

# The world of Smart Home

Greater convenience, safety and energy efficiency.



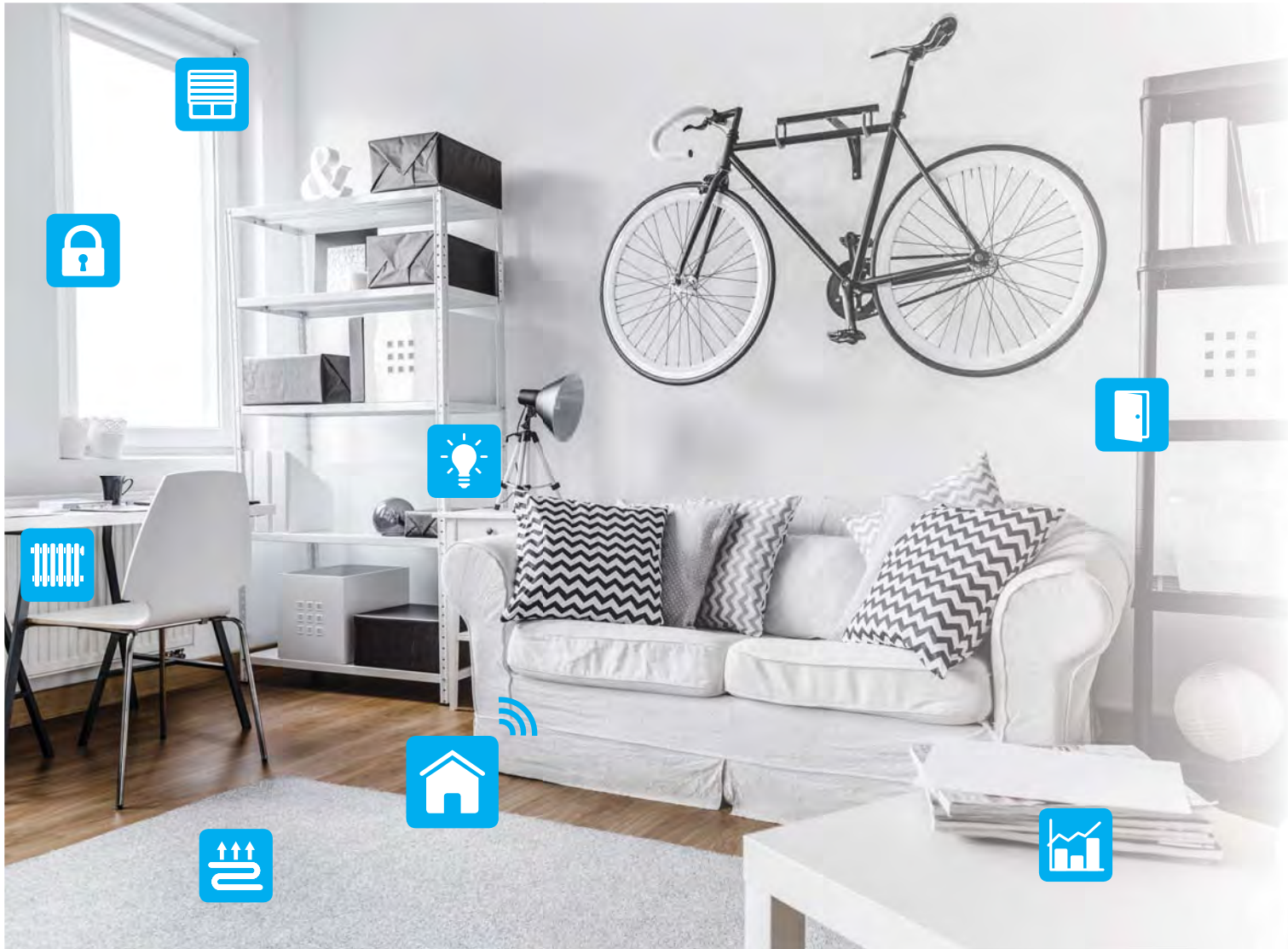
## COMFORT IP

Access to the promising Smart Home market

→ [www.pettinaroli.dk](http://www.pettinaroli.dk)

