

Uponor

Uponor Smatrix for radiant heating and cooling

Your key to more efficiency





Smatrix easily opens up new possibilities for radiant systems

Smatrix is a fully integrated control system for radiant heating and cooling – from water supply all the way to temperature monitoring on the wall.

Self-learning and intelligent, Smatrix features Autobalancing technology that constantly anticipates and adjusts the exact amount of energy needed to ensure optimal comfort at all times.

- **Smart:** optimises the energy efficiency of radiant heating and cooling systems
- **Connected:** option Wave PLUS offers wireless controlling and full connectivity at home or away
- **Easy:** innovative Autobalancing ensures simple installation, set-up and usage

More efficiency – in every step

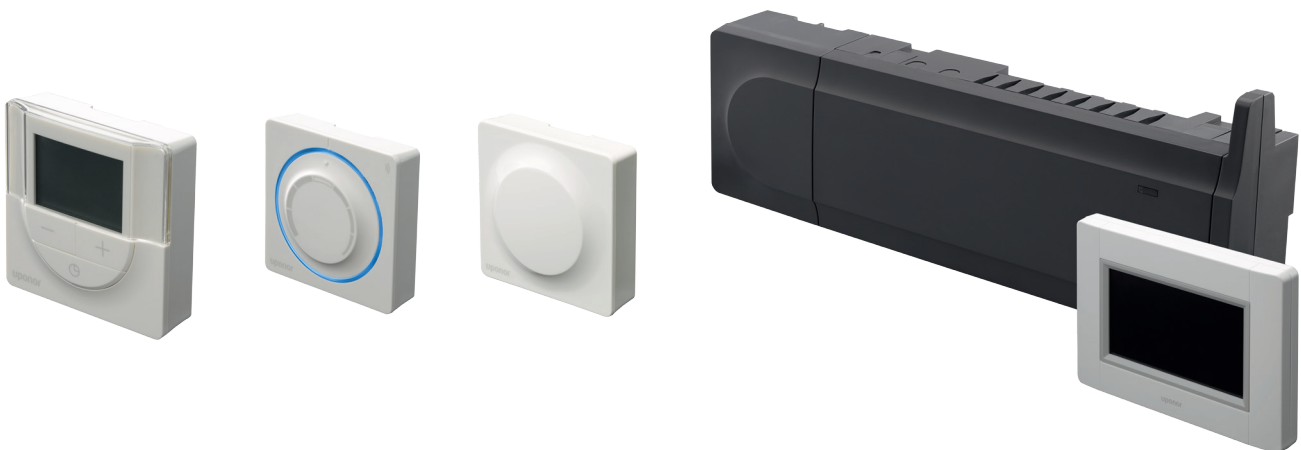
Smatrix is so easy to install, set up and maintain that no electrician is needed. The intelligent modular system offers invaluable benefits for everyone.

Smatrix is the most comfortable way to save energy and costs **in your home** – and at the same time improve individual comfort.

Smatrix is ideal for **specification** because it offers a fully integrated and easily expandable system with outstanding service before and after installation.

Less wiring and easy setup on **installation** save time and money. And there is no need for time-consuming maintenance anymore.

Distributors can be sure that the complete, integrated Smatrix portfolio is a perfect fit for installers' and householders' needs.



Smatrix Wave PLUS, featuring easily programmable thermostats and central control with touchscreen interface

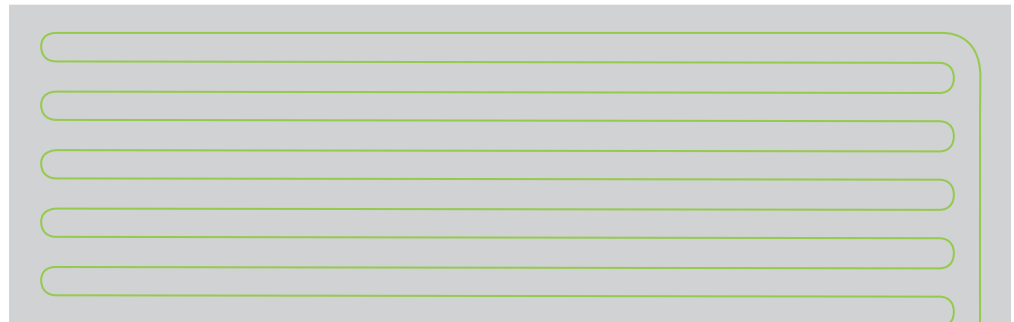
Autobalancing: continuously self-optimising temperature control

