
HOW TO NOTES

Helpful hints to get the most out of your ELF

Connecting low voltage Christmas lights to an ELF

INTRODUCTION

You've got an ELF (Electronic Light Flasher) to help you make a truly spectacular light display. But how do you connect your lights to the ELF? It's simple. This "How To" note will take you through step by step on how to do it. It will even give you tips on how to make connecting them up next year a whole lot easier.

THE ELF

Each ELF can control up to eight different strands of lights. Each strand of lights connects to a plug. Each plug connects into a channel. Before the strands of lights can plug into the ELF controller box, the wiring needs to be modified. That's what you are about to be shown.

WHICH CHRISTMAS LIGHTS?

Christmas lights come in all sorts of shapes and sizes. There are different numbers of lights in the strings. There are ones that plug directly in the mains power. There are ones that plug into transformers. There are 24V ~ 35W ones. There are 35V ~ 50 W ones. It all sounds a bit confusing. Don't worry. All you need to know is that the ELF will work with any low voltage set of Christmas lights. They're the ones that come with a transformer. The transformers drop the dangerous high voltage that comes from the wall socket down to a safe voltage.

TIP: When choosing Christmas lights, choose a type that has a short length of power cord between the transformer and the wall plug, rather than the type where the transformer plugs directly into the socket. This way one can plug each set into a power board side by side. Transformers that plug directly into the socket take up more room than the standard plug and one will not get two transformers to plug in next to each other.

NOTE: The ELF requires you to cut one of the wire on the Christmas Light strand. This may void the manufacturer's warranty.

Disclaimer: We accept no liability for any damage whether directly or indirectly associated with, or attributed to anything written or contained herein.

CONNECTING THE LIGHTS

The Christmas lights will have to be slightly modified to connect them to the ELF. It is a safe and simply task. Just follow the steps below.

First, a gentle reminder. Even though the ELF only works with the safe low voltage side of the transformer, never have the lights on when you doing the following. In fact, the safest thing to do is to remove the plug from the socket. That way there is no chance of them being accidentally turned on.

WARNING: DO NOT have the lights plugged into the 240V mains when cutting wires.

In the picture below is a typical set of low voltage Christmas lights (generally they will have more than 4 lights). On one side of the transformer is the power lead to connect to the mains. On the other side of the transformer is a twin strand (2 wires) that goes off to each of the lights. It is this side that you will be working with.

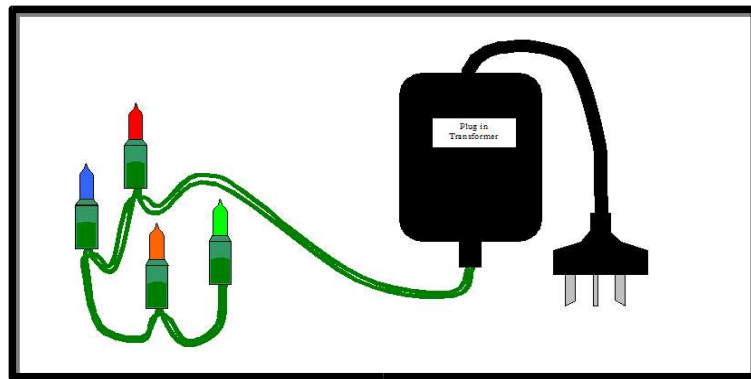


Figure 1

First you need to work out how far your ELF will be from the transformer. Remember that you can have up to 8 sets of lights and, therefore, eight transformers nearby. We recommend that you will need up to 80 cm. This is where you will need to connect the plug to the strand of lights.

At this point, separate the wires from one another. This is shown in figure 2.

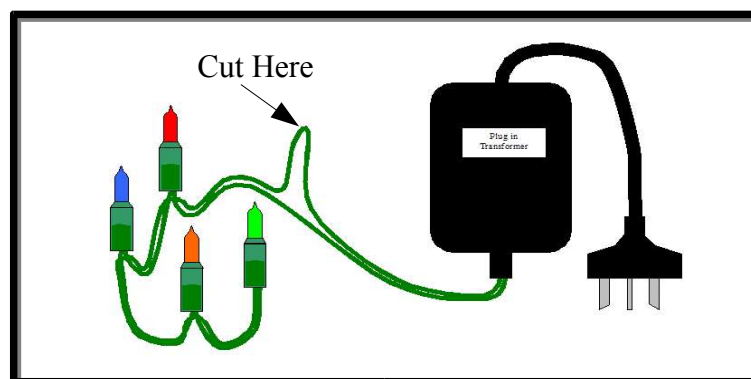


Figure 2

Now that you have separated the wires, you will need to cut one of them. It does not matter which one, just make sure you only cut one of them.