# Teamwork in interconnected homes

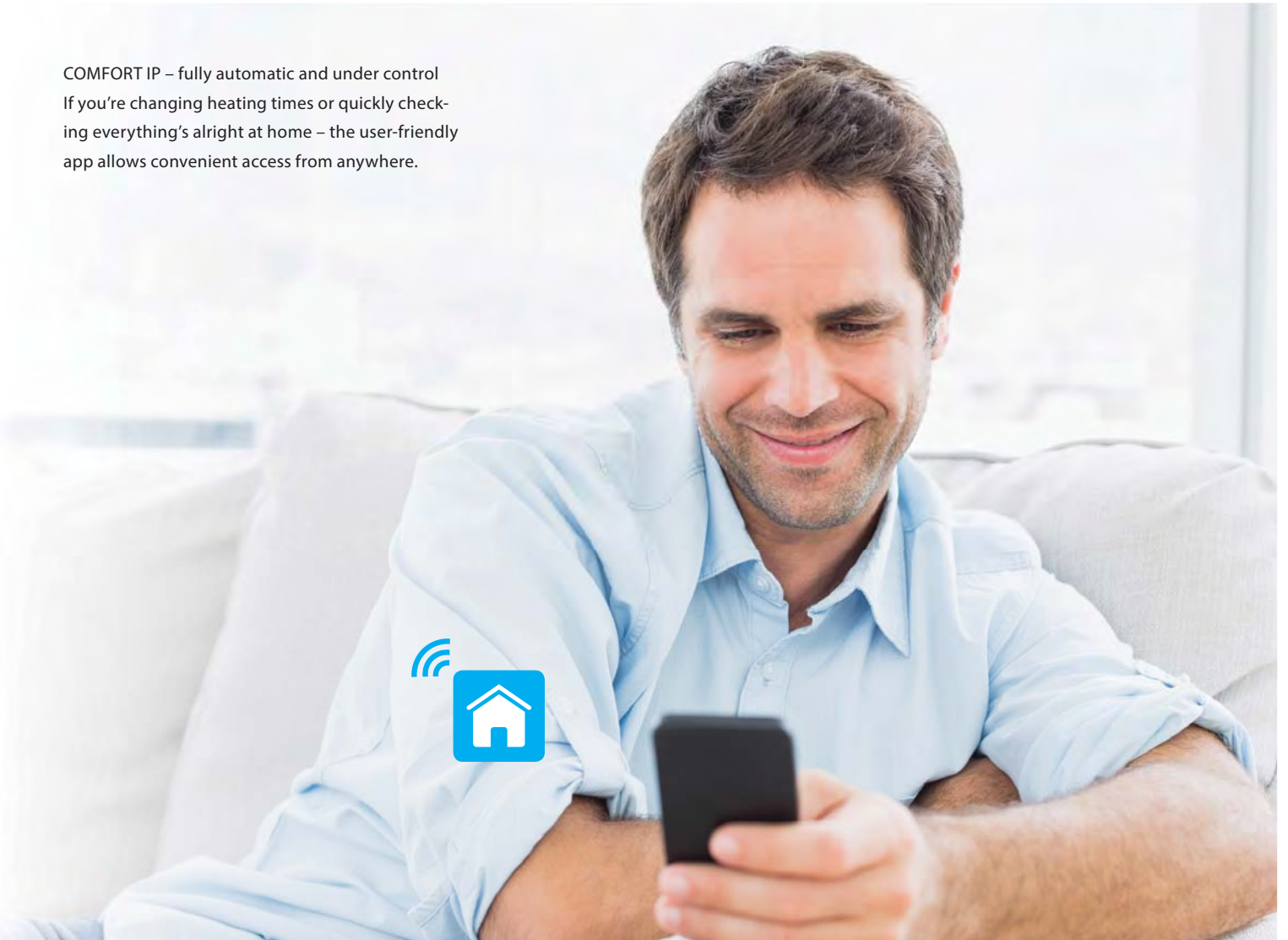
Perfect integration equals more comfort



The intelligent COMFORT IP home automation system brings the future to your own four walls, making homes more comfortable, more secure and more energy efficient.

