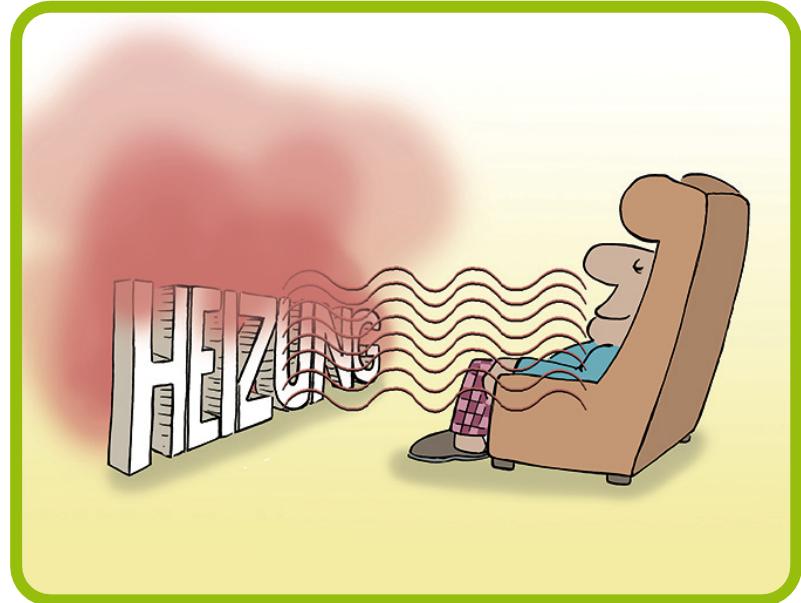


Infrared radiant heating

One thing right at the start: If you don't have to use electricity to heat your place, don't do so! Electricity is about three to four times more expensive than gas or district heating. When you move to another place: Consider that a flat that only has electric heaters will usually cause high energy bills. The following advice concerning the so-called infrared heating systems are for those who do not have a choice but to use electricity to warm up their home.

Two kinds of heat

Radiators heat rooms in two different ways: They radiate heat rays (hence the name) and they warm up the air. People appreciate radiant heat in particular. If our body is exposed only to a small amount of heat rays and gets warmed mainly by the air surrounding us, we need higher temperatures to feel comfortable. We know this from the sun. Even on a winter day it may feel warm outside as long as one stands in the sun. When clouds appear or if one steps into the shade it feels cold – although the temperature of the air is the same! Some heating systems take advantage of this effect.



What does that mean for heating with electricity?

Heat rays warm us directly as well as the furniture and the walls of the flat. If a heater emits a lot of heat rays and puts less energy into heating up the air, it has to work less until we feel comfortable. This means the heater needs less electricity!



Electrical heaters that are constructed to heat up air primarily and therefore need relatively much electricity.

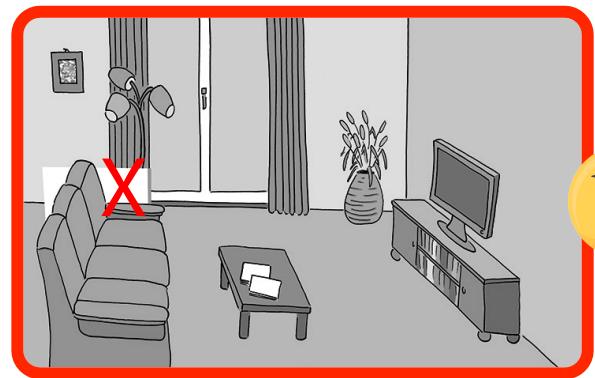
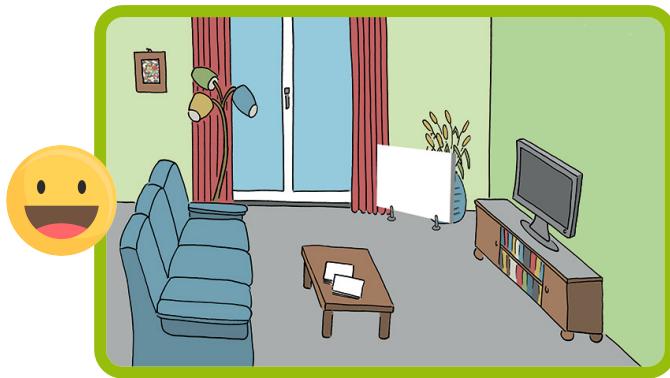
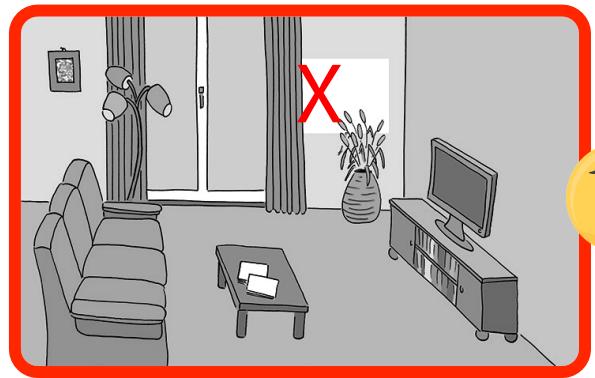
Infrared radiant panels

