



Positioning the infrared heating panels is key!

If you have purchased or are about to purchase infrared heaters, then understanding the positioning of the panels becomes quite key to make the most out of heat energy emitted. The panels sold in our energy efficiency shop are designed for domestic and office premises, but making sure they are positioned correctly is the key to getting the most out of them.

Infrared heating panels don't operate like conventional convection heating where the air is warmed. Instead the panels emit far-infrared radiation, which travels unimpeded until it hits a solid object, which will in turn absorb the infrared and then heat up. Do not mistake infrared with harmful UV light, which is on the other side of the light spectrum – infrared is 100% safe. In fact it actually has proven medicinal benefits!

Somewhat similarly to light though, if the infrared radiation is impeded before it reaches its destination, then the object will not warm up.

As a result, to get the most out of the heating panel it should ideally be fitted in the center of the room, or if you have a larger area and are getting a number of panels, then they should be evenly distributed in that space. The panels should be above seating areas so as not to have shadowing, which is why positioning on the ceilings is by far the most popular.

The distribution of infrared heater rays

When the panel is positioned on the wall or ceiling, the infrared radiation will travel at 45° angles in all directions, hence the distribution area. If they are too close to a wall then you will actually be warming a small concentrated area, which is not ideal since you will be wasting potential useful heat. For this reason it is paramount that you don't position the panels too close to the walls; rather 'center' them as much as possible.

300watt and 350watt panels should be at least 0.5m (1.5 feet) or more from the floor – and the larger panels (basically anything over 600watts) should be at least 1.5m (5 feet) away. When the panels are on they will beam the infrared radiation up to 3m(10 feet). If you have higher ceilings, please give us a ring and we can discuss appropriate models to use in this instance.

If you install the panels on the walls, for example if you are targeting specific cold or damp areas, then you should still try and position them as high as possible. Positioning them too low will almost certainly result in objects blocking the infrared, which will limit their heating.

For the smaller panels we recommend having them at least 1.0m (over 3 feet) and for the bigger panel this to be positioned 2.0m (6 to 7 feet) high. Like your radiators, the surface temperature of the panels gets to about 80°C, so do not touch or have objects too close to them.

Actual installation process

We recommend hardwiring them into an electric circuit where possible. This allows you to use a proper switch (like a light switch) to turn them on. We strongly recommend a professional installation and having the panels 'hard wired' into your electrical system by a Part P qualified electrician.

When the panels are plugged in, they take about 90 seconds to get up to full heat intensity and since you don't need to wait for the air to get warm, you should feel their effect very quickly. To stop the panels from overheating, they will modulate and come on and off as required, however we recommend having them installed with some form of thermostatic control to ensure the room doesn't get too warm. The most basic option is a timer plug adapter, however we recommend going for a proper thermostat and programmer unit if you have the funds available.

In terms of the installations themselves we anticipate that most customers will seek the advice and expertise of a Part P qualified electrician who will hardwire the units to a thermostat and the property circuit board. You can find out whether your electrician is Part P qualified by looking up their details on the Competent Person Register.

The infrared panels will invariably come with a frame on the back, which allows you to easily attach them to the wall. This does mean that the panels will sit about 1-2 cm off the wall.

Although the panels radiate heat from their front surface (which will get warm), the reflector technology will ensure that there is no heat being emitted out of the back. The fact they are sitting away from the wall also helps in this respect.

Most of the panels that are sold should be supplied with screws and fixings to get the panels attached to the wall or roof. We do recommend getting an electrician to fix them in position though, and hardwire them into your mains electricity rather than simply run through an existing plug socket.

The installation is carried out as follows:

Mark and drill the four holes, insert wall plugs and screws with eye bolts supplied, these ensure about 0.5cm spacing from the ceiling;

Tighten screws and insert the screws into the mounting profile on the reverse of panel.

Then when connecting to the wireless thermostat:

Connect a permanent 240 volt mains supply to terminals L and N in the receiver,

Connect the infrared panel neutral (blue) wire to the neutral (N) terminal in the receiver,

Connect the infrared panel live (brown) wire to the normally open (NO) terminal in the receiver,

Connect a permanent link wire between live (L) and common (C) terminals in the receiver

This will ensure that when the receiver switches the power on it will reach the panel. Please note – switch contacts alone are volt-free and will not therefore supply power directly to the panel.

Installing infrared panels in the bathroom

The infrared panels are either IP45 or IP54 rated, which means they can also be used in bathrooms. It is worth bearing in mind that building regulations state that any electrical bathroom installations should be undertaken by a Part P qualified electrician, who in turn will complete a BS7671 installation certificate.

The pull switch or programmer needs to sit outside the bathroom. In terms of placement the unit needs to be at least 0.6m (2 feet) from a shower or a bath. In addition if you are placing it above a washbasin, please ensure it is at least 13cm away. Again, your electrician should be able to advise and action as appropriate.

Benefits

Having your panels installed by a Part P qualified electrician will ensure that any potential risks are minimized.

Limitations

‘Shadowing’ – if there are objects inhibiting the movement of infrared rays across the room they may not work as effectively.

The room comfort will also depend on how well insulated your property is. The poorer the insulation, the more the panels have to work and the less comfortable you may feel as the property is naturally draughty.