



Non-Solar 12V Battery Powered Lighting System c/w Weatherproof Light & 18W x T8 Lamp (Easily up-graded to a full solar powered system at a later date)

IMPORTANT NOTICE: This 12V SELV (Safety Extra Low Voltage) battery powered lighting system does not fall within the scope of the Building Regulations and does not have to be installed by a formally competent person (i.e. Part 'P' qualified electrician).

Whilst a 12V SELV circuit is inherently safe, the circuit design and components used must be appropriate. A 12V car battery can hold a considerable electric charge and it is essential to use a suitably rated fuse in the circuit to provide protection in the event of a short circuit.

The IP54 rated weatherproof bulkhead luminaire is specially designed and constructed for use within a 12V DC SELV system and is fitted with a special lampholder to ensure that the polarity is correct for the lamps used. The low-energy CFL 12V lamps have an in-built electronic inverter circuit within them. For correct operation, it is essential that the positive (red) terminal is connected to the centre contact of the lamp base and the negative (black) terminal is connected to the outer shell of the lamp base. A standard 230V rated luminaire is unsuitable.

Because a 12V SELV circuit operates at such a low voltage, it is imperative to minimise voltage drop within the cable runs. For this reason we supply only weather resistant PVC sheathed, low profile, 2-core cable rated to 8.75Amps - 1mm² (2 x 14/0.3mm) to BS6862 part 1 with all of our 12V SELV lighting systems. The black outer sheath resists degradation if left outside in an exposed location. If you require longer cable runs we recommend that you purchase cable with larger conductors and rated 17.5 Amps - 2mm² (2 x 28/0.3mm) Red/Black internal in a black sheath to avoid excessive voltage drop.

Treat Car Batteries with Respect.

Be very careful when transporting charged batteries and connecting them up. Shorting the terminals of a car battery can be quite dangerous. Whilst a 12V circuit is inherently safe, it is worth noting that a car battery can hold enough electric charge to electrocute you many times over. The reason that it doesn't is your skin resistance. It takes about 48 volts to puncture the dry skin resistance of the human body and get current flowing in the conductive body fluids inside you. Even damp skin will not breakdown easily at low voltages. This is why you can handle the crocodile clips fitted to the cables that need to be connected to a car battery and usually not electrocute yourself. The voltage is too low to get the current inside your body where it can do damage. However, *we fit insulated crocodile clips* for additional safety.

How are batteries rated?

Most car batteries are rated in Ah capacity for a discharge rate of 20 hours. So, a 20 Ah battery should provide 1Amp of current for 20 hours before being fully discharged. A standard battery of 45 Ah will supply over 2Amps for 20 hours. After this, the battery will still show a voltage but will need a recharge.

A battery should not be discharged at a higher current draw, or asked to deliver more amps than its Ah rating divided by 10 in order to get maximum capacity out of the battery and to optimise battery life.

How long can I run my lights?

That depends upon a number of factors. Principally the Ah capacity of the battery and the current draw of the lamp.

If you have a 45 Ah battery in good condition and fully charged you could run the 9W lamp for about 40 and the 11W for about 50 hours.

A 100 Ah battery would similarly enable you to run for 100+ hours before you needed to re-charge the battery.

The Luminaire conforms to safety standard BS EN 60598-1: 2004 General Requirements



Technical Data:

Order Codes	: 8749
Lamp Type	: 18W T8
Operating voltage	: 12 V DC
Nominal consumption	: 1800mA
Light output	: 1100 Lumens
Ingress Protection	: IP 65 (dust tight and jetting water proof).

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