The COMFORT IP system is child's play to install and intuitive to operate, but its modular, open approach is its most impressive feature. The system is compatible with the IP protocol, the leading communications standard in the Smart Home segment. This protocol guarantees compatibility with an extensive system of components for the Internet of Things.

COMFORT IP – fully automatic and under control  
If you're changing heating times or quickly checking everything's alright at home – the user-friendly app allows convenient access from anywhere.



## Highlights at a glance

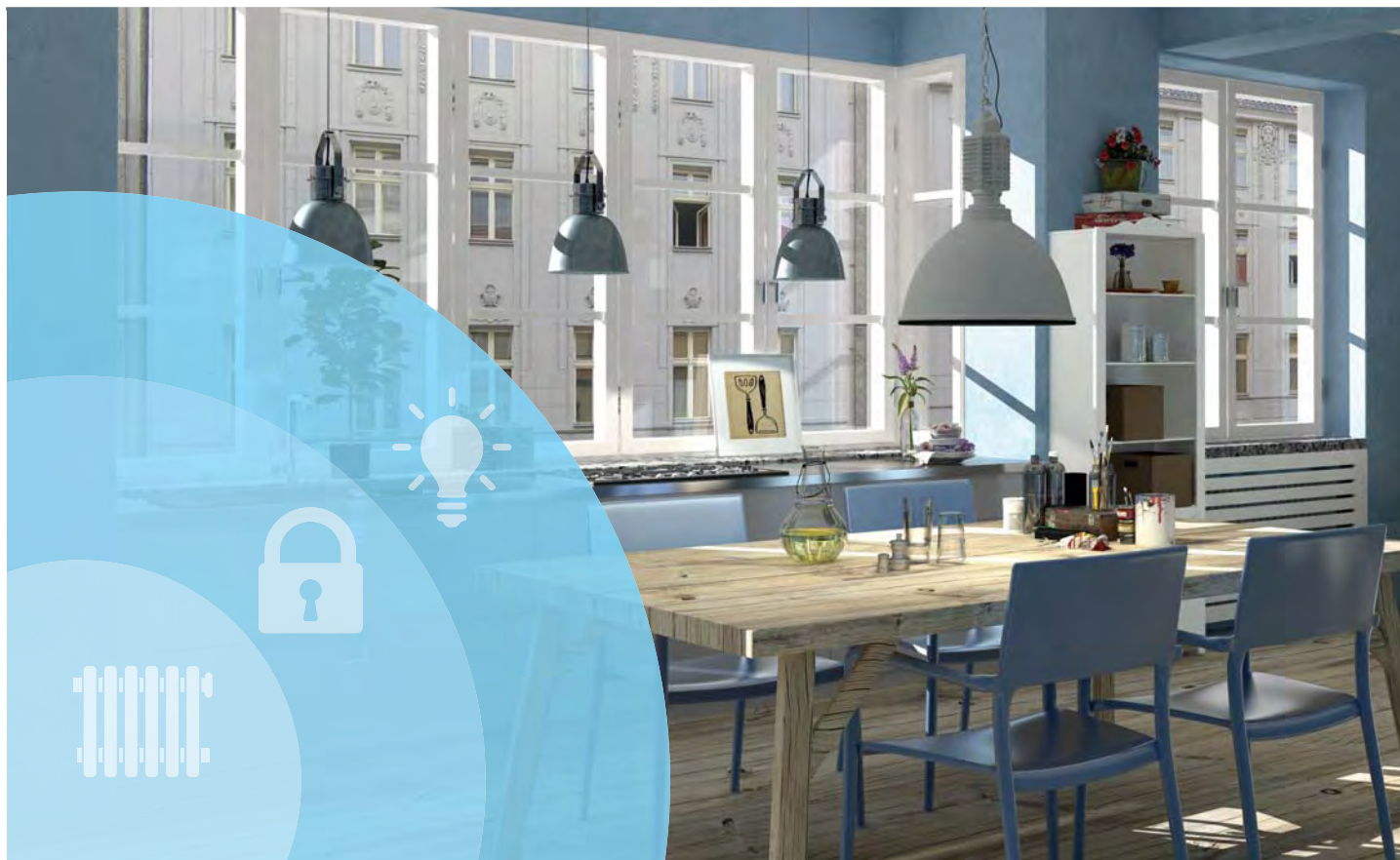


### COMFORT IP

- More comfortable and practical homes
- Future-proofed technology
- Highly secure systems
- Top energy-saving potential in homes
- Easy to install, configure and operate
- Huge flexibility due to modular scalability
- Perfect solution for new builds and modernisations
- Compatible with a wide range of IP devices

# COMFORT IP – the ideal gateway to interconnected homes

Intelligent heating control for maximum comfort



## Intelligent interconnection

The Smart Home is taking centre stage more and more because energy efficiency, security and comfort are issues increasingly capturing people's attention. Gone are the days when interconnected homes were options for the high-end segment or gadget market. The Internet of Things is on the brink of a mass-market breakthrough and harbours huge potential.

The intelligent connection of devices spawns a variety of conceivable scenarios in Smart Homes which respond to desires for a reduction in energy costs, or more comfort and safety. For example, sensors connect windows with central heating systems to shut off valves automatically when windows are open. The window sensor also alerts owners to break-ins when nobody's at home. And all devices can be conveniently controlled by a smartphone, locally in users' home networks, or worldwide via the internet.

