kamstrup

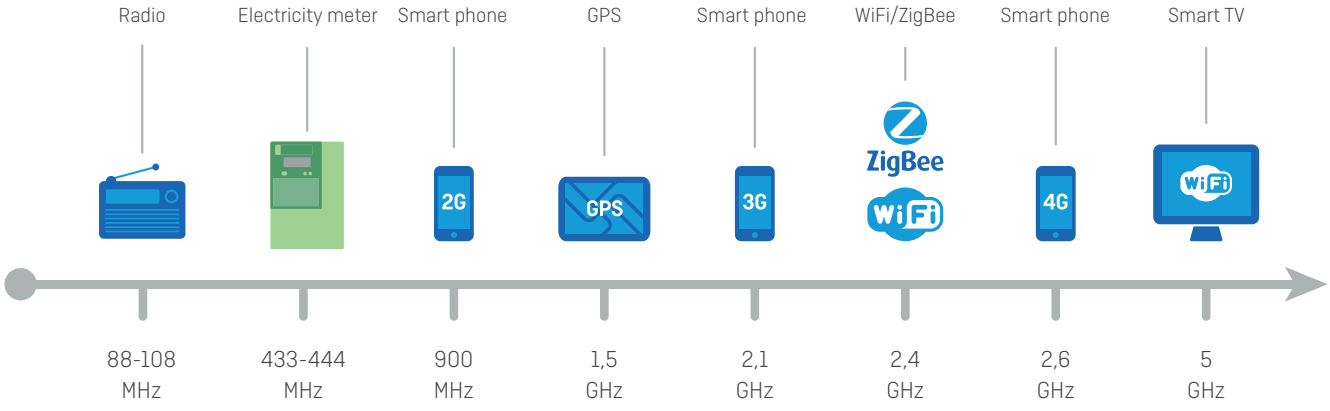
Facts about remote reading via radio communication

Electricity meters (Kamstrup OMNIPOWER®)

When the electricity meter on your address is remotely read, it sends your consumption data to the utility via radio communication.

What is radio communication?

Radio communication is a wireless communication type using electromagnetic waves (radio waves). This type covers the frequency area from approx. 3 kHz to 300 GHz. Kamstrup's electricity meter communicates on a frequency in the 433-444 MHz area.



The electricity meter is just another electrical appliance

There are many electrical appliances that communicate wirelessly via radio waves and send out electromagnetic radiation.

Most homes already have several these appliances, and many of them are used daily, e.g.:

- PCs and wireless Internet
- Mobile phones and tablets
- Remote controls for cars, baby phones, wireless doorbells, phones and sensors for alarms and climate control.

Electromagnetic radiation is found in a lot of places

Radiation from the electricity meter is also known as electromagnetic energy which is spread out from any actively electricity-consuming appliance such as washing machine, micro wave ovens and other kitchen equipment. It is efficient to dampen the level of electromagnetic energy by increasing the distance to the meter.

The electricity meter complies with all requirements for radiation

The remotely read electricity meter is CE marked and complies with all European and national requirements for electromagnetic radiation.

In addition, independent studies show that the radiation from the remotely read electricity meter is below the applicable limit values, defined by the independent organisation ICNIRP*.

** ICNIRP: International Commission on Non-Ionizing Radiation Protection*

The electromagnetic radiation sent by the electricity meter

When the electricity meter sends data, the transmission power is max 500 mW.

Distance

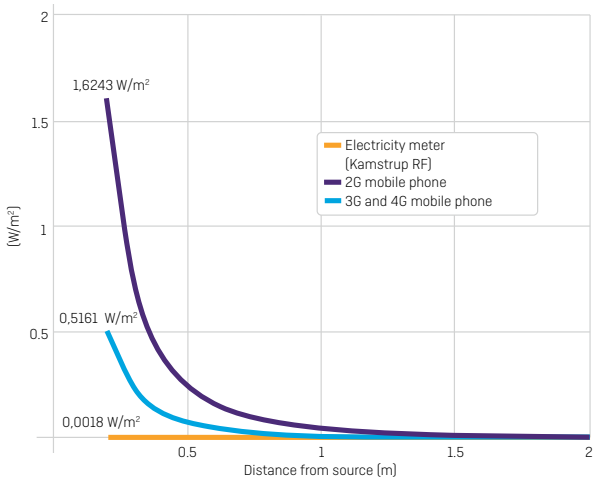
If you stay two meters from a Kamstrup electricity meter constantly for a month, the radiation is equivalent to a mobile phone call of half a minute.

The thermal stress of radio waves measured in W/m² over 30 min

For appliances, working by means of radio communication, requirements state how much the electromagnetic radiation may affect surroundings and human beings.

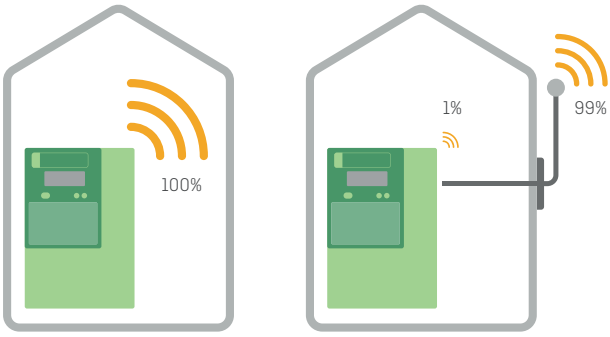
An example is MPE (Maximum Permissible Exposure) that states how much heat an appliance is allowed to deposit on a plate at a distance of 20 cm. The MPE limit value of the electricity meter is 2.17 W/m² and the value for a remotely read electricity meter from Kamstrup is 0.0018 W/m².

The thermal stress of radio waves decreases proportionally with the distance from the appliance.



The radiation from the electricity meter can be minimised

The electromagnetic radiation from the meter can be minimised significantly by connecting an external antenna.



MHz

MHz is an abbreviation for megahertz.
1 MHz = 1,000,000 oscillations per second.

mW

mW is an abbreviation for milliwatt.
1 mW is 1/1000 of 1 watt.

MPE

MPE is an abbreviation for Maximum Permissible Exposure and is defined by the independent organisation ICNIRP (International Commission on Non-Ionizing Radiation Protection).

Think forward

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