A unique technology that eliminates the need for manual balancing



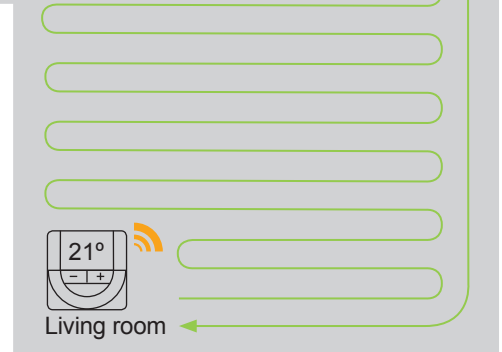
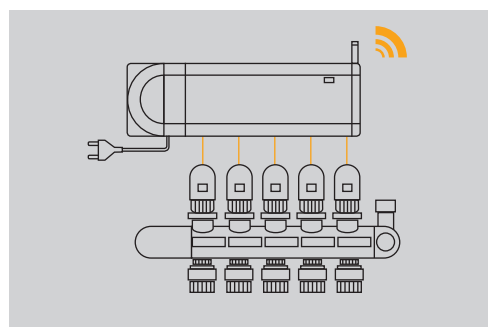
Learning

open
closed



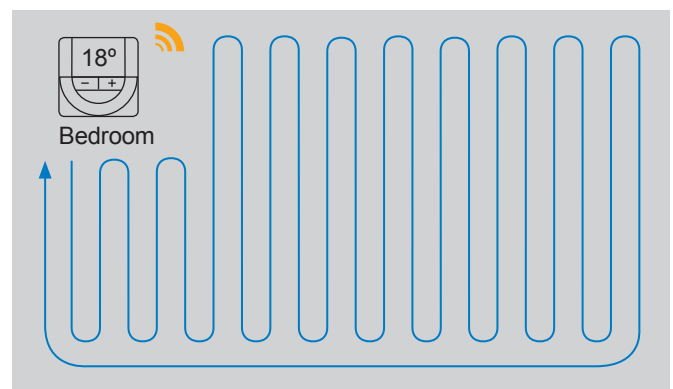
Balancing short loops

open
closed

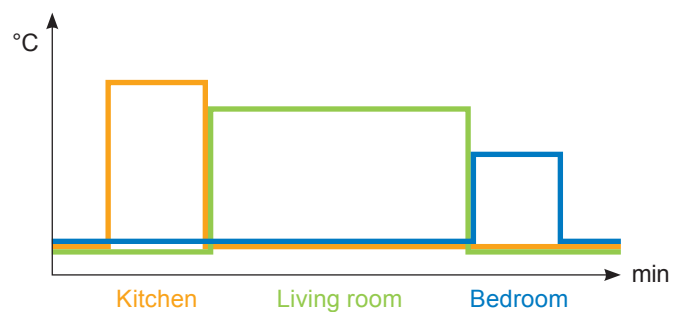


Balancing long loops

open
closed



Example settings
Autobalancing heat circuits means short and long loops are opened and closed at just the right time with the exact amount of energy needed.



