip with diffuser
- Motion sensors (one with 5 m and one with 15 m three-core cable)
- Power supply unit
- DIN rail
- Timer (optional)

You will need:

- Screws suitable for your installation and stair lighting configuration
- Adhesive tape or glue to attach motion sensors
- 2 x 0.3 mm² or 2 x 0.75 mm² wire as required to extend the tails on the stair strips depending on your installation
- Two core flex of sufficient length to reach your mains supply
- Electrical connector blocks
- Suitable tools for all installation steps for your stair lighting configuration



Safety notice

DIY tips and safety advice

- Personal protective equipment. Make sure that you are equipped with suitable and sufficient personal protective equipment. This could include eye protection, face mask, protective overalls, safety footwear and gloves.
- Consider your safety! Think about the potential risks and dangers of the work and the steps you should take to avoid them.
- Ensure that the work area is sufficiently illuminated.
- Check that the tools you will be working with are in a good operating condition.

Electrical work safety advice and tips




- Ensure that a 220-240 V AC power source is available.
- An appropriate protective device e.g. fuse or miniature circuit breaker should be installed at the consumer unit. We recommend a 6 A type B MCB for this purpose. If the supply circuit to the stair lights is not dedicated, your electrician can advise on protection arrangements.
- Before undertaking any electrical connection work, ensure the circuit is isolated at the consumer unit by turning off the MCB and, if practicable, locking it in the OFF position. Working live can cause injury and can damage components of your Intelligent Stair Lighting.



Installation – fitting the profiles

Before starting the installation of your Intelligent Stair Lighting system please check the contents of the box to make sure all components are there and read these instructions in full. Before undertaking the permanent installation, we recommend connecting your Intelligent Stair Lighting set to prove its operation.

1. Decide on the location for your control unit and power supply. Both are designed to fit on a DIN rail (supplied) for ease of installation.
2. Attach the aluminium profile to the stairs, according to your chosen profile. Note that profiles can be cut shorter if necessary for your installation.

Recessed	Angled	Standard
		
This profile is designed to sit in a groove underneath the treads of an open staircase. Make a channel of the required depth and length using a router or other suitable tool.	This profile can be fitted underneath the bullnose of each stair or in the corner where the treads and risers meet.	This profile can be fitted underneath treads or to risers, depending on your particular installation requirements.
End cap adds 10 mm in length at the top and 9 mm on the under-side to each end of the profile	End cap adds 1.5 mm in length to each end of the profile	End cap adds 1.5 mm in length to each end of the profile

All profiles are fitted by removing the diffuser, drilling the aluminium at suitable points (depending on your installation site) and screwing the profile to the stairs.



Installation – motion sensors 1

3. Position the motion sensors at the top and bottom of the stairs so that the person entering the staircase crosses the beam. The height of the motion sensor can be chosen to suit the installation site. Low sensors are discreet; placing sensors higher allows pets to pass underneath the beam so that they do not activate the lights.

We recommend installing the motion sensors on the baluster side and directing the signal towards the wall. . The range of the motion sensors is 1 m – 1.3 m depending on factors such as temperature and humidity.

There are three types of sensor:



These recessed sensors come with a round back box that slides on to the sensor. Install the back box using screws and clip the sensors in place.



These sensors are small and light and should be stuck in place using double sided adhesive tape or glue.



These sensors are designed to fit within the baluster. They can be filled over as long as the hole in the centre remains uncovered so the beam can operate properly. Insert each sensor into a recess of the correct diameter and fix it securely using adhesive tape, glue, or an alternative method of your preference.



Installation – motion sensors 2

Sensors can be painted or covered in wallpaper as long as the beam is unrestricted.

Motion sensors are interchangeable so it doesn't matter which goes at the top and bottom of the stairs. We provide 5 m of cable for one sensor and 15 m of cable for the other, giving you flexibility on how you install your stair lights. These cables can be extended if required, by making an appropriate joint.

