

Installation and Wiring Instructions for Low Voltage Halogen Lighting Transformers

Important Notice

A qualified electrician is required to install and make connections to the transformers and low-voltage light fittings. The following instructions should be read carefully before commencing installation. Failure to implement procedures below will invalidate the guarantee.

1. General

This low-voltage lighting transformer is toroidally wound with separate secondary windings, giving each lamp its own protected output. Each lamp is connected directly to the transformer, avoiding any need for junction boxes or fused splitters. Tests have shown that lamps powered by separate secondary windings have up to 35% longer life compared with lamps connected in parallel to a single secondary through splitter units.

All transformers are fitted with self resetting bi-metallic thermal cut-outs to break the mains supply if the temperature of the windings reaches 130°C. Input and output connections are via cables or terminal blocks. For safety, all transformers are encapsulated inside flame retardant housings using polyurethane resin.

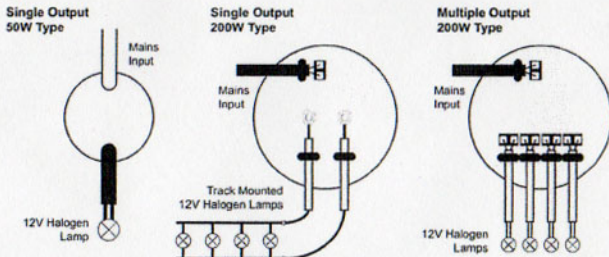
2. Cable Runs and Sizes

It should be noted that lower voltage means higher current. When making connections between low voltage lamps and transformers, the connecting cable should be larger than that used in 240V lighting circuits. Also, there is the possibility of voltage drop when connecting several lamps to the same cable. The table below helps you to work out the correct length and size of cable required to make a safe connection.

Lamp Watts	Cable Size		
	1.5mm ²	2.5mm ²	4.0mm ²
20	6.0m	10.0m	15.0m
50	3.0m	4.5m	6.0m
100	1.0m	2.5m	3.5m
150	-	1.5m	2.5m
200	-	1.0m	1.5m
300	-	-	1.0m

NOTE: Actual cable size and runs required to connect several lamps to the same output must be equal to or greater than the sum of the values specified in the table. Where possible, heat resistant or silicone covered cable should be used.

3. Typical Installations



4. Transformer Installation and Wiring

The following procedure is to be followed to ensure correct and safe installation of the transformer.

4.1 Ensure that the wattages of lamps to be run from the transformer do not exceed the rating of any one output or the total wattage exceed the total load rating of the transformer. Overloading the transformer can cause it to get hot. Underloading of 50W models can result in overvoltage to the lamps and reduced lamp life.

4.2 Work out the correct length and size of cable required from the table overleaf. For the 240V mains connection use at least 1.5mm² cable. Try to keep mains cables separated from low-voltage cables as much as possible.

4.3 Each output is protected by a polyswitch circuit breaker. Outputs should not be linked or looped as this will compromise the operation of these protection devices.

4.4 Switch off the mains supply. Mount the transformer in a suitable ventilated position as close as possible to the lamps. Make sure that ventilation is not obstructed by insulation materials e.g. fibre glass etc. It is recommended that the unit be mounted either upright or horizontally, not upside down.

4.5 Connect the live and neutral leads of the main cable to the terminal block marked "L" and "N" and tighten screws firmly. Do not over-tighten as this may damage the terminal block. Any earth lead should be trimmed back and insulated on units without earthing terminals. Cable clamp screws should be tightened to secure the mains cable.

4.6 Connect the low voltage cables to the 12V secondary sides of the transformer and fit the cable clamps. After checking that the connections are correct and secure, run the cables to the appropriate lamp fittings.

4.7 Make appropriate connections between the lamp holders and the cables and fit correct wattage bulb. Check that no cables come into contact with any bulbs. The surface temperature of the bulbs is extremely high and will burn the cable.

4.8 Switch on the mains and check, with a digital voltmeter, that each lamp has the correct operating voltage. Providing that all procedures have been followed, the voltage across each lamp should be 11.8V (deviation 0.4V depending on mains variation) and all voltages should be equal.

4.9 Screw down the wiring panel cover.

5. Further Important Notes

The use of Dimmer Control Switches with this range of transformers is possible, but **must be of an inductive type**.

The outputs of the transformer must not be linked, looped or earthed in any way as this will permanently damage the unit.

Generally wirewound transformers have a higher switch on surge current, which could trip the miniature circuit breaker (MCB), in normal operation. Type 4 or motor rated MCB's should be used in such situations. Do not increase the current rating of the MCB to overcome tripping.

6. Guarantee

Providing the above installation procedures have been strictly followed, all transformers are guaranteed against any faulty materials, parts or workmanship and will be repaired or replaced, free of charge.

The supplier will not accept responsibility for any damage or loss incurred from the use of the products as such usage is beyond the control of the company.

The above guarantee will not affect the statutory rights of the customer