

Electrical installation:

Installation should only be carried out by a qualified electrician

This guide specifically does not describe any mains voltage connections

Caution - LEDs are delicate. Handle with care. Do not make a tight radius or crease the LED strip.

Note: Full lifetime for the LED strip is achieved when thermal pathway between strip and extrusion heat sink is preserved.

Formula for driver selection (add 10%): **Watts per meter x Length x 1.1 = Minimum driver size**

Avoid using drivers excessively large for the load as drivers are usually more efficient closer to their max rating.

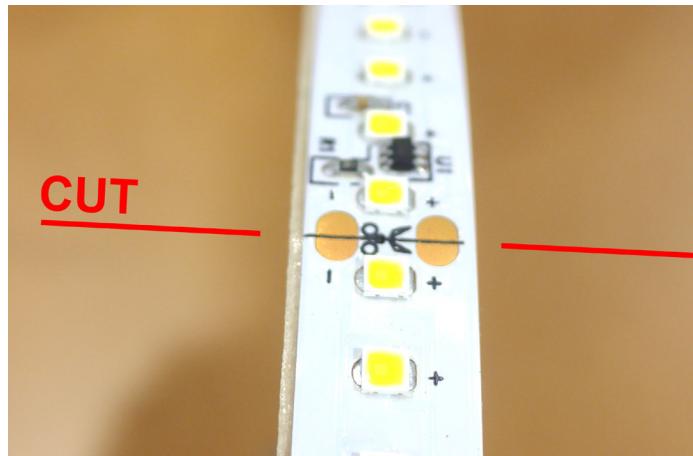
Use non-dimming drivers for colour change solutions and any secondary dimming solutions.

Phase dimming drivers are suitable for single-colour LED tapes only.

IP65 weatherproof strips should not be exposed to direct sunlight. Use under cover. Warranty does not apply if cut on site.

Procedure for wiring LED strip tapes:

1) Determine the required length by laying the LED tape out into the extrusion without removing the adhesive backing. Look for the scissor marks that clearly dictate where it is possible to cut the LED strip. Sharp scissors must be used to prevent a potential deformation and short circuit when cutting.



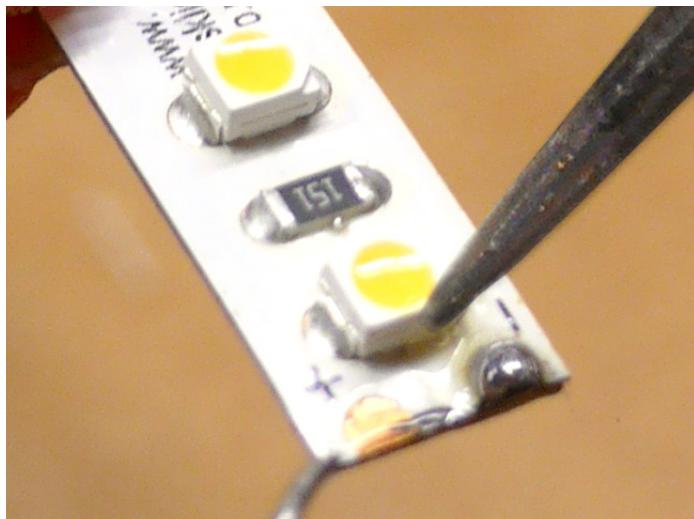
To do this strip the cable around 10mm. Twist the bare strands and tin these with solder separately. This is 'pre-tinning' which makes the joint easier and more reliable to establish. Cut off and discard around 8mm, leaving the desired 2mm length remaining. See image below:



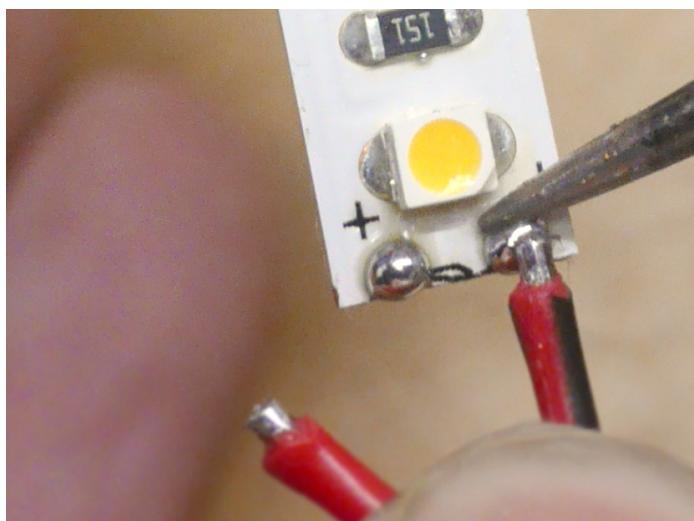
2) If a wiring tail is not present on the strip, you must solder one on now before continuing. A soldering iron 30-50W should be used. Any less or more* will make the process overly difficult. The goal is to have about 2mm of cable tinned with solder.

*Typical soldering temperature is 260°C. Attempting to tin just 2 mm of exposed wire strands at a time is not recommended as the heat of the soldering iron causes the insulation to burn and expose more wire.

