

## **Why You Need To Change Your 50W Halogen Downlights?**

### **Halogen Downlights In Some Homes Can Contribute To Over 30% Of The Electricity Bill!**

Halogen downlights and their replacements operate on either 240 volts or 12 volts. Many householders were led to believe that halogen downlights operating on 12 volts were cheap to operate. The opposite is the case though!

The 12 volt version is more common in homes at this time and is the most energy inefficient! This report will therefore focus on the 12 volt halogen downlight and it's replacement options.

All halogen downlights are installed directly into the ceiling. A halogen downlight consists of a 50 watt globe powered by a transformer, which further uses around 10 watts. So each halogen downlight uses about 60 watts of power in total!

Halogen downlights contribute significantly to your electricity bill. In the past a 60, 75 or 100 watt incandescent globe was used to provide light for a standard room. Now we are using at least 4 halogen downlights to light the same room, which equates to 240 watts!

Halogen downlights are the epitome of modern interior design. They are extremely in-efficient and can also be a fire risk.

Halogens create heat and as a by-product create light. Halogens can get up to 370 C and pose a significant fire risk. Especially if there is insulation on top of the fitting or too close. Halogens are a common cause of household fires.

Simply replacing your halogens can reduce your fire risk, reduce your electricity bill and carbon footprint.

There are easy solutions to replacing halogens and saving money!

A mixture of energy efficient downlight replacements, can be used in conjunction with each other, to provide optimum light levels and energy/carbon reduction. For example, you could use LED downlights in areas where lighting is used most frequently e.g. kitchen, CFL downlights in hallways and efficient halogens in bedrooms.

### **Energy Efficient Halogens – 12 Volt**

There are energy efficient halogens which fit straight into your current halogen fittings (12v MR16 fitting), they are easy to install. The lower the wattage means the more efficient the halogen is and less heat it produces.

- **20w 36 Degree Energy Efficient Halogen:** An easy drop in replacement to 50w halogens. Provide around 80% of the light output while only using 40% of the energy. With a narrower beam these are ideal for areas where direct light is needed i.e. bathroom sink. These are the most cost effective halogen replacements. Estimated price \$11.00

## **Aussie Home Energy** – *Helping You Monitor Reduce & Save On Electricity Costs*

- **20w 60 Degree Energy Efficient Halogen:** An easy drop in replacement to 50w halogens. Provide around 80% of the light output while only using 40% of the energy. Having a 60 degree beam angle they are suitable for areas where more dispersed light is needed i.e. lounge room. Estimated price \$11.00
- **35w 60 Degree Super Efficient Halogen:** Provide 1:1 light as a 50w halogen while saving you 30% on your lighting bill. These are ideal if a substantial amount of light is needed. Estimated price \$15.00

### **LED Down Lights – 12 Volt**

LED downlights are extremely energy efficient and use long lasting LED's. LED downlights create less heat than traditional lights, which means they last longer (up to 50 times longer). LED downlights are a relatively new technology and can help you save up to 90% on your lighting cost.

- **6w StarLux LED Downlight:** The StarLux LED Down Light is the brightest LED halogen downlight replacement. It fits straight into your current fittings but only uses about 10% of the energy and heat output, which means you save around 90% on your lighting bill. Estimated price \$60.00
- **6.5w Galaxy LED Downlight:** The most powerful LED halogen replacement is suitable for all lighting applications. This top of the range LED is perfect for replacing halogens all round the house and lasts for an amazing 50,000 hours. Estimated price \$80.00
- **5w Zeon LED Downlight:** Simple to install and provides around 75-80% of the light from a 50w halogen while saving you 90% on your lighting bill. The Zeon is a great alternative for where more dispersed light is needed i.e. lounge room.
- **5w Nova LED Downlight:** The Nova 5w LED Down Light is perfect for areas where direct light is needed. The 12v MR16 Nova's direct beam provides ample lighting for kitchen bench tops, bathroom sinks and desks. Estimated price \$60.00

We are currently testing many cheaper forms of LED lights. Further information can be found on our GUIDES web page.

### **Energy Efficient Transformers**

All 12v halogen downlights need a transformer. A traditional transformer can use between 10 – 15 watts. There are energy efficient alternatives available:

- **Possam Transformer:** This transformer only uses 4 watts as opposed to 10 – 15 watts from traditional transformers and is suitable for energy efficient halogens and their replacements.
- **Redback Transformer:** Ideal for LED lighting, this transformer only uses 2 watts and can handle up to 8 LED downlights per transformer.

### **Compact Fluorescent (CFL) Downlights - 240 Volt**

CFL downlights are a great halogen alternative. They use significantly less energy and create less carbon emissions. CFL downlights create the same warm white glow as halogens and can provide 1:1 light. CFLs generally take about 1 minute to get to full brightness and have a wider beam angle than halogens.

**CFL downlights generally use 240v GU10 fittings. Meaning you will have to replace your fittings:**

- **11w Low Energy CFL Downlight:** By replacing your halogens with 240V you save energy as you do not have to use a transformer. The 11w CFL downlight gives 1:1 lighting but provides a wider beam angle. The light saves you around 80% on your lighting bill.
- **11w Low Energy Dimmable CFL Downlight:** The 11w CFL Dimmable downlight gives 1:1 lighting but provides a wider beam angle. The light is also dimmable via smooth dimming making it suitable for living areas where variable light is needed. The light saves you around 80% on your lighting bill.
- **9w Low Energy CFL Downlight:** The 9w Compact Fluorescent Down Light uses less than 18% of the energy of a halogen downlight while giving you around 85-90% of the light output. Lasting for 15,000 this light is suitable for most rooms around the house, where lower levels of light is needed e.g. hallways.
- **240v GU10 Downlight Converter:** This kit allows you to replace your 12v lighting with 240v lighting. You do not need to use a transformer.

Estimated price for GU10 fitting with CFL globe \$15.00

### **LED Downlights - 240 Volt**

Similar to the energy efficient torches, these globes are an array of LED's. Typically they are rated at 1 to 6 watts.

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### **Halogen Downlight Covers**

By giving halogens space to dissipate heat, the risk of fire reduces significantly. Downlight covers can be easily installed and are relatively cheap. LED lights do not get hot!