4. Once motion sensors have been fitted to the staircase, they should be connected to the control unit.

It is important to connect the top sensor to the terminals marked top and the bottom sensor to the terminals marked bottom.

- a. Decide whether you are connecting the top or the bottom motion sensor first.
- b. Note that motion sensors are supplied with tails of three-core cable, coloured red, black and green. For the first motion sensor, insert each core of the cable into the terminal of the corresponding colour (with due regard to which terminals are for the top sensor and which are for the bottom) and tighten the terminal screw to grip the wire securely.

This action must be performed whilst the unit is disconnected from the power supply.



Installation - testing

After connecting the first motion sensor, test it by temporarily connecting the power supply.

5. Using two core flex, connect the power supply unit to the control unit, matching the + and – terminals on both units.
 - a. Terminals on the control unit are located on the top left, labelled + and -
 - b. Terminals on the power supply unit are located on the top right, labelled V+ and V-. There are two sets of terminals; only one V+ and one V- should be used.
6. Connect the power supply unit to the mains, according to the diagram on the unit.
7. To test your installation, you need to connect one LED strip to the control unit. Note that LED strips are supplied with tails of two-core cable, coloured red and black. Please note that this instruction is different depending whether you have control unit SCR1 or SCR2.

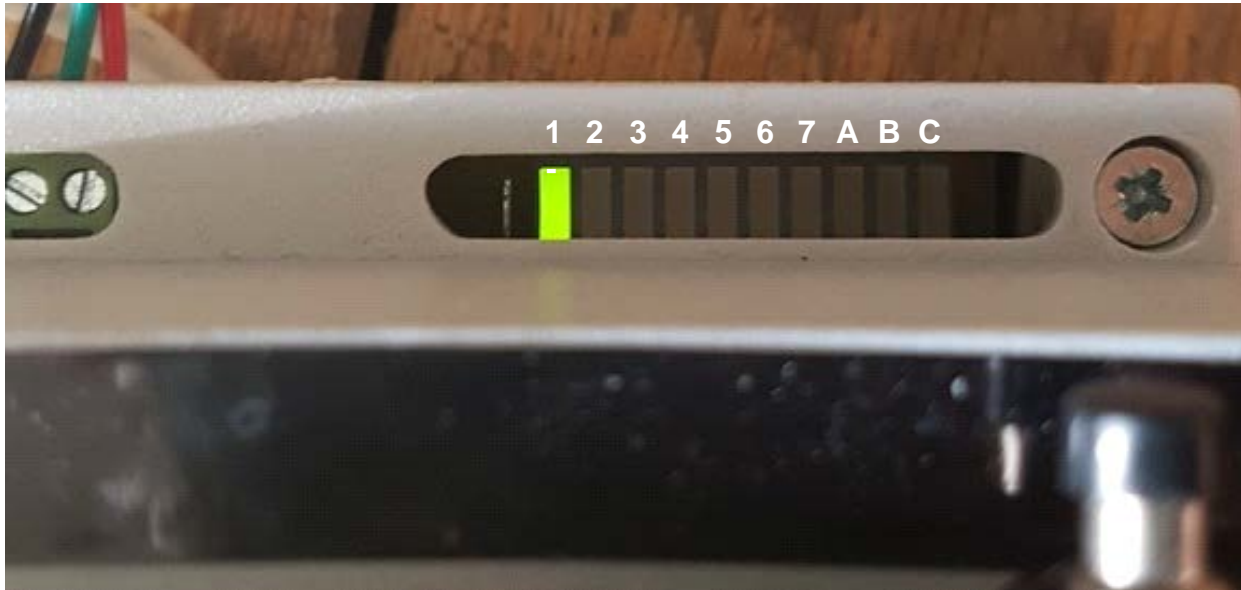
SCR1: Insert the black wire into one of the terminals at the bottom of the control unit marked “-” and tighten the screw to secure the wire. Insert the red wire into one of the terminals marked “+”

SCR2: Insert the black wire into the terminal at the bottom of the control unit marked “1” and tighten the screw to secure the wire. Insert the red wire into the terminal marked A and tighten the screw to secure the wire.