Similarly pre-tin the solder pads on the flexible strip:



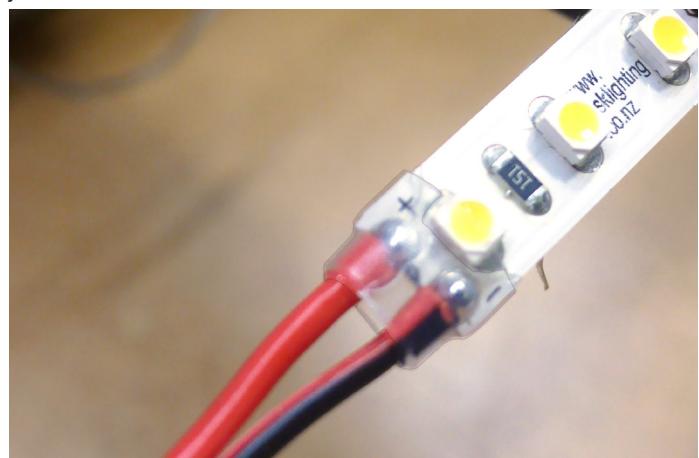
Attach the red wire to the (+) pad and the black wire to the (-) pad. Very little extra solder should be required to fuse the two pre-tinned items together. Once soldered, the joints should be bright and glossy. If grey and dull the solder joint is too cold more heat is required:



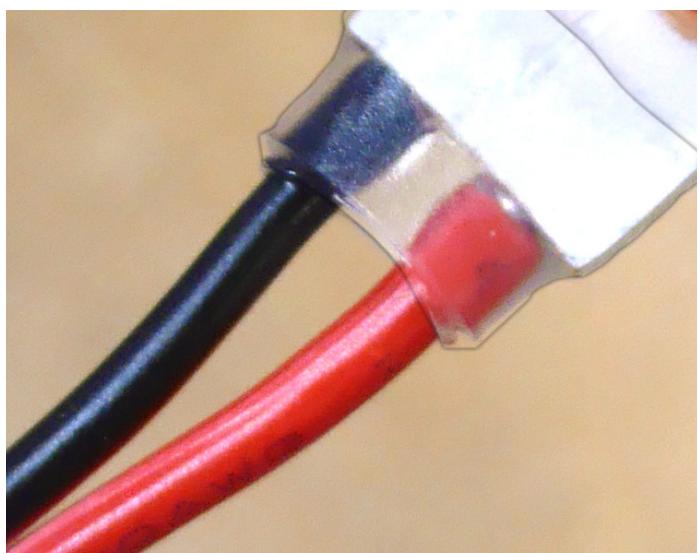
Micro strip in particular will be a close fit when finished:



3) Place a length of heat-shrink over the newly formed wiring joint. The purpose is to add some mechanical stiffness to the joint and further insulate it.



Check the reverse side too - in particular that there is no excess solder showing here which could cause a short circuit with the chassis:

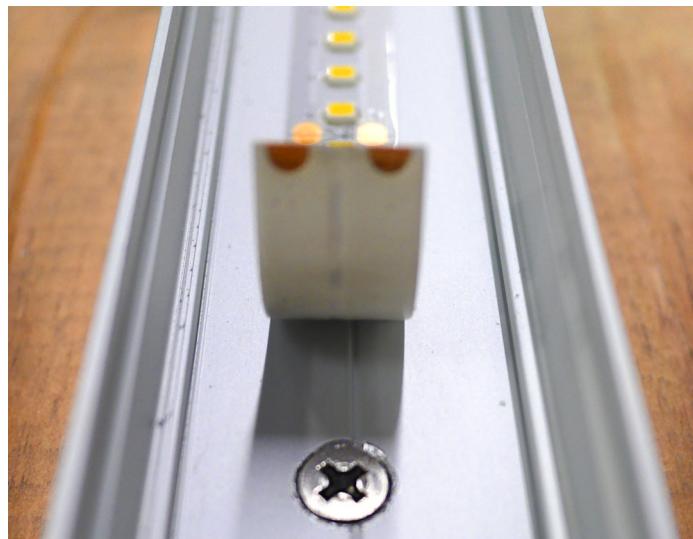


You should ideally now test this connection. With the driver OFF, connect the wires to the driver output. Ensure you have the polarity correct or permanent damage will occur. Turn on the driver.

Warning - connecting the LEDs to an already energised driver may cause invisible but permanent LED damage. If inadvertently energised, disconnect the driver input power and then short the secondary output momentarily, before resuming the procedure above.

4) All fasteners must be countersunk below the level of the extrusion heatsink. See image below:

Place the tail through the hole in the end cap. Decide how far from the furthest end you want to finish up. If tension is applied you may find the tape is now slightly longer than when you began. Be aware of this possibility. Beginning at the cable joint, peel away the backing film in manageable sections, usually about 300mm at a time. Just pull the backing away and to one side. Press the tape down gently and guide the tape centrally along the centreline of extrusion at the same time. Do not attempt to peel and re-stick the tape or accelerated LED failure will likely result. Do not apply excessive pressure to the LEDs themselves. Avoid any LEDs not being able to contact with the extrusion. If fasteners need to be countersunk more then stop and carry this out.



5) With the tape now laid in place you can fit the diffuser and make the permanent wiring arrangements.

6) Where wiring exits any metal part of the luminaire it must be double insulated. This can be either with heat-shrink tubing, or preferably with a wiring grommet.

In the image below a wiring grommet cushions and closes the cable entry. Wiring grommets will need to be sized appropriately for the cable being used, and the thickness of the extrusion they pass through:



7) IP65 weatherproof strips are primarily available in two sizes. fig 3. depicts the additional area taken up but the weatherproofing end-cap.

Note that these are not covered by warranty unless terminated to IP65 by Task Lighting.

Furthermore be aware that the weatherproof terminations are wider than the strip. This needs to be accounted for when selecting appropriate extrusion profiles.

fig 3. IP65 strip dimensions