Big, flat surfaces are required to radiate a lot of heat. So-called **infrared heating panels** are designed accordingly. Infrared radiation is (broadly speaking) the scientific name for heat radiation.

Infrared panels are *direct electric heaters*. This means, electricity is used to heat up the radiator (panel). These panels release the heat into the room – mainly as radiation, less as warm air.



Infrared panels should be placed so that they can radiate the heat directly and far into the room.



Use a thermostat!

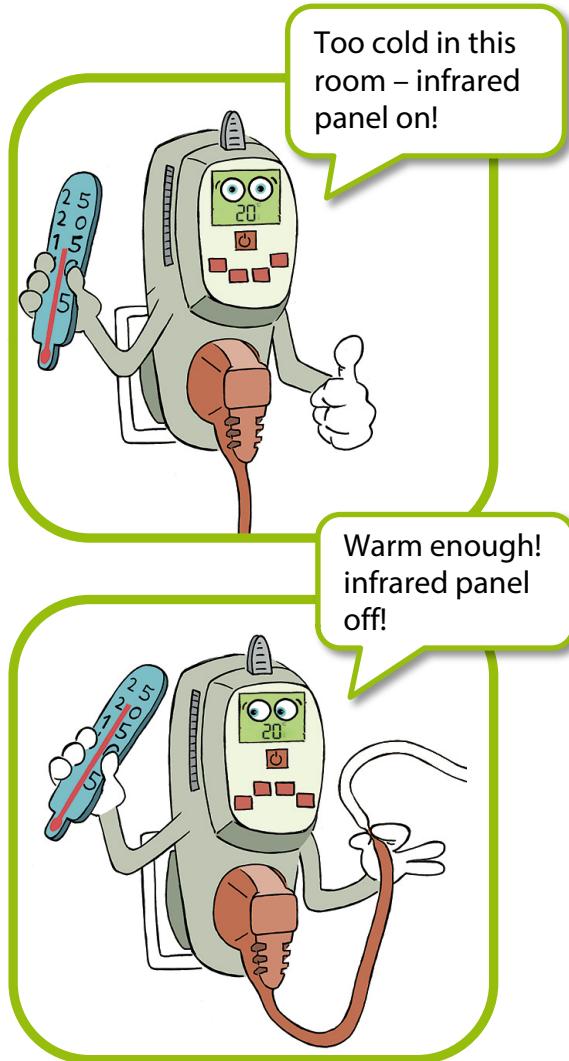
If an infrared panel is connected directly to the socket it runs without interruption and uses a lot of electricity. A thermostat avoids this. A thermostat is a small device which allows you to set the temperature that you desire for your room. It will then check all the time if this temperature has already been reached and allow the panel to run only if this is not yet the case.

If you set, for example, 20°C as your desired temperature, the panel will only heat whilst you have still less than 20°C. If it has emitted enough heat (but also if neighbouring flats, the cooker, people in the room, etc. have warmed up the place), the panel will remain off and use no electricity.

The thermostat switches the infrared panel on and off to retain the temperature you set. Hence you have to enter the temperature you desire only once – the rest happens automatically.

Use the heater economically!

Use the lowest temperature you still feel comfortable with. Of course, you should not feel cold but try whether 19°C or 20°C suffice during the day and reduce the temperature to 17°C or 18°C in the night. It usually pays to wear a warm sweater because energy bills with electric heating systems are usually expensive – and this includes infrared systems although they are the most efficient of these!