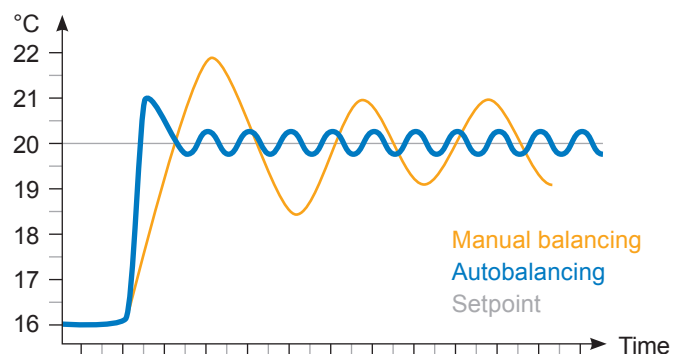


Autobalancing constantly monitors changes in conditions inside and outside the building. By intelligently adjusting and adapting, Uponor Smatrix ensures that just the right amount of energy is used at just the right time.

In general, radiant heating and cooling needs at least one initial hydronic circuit balancing for improved efficiency. This is a manual, trial-and-error-procedure which is time-consuming and not too popular among installers. Autobalancing does more than just an initial adjusting – periodically the system optimises the circuit of each room, continuously calculating the energy required for your comfort. Even if you change floor coverings, Autobalancing will adapt automatically to ensure the right comfort levels with the most efficient energy use.

Using Smatrix, Autobalancing can also be retrofitted in existing radiant heating and cooling systems in renovation, optimising comfort and energy consumption. Even with no prior knowledge of the existing system, Smatrix allows you to improve the performance of your overall system easily and instantly. To sum up, Autobalancing means perfect intelligent heat distribution – permanently.

- Retrofit optimises existing installations
- Improved comfort without manual adjustments
- Fully automatic, 24/7
- Up to 25 % faster reaction
- Energy saving:
 - Up to 6 % compared to other single-room controls
 - Up to 12 % compared to unbalanced system
 - Up to 20 % compared to unbalanced system without single-room control



While manual balancing reflects a certain point in time of your system, Autobalancing adapts to every change in your system or building – without the additional calculations manual balancing requires. This saves energy and leads to an exact room temperature for your optimal comfort.

Less wires, more comfort

Uponor Smatrix is ideal for renovation and reduces installation time in new buildings too

Smatrix easily adapts to existing installations. It even balances older systems automatically – improving room comfort and maximising efficiency. Due to robust radio communication, the installation process is perfect for renovation. Of course Smatrix also reduces the installation time in new buildings.

In fact it's so easy to install that no additional help is needed anymore. Extra flexibility is provided by the modular system architecture, which allows you to add functionalities or outputs when needed – and not before.

- **Wireless transmission with Uponor Smatrix Wave and Wave PLUS**
- **Works with existing installations**
- **Easiest installation**
- **No additional assistance needed**





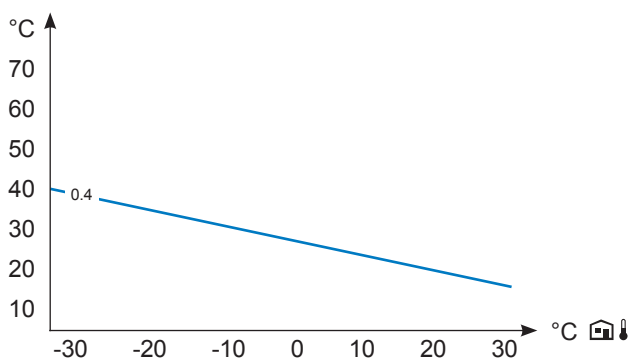
Heat pump integration

Sustainable into the future – optimal temperature without manual adjustments

Heat pumps can significantly reduce the amount of non-renewable energy resources needed to heat your home by transferring thermal energy from a natural source, such as the air or the ground. This process can be made even more efficient with the Smatrix heat pump integration module.

