Christmas mains light chains

By G8MNY  
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(8 Bit ASCII graphics use code page 437 or 850)
If you are having problems with those plug/screw in Christmas fairy lights after getting them out from last year here are some tips.

FINDING DUD LAMPS
Use a DIY metal/mains detector to show the mains field along a chain of lamps.

![Detector Diagram]

Provided it is wired correctly & the live wire goes to the first safety lamp, then the detector will file when the LIVE electric field disappears at a dud lamp.

SHORTED LAMPS
Normal chain lamps have shorting link around the oxidised internal lamp wires, if the lamp sees too high a voltage such as when the filament blows the oxide layer breaks down the link welds the lamp short. If too many lamps go short the whole chain will blow in a few seconds, that is why you must have a fuse lamp!

SAFETY FUSE LAMPS
As shown above the 1st lamp in the live circuit should be a fuse bulb. These do not have the shorting link, & they also have a thinner longer filament. They are identified with a white frosting on them.

LAMP VOLTAGE
When swapping/changing lamps it is important to get the same current & voltage lamp. This is easily worked out by counting the number of lamps in the chain & dividing the supply volts by that. Often 20, 30 or 40 lamp sets are standard, giving 6, 9 or 12V for 240V mains.

LIFETIME
Lamps run properly will last a long time (500 hours), for longer life, if you can use more lamps than standard eg. a 22 chain set instead of 20, may last twice as long but 20% dimmer.

SAFETY
Do not put these light chains near metal objects like tinsel or metallised Christmas trees as there is always a chance that bare wire contact can be made.

Also note lamps do get quite hot & any material used nearby must be flame proof!

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