You should have two ends – one wire + one cut = two ends.

Find one of the connectors that came with you ELF. They should look like the picture below.

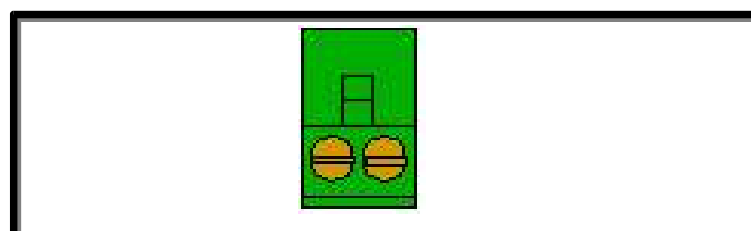


Figure 3

Now, your two ends of the cable need to be put into the connector plug. Before this happens, you need to remove some of the plastic insulation from the end. Strip off about 5 mm as shown in figure 4(a). Once you take off the insulation, twist the wires together. If you have access to a solder iron, you can use solder to keep them all together.

Next, poke the wires into the plug and then use a screw driver to tighten the screw.

NOTE: Insert the wire that is still connected to the transformer into the left side of one of the connectors supplied with the ELF

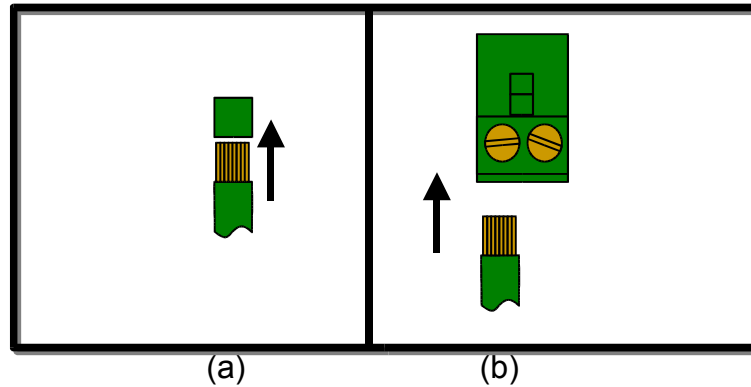


Figure 4

When you have wired them in, it should look something like figure 5.

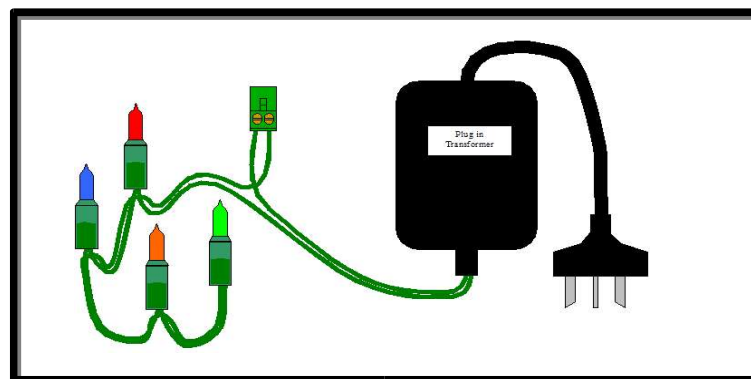


Figure 5

With all that done, you can now plug the connector into the ELF. When it has been programmed, turn on the power to the lights and you should be set for the most spectacular light display in the street.

That was easy, wasn't it!!!

...oooOOOooo...

TIP: Make tags out of old plastic ice-cream containers to put on the transformer leads and the strings of lights. Cut a rectangle 3cm by 7 cm. Use a hole punch to make a hole for the lead to go through at one end. Cut a slit from the edge of the tag to the hole so that you can get the lead in. Then staple the slit to stop the tag from falling off. Write the channel number and location in the display on the tag. This way you will always know which lights and transformers go together, which lights go where in the display and which channels they should be connected to on the ELF.