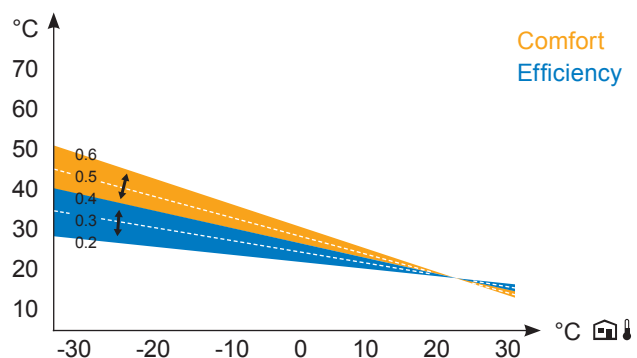
Designed to work with a wide variety of heat pumps, Smatrix boosts efficiency and reduces the operational cost of heating by constantly applying dynamic heat curve adjustments. The heat pump integration module tells the heat pump when to reduce heat generation because the room temperature is sufficient. So the heat pump can work on a lower temperature level to save energy and reduce costs.

- Dynamic heat curve
- Fully automatic, 24/7
- No manual adjustments



Static heat curve without Smatrix

Example of a fixed heat curve with a nominal value of 0.4. The supply temperature changes depending only on the outdoor temperature. The linear curve shows the increased supply-water temperature needed with decreased outdoor temperatures. This static curve will never meet the fluctuating temperatures in your living rooms.



Dynamic heat curve with Smatrix

The dynamic heat curve will continuously adjust depending on the real time internal and external temperature changes to optimise comfort and energy efficiency all year round.

System diagnostic

Detects difficulties with ease

Like life itself, comfort and convenience are dynamic. The Uponor Smatrix diagnostic functions detect difficulties in reaching the comfort temperature. And that makes troubleshooting quick and easy. Even better: it improves energy consumption.

- Touchscreen interface with Smatrix Wave PLUS
- Easy troubleshooting
- Improved energy management



U@home

Controlled comfort at home or away

U@home allows you to manage the indoor climate from anywhere – via app or web. If you're away for longer, you can save energy and money by switching the heating to 'Away' or 'Eco'.

- Plug & play installation
- Real time control and alarm notification
- Energy optimisation with user-friendly visualisation



Smart controls, intelligent features

Room check detects whether the thermostats are properly assigned to the loops.

- Avoids trouble after installation
- Informs in case of a thermostat mix-up
- Helps in renovation when system knowledge is limited

Comfort setting maintains the comfort by providing a warmed floor even if alternative heat sources are in use.

- Avoids a cooling down of the floor
- Reacts fast
- Saves energy during reactivation

Data storage: with a micro SD card for Uponor Smatrix Wave PLUS, you can keep the system up to date.

- Fast installation and troubleshooting
- Software updates and data backup
- Long-term data logging

SMS module: a remote control for activating or deactivating the setbacks. It also sends an alarm when the room temperatures are getting too low.

- Cost-efficient remote control
- Easy to add to an existing or new system

Room bypass secures the necessary water flow for the heat pump with a single-room control if a buffer tank is too small for the system.

- Increases the life span of the heat pump
- Ensures performance

Cooling function increases your options and comfort.

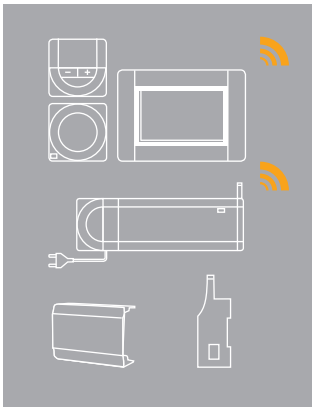
- Fewer devices to install, lower costs
- Higher protection to avoid condensation

Trend visualisation displays and compares temperature settings room by room – the fastest way to improve energy consumption.