Installation – LED indicators

8. There are 10 LED indicators at the top of the controller.



The LED in position 1 indicates that the top motion sensor has been activated.

The LED in position 2 indicates that the lower motion sensor has been activated.

Check that the correct connection has been made by activating the motion sensor and checking that the correct LED lights.

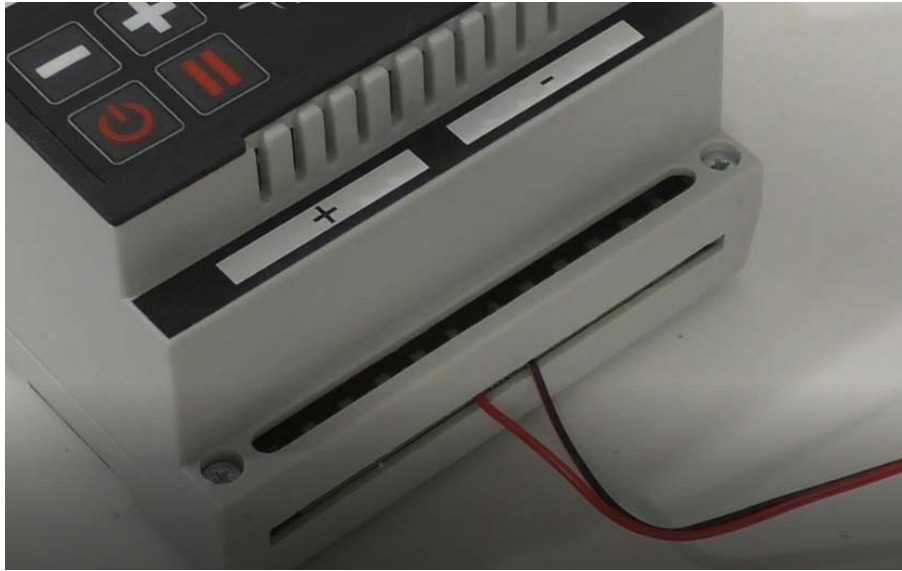
9. Disconnect the power supply.
10. Connect the second motion sensor in accordance with the colour indicators and the instructions in point 4.

NOTE: Instruction 11 is different for controller SCR1 and SCR2. Please follow the correct instruction for the controller you have bought.



Installation – Control Unit SCR 1

11. To connect the LED strips for your Intelligent Stair Lighting system, note that the control unit has terminals labelled + and -.



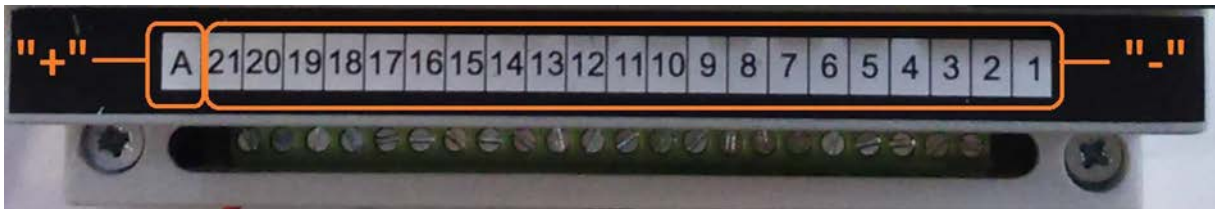
- a. If you wish to use the end caps supplied, ensure that both cores of wire for each strip pass through one of the end caps with holes in. Ensure the cap is the correct way round so that it can be inserted into the profile end.
- b. Insert the red wires from all steps into a connector block to create a common positive. Insert the black wires from all steps into a connector block to create a common negative.
- c. Insert the common negative into one of the terminals labelled – and tighten the screw to secure the wire in place. It does not matter which terminal you use.
- d. Insert the common positive into one of the terminals labelled + and tighten the screw to secure the wire in place. It does matter which terminal you use.