## Perfect market access with Pettinaroli

Pettinaroli is your partner for this Smart Home solution which is based on the leading IP protocol. Our products and services are the stepping stones to success on this promising market of the future.

The indoor environment solution is the ideal gateway to an interconnected home. It perfectly and conveniently regulates and controls all the heating solutions, from radiant heating systems to radiators to electric heaters. A range of components to boost security and protection from break-ins, as well as to provide light and shade will complement the system in future with more core solutions for the intelligent home.

## Ready for the Internet of Things

Thanks to the new generation of the IPv6 internet protocol, all IP devices are well prepared for the Internet of Things. And by using the IP wireless standard, a variety of systems can also be integrated.

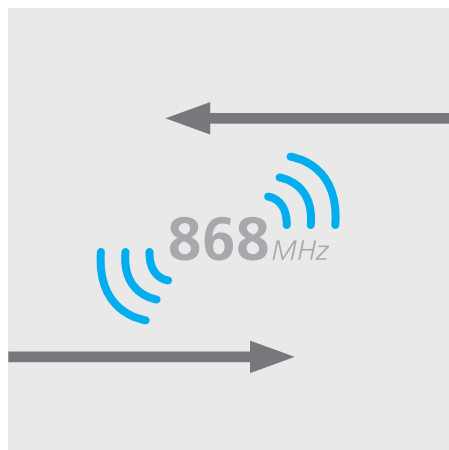
# First-class security

Data protection is paramount

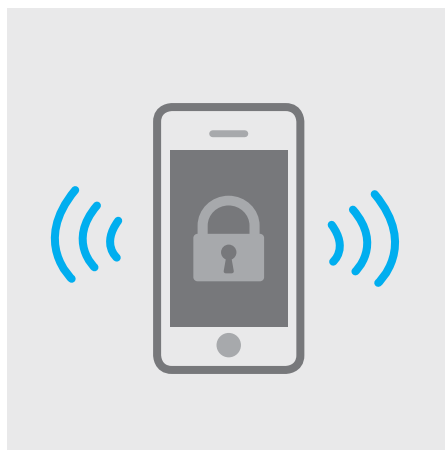


## Outstanding security

The COMFORT IP meets stringent security requirements in several respects.



**Fail-safe:** All wireless communications operate on the 868 MHz band and are bi-directional, so in other words they reconfirm all wireless commands. The result is a perfect combination of wide range and fail-safe operation regarding WiFi, Bluetooth wireless technology and video-streaming systems.



**Tamper-proof:** During installation and operation, encrypted communication (to encryption standard AES-128 in the CCM mode) of the wireless components virtually rules out unauthorised access.