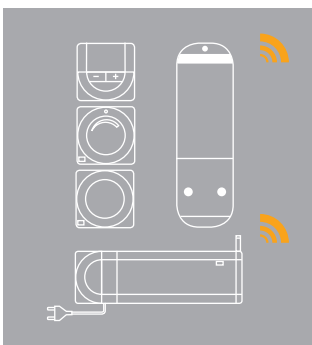
- Visualisation of values
- Direct user feedback

Uponor Smatrix product range

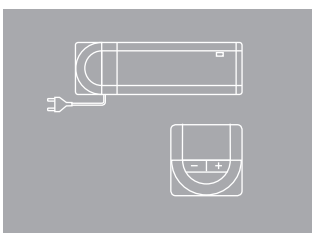
Room controls



- Smatrix Wave PLUS**
Wireless controller with touchscreen interface and full functionality
- Autobalancing
 - U@home
 - Heat pump integration
 - System diagnostic
 - Room bypass
 - Cooling function
 - Data storage

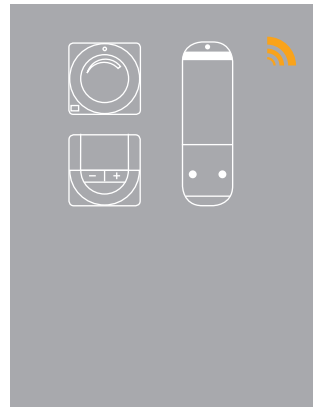


- Smatrix Wave**
Wireless room control
- Autobalancing
 - SMS module
 - Cooling function

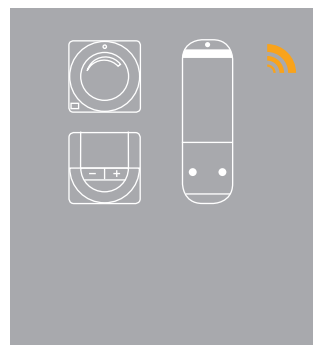


- Smatrix Base**
Wired room control
- Autobalancing
 - SMS module
 - Cooling functions

Zone controls

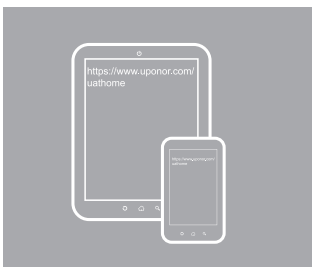


- Smatrix Space PLUS**
Zone control for heating and cooling
- Digital programmable thermostat
 - RH sensor



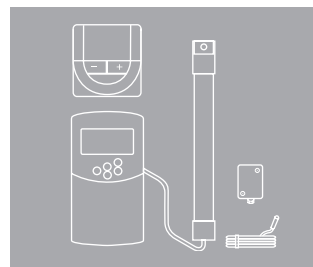
- Smatrix Space**
Single-zone control for heat control
- Digital or standard thermostat

Remote-access room controls

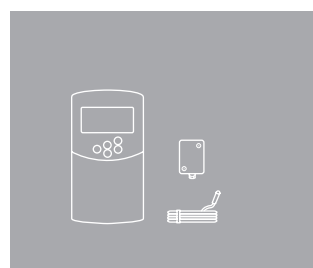


- Smatrix U@home**
Smartphone app interface

Supply-water controls



- Smatrix Move PLUS**
Supply-water control for heating and cooling
- Indoor and outdoor compensation
 - Wireless sensors



- Smatrix Move**
Supply-water control for heating only
- Weather compensation



Building better results

Founded in 1918 in Finland, Uponor evolved into a plastic piping specialist and is now a leading international systems and solutions provider for buildings and infrastructure. About 4,000 dedicated Uponor employees are working in more than 30 countries across Europe, North America and other international markets.

Uponor offers quality pipe systems for professional installation as well as tailored and turnkey solutions for contractors, developers, engineers and owners. We serve a wide variety of markets including residential, commercial, industrial and civil engineering. Our safe drinking water delivery systems, energy-efficient radiant heating and cooling systems and reliable infrastructure solutions set standards in the industry.

We are committed to sustainability and are passionate about developing new technologies and delivering systems to enrich people's way of life. This is how we build confidence.

Who we are

- A leading international supplier of building and infrastructure solutions
- Technologies and solutions for safe drinking water delivery systems, energy-efficient radiant heating and cooling systems and reliable infrastructure solutions
- Approx. 4,000 employees in 30 countries
- Sales and service in more than 100 countries
- Listed on NASDAQ OMX Helsinki in Finland

Uponor

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