The tails supplied on each light may be extended as required for your particular installation, using 2 x 0.3 mm² or 2 x 0.75 mm² wire.



Installation – Control Unit SCR 2

11. To connect the LED strips for your Intelligent Stair Lighting system, note that there are terminals labelled 1-21. These terminals correspond to the order of the stairs. The terminal labelled A is a common positive for all stairs.



- a. If you wish to use the end caps supplied, ensure that both cores of wire for each strip pass through one of the end caps with holes in. Ensure the cap is the correct way round so that it can be inserted into the profile end.
- b. Insert the negative (black) wire for each strip into a different numbered terminal and secure the wire. If you have fewer than 21 stairs, you are advised to start at number 1 and use consecutive terminals. It is worth labelling your wires so you know which goes to which terminal. The wires supplied may be extended as required for your particular installation, using 2 x 0.3 mm² or 2 x 0.75 mm² wire.
- c. Create a common positive connection for all strips, using connector clips or via any other safe means. Insert the common positive into the terminal labelled A and tighten the screw to secure the wire.
- d. To set the correct number of steps for operation by your SCR2 control unit:
 - i) Push and hold the black button on the top of the control unit.
 - ii) Hold the PAUSE button and release the black button on the top of the unit.



Installation – Control Unit SCR 2

If the unit is operating correctly, the LEDs on the driver illuminate from left to right in turn. The unit is ready for the next instruction when the LEDs in positions A and B (see diagram below) are lit.

iii) The default number of steps for control unit SCR2 is 6. This is the minimum number of stairs that control unit SCR2 is designed to operate. To tell the control unit how many steps are connected, press the “+” button. Each press increases the number of steps by one. To decrease the number of steps, press the “-“ button. The LEDs in the array light to indicate how many steps will be controlled, according to the following pattern:

Number of steps	LED indicator position									
	1	2	3	4	5	6	7	A	B	C
1										█
2									█	
3									█	█
4								█		
5								█		█
6								█	█	
7								█	█	█
8							█			
9							█			█
10							█		█	
11							█		█	█
12							█	█		
13							█	█		█
14							█	█	█	
15							█	█	█	█
16						█				
17						█				█
18						█			█	
19						█			█	█
20						█		█		
21						█		█		█

iv) When you have set the correct number of steps, press “OK” to save.



Completing the installation

12. A suitable mains powered timer can be installed between the power supply and the mains. Please follow the installation instructions for your particular timer.
13. In the unlikely event that the processor in the controller enters a hanging state and no output is generated, the control unit can be reset.
 - a. press and hold the black button on the top of the control unit
 - b. press and hold buttons “+” and “-”
 - c. whilst holding these buttons, release the black button on the top of the unit.

The indicator LEDs (top right hand side of the control unit) will light one after another to show that the controller was reset correctly.

14. To complete the installation:
 - a. If necessary, cut LED strips to length.
N.B. only cut LED strips where indicated with the scissors (✂) symbol
 - b. Peel the backing from the adhesive strip on each LED strip in turn and stick them into the profiles, ensuring they are stuck firmly.
 - c. Replace the diffuser in each profile.
 - d. Fit end caps as required.

NOTES

Please do take care while working around the stairs by carrying the tasks out in a safe manner.

Electrical work should only be performed by trained and competent persons with sufficient skills and knowledge to avoid danger. If in any doubt, we recommend engaging the services of an approved electrician.

We do not take responsibility for any damage caused by improper installation.

Stair lights should only be installed on dry and smooth surfaces. Wet surfaces (including fresh paint) contain moisture that could short circuit the electrical connections.

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

info@stellarlighting.co.uk



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