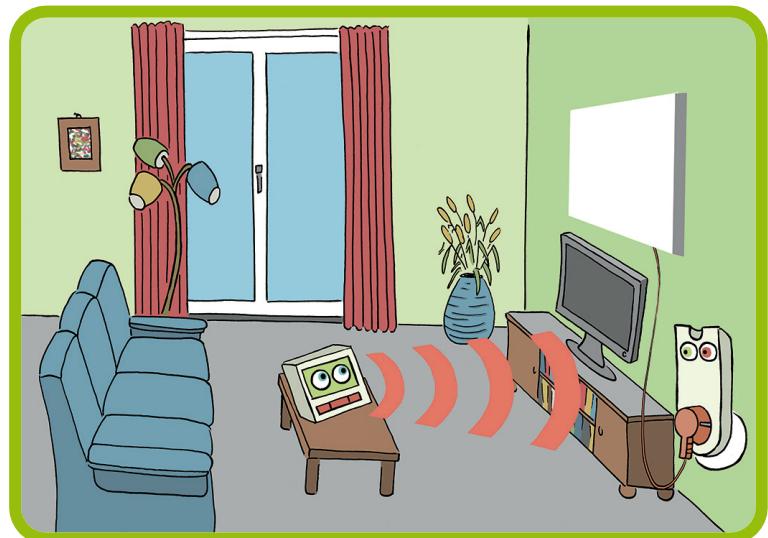


Additional information on infrared radiant heaters

Permanently installed and mobile thermostates

The jack of the infrared panel is usually not plugged into the socket directly but into a small device that is connected to socket. This device is either the entire thermostat or the receiver of a remote-controlled thermostat.

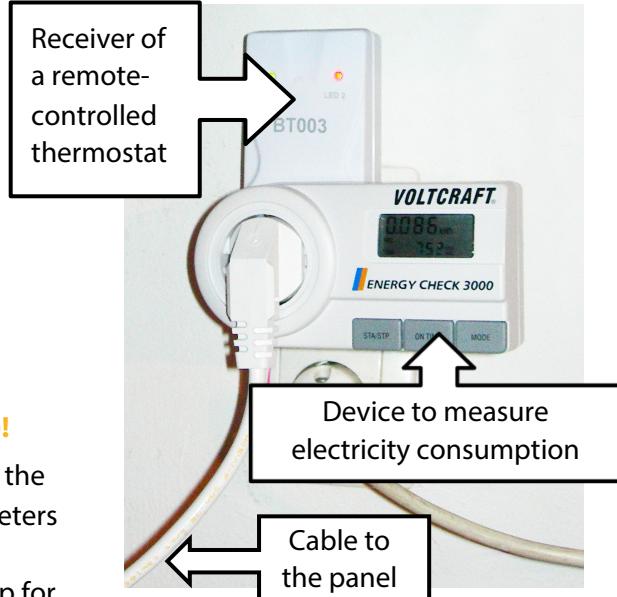
- If you can set the desired temperature on the device directly, it is the whole thermostat.
- If there is only a small light, it is the receiver of a remote-controlled unit.



It belongs to a transmitter on which you set your desired temperature. You should place this transmitter where this temperature is to be guaranteed. A room has hardly the exact same temperature everywhere. Therefore it is useful if you can determine your temperature at your favourite place (e.g. the sofa corner)

Caution!

- Remote-controlled thermostats should **never be placed on a window sill or in any other cool spot; neither should they be put into or on top of a cupboard or in another room!**
- **Avoid that children play with thermostats!**
- The mobile part of the thermostat has batteries that have to be replaced sometimes.



Use a device to measure electricity consumption (power meter)!

It is recommendable to put a power meter between the socket and the infrared panel. This is also possible if a thermostat is used. Power meters are not expensive and allow to be set so that you can observe how much money the panel's operation costs you. Ask at an electric shop for such a device! The staff there can also adjust it for you.

Buying infrared panels

Before you buy an infrared panel, inform yourself well about the technology and the quality. Search the Internet for several reviews using search terms such as "infrared heating test" or "infrared radiant panels review". The quality of cheap panels is often problematic. Buy at specialist retailers – not online! The sales assistant should ask you several questions regarding the size of your room and the type of house you live in to recommend suitable panels. If s/he does not do this, the advice is not good!