**Data protection:** No personal data is required at any point during the configuration procedure. To manage the data stored in the cloud only servers based in Germany are used.

# The intelligent heart of the system

## COMFORT IP Access Point



The COMFORT IP Access Point is the control unit and therefore point of access to the Smart Home world.

The COMFORT IP Access Point connects smartphones via a cloud server with all system components to transmit the configuration and operational commands from the Alpha IP app. The Access Point is installed within just a few minutes. The components for the heating, lighting and security Smart Home solutions are installed and set up individually afterwards.

# COMFORT IP underfloor heating

## Perfectly controlled underfloor heating



### Smart Home solution for heating systems with underfloor heating

Because of the energy efficiency required, new detached homes usually have underfloor heating systems. This radiant heating system is sometimes used for heating and cooling. The underfloor heating components are ideal for this purpose and for existing systems that are often inadequately controlled. What's so clever about this system is that it's also standalone and doesn't require an access point, but can be upgraded at any time to a comprehensive Smart Home system.

### Overview of components

#### 1 COMFORT IP Room Control Unit Display

The COMFORT IP room control unit with its large display registers the temperature and humidity in the room and transmits the results to the base station's heating zones to allow precise temperature control.

#### 2 COMFORT IP Room Control Unit Analogue

The Room Control Unit Analogue registers the temperature and humidity in the room and transmits the results to the base station's heating zones. It's perfect for areas where temperature control via smartphone isn't required.

#### 3 COMFORT IP Room Control Unit Display S

The COMFORT IP Room Control Unit Display S can be fitted over light switches, or directly on the wall. It registers the temperature and humidity in the room and sends the results periodically to heating zones allocated by the base station.

#### 4 COMFORT IP Door/Window Contact

The COMFORT IP Window/Door Contact Optical uses an infrared sensor to

spot when windows and doors are opened and closed. Heating is interrupted if a window is open, for example while a room is being aired.

#### 5 COMFORT IP Base Station, 24V / 230 V, 6 / 10 heating zones

The intelligent, self-learning radiant heating control and connection unit is available in various versions. Some of the base stations' many advantages include switching between heating and cooling, Smart start/stop technology, as well as automatic load balancing.

#### 6 COMFORT IP Multi IO Box

The purpose of the Multi IO Box is to enhance the functionality of the base stations to include control of the pump, boiler and dehumidifier for example. Inputs for CO and temperature monitoring are other highlights.

#### 7 COMFORT IP Valve Actuators, 24 V / 230 V

Thermoelectric valve actuator for silent opening and closure of small valves and valves on radiators and heating circuits in radiant heating and cooling systems.

# COMFORT IP radiator heating

Everything radiator heating requires



## Smart Home solution for heating systems with Radiators

The COMFORT IP radiator solution has been enhanced for use with this heating system which is still the most commonplace one today. The purely manual controls on conventional radiator thermostats are replaced by electronic versions. Customised setting of the room temperature is time-controlled, or carried out directly via the Alpha IP smartphone app. The temperature can also be controlled manually by turning the radiator thermostat.

## Overview of components

### 1 COMFORT IP Room Control Unit Display

The COMFORT IP room control unit with its large display registers the temperature and humidity in the room and transmits the results cyclically to the relevant COMFORT IP radiator thermostats.

### 2 COMFORT IP Room Control Unit Analogue

The Room Control Unit Analogue registers the temperature and humidity in the room and transmits the results to the COMFORT IP's radiator thermostats.

### 3 COMFORT IP Room Control Unit Display S

The COMFORT IP Room Control Unit Display S can be fitted over light switches, or directly on the wall. It registers the temperature and humidity in the room and sends the results periodically to connected COMFORT IP radiator thermostats.

### 4 COMFORT IP Door/Window Contact

The COMFORT IP Window/Door Contact Optical uses an infrared sensor to spot when windows and doors are opened and closed. Heating is interrupted if a window is open, for example while a room is being aired.

### 5 COMFORT IP Radiator Thermostat

The COMFORT IP Radiator Thermostat for the COMFORT IP indoor environment solution is an easy-to-install, custom-configurable radiator thermostat that allows control of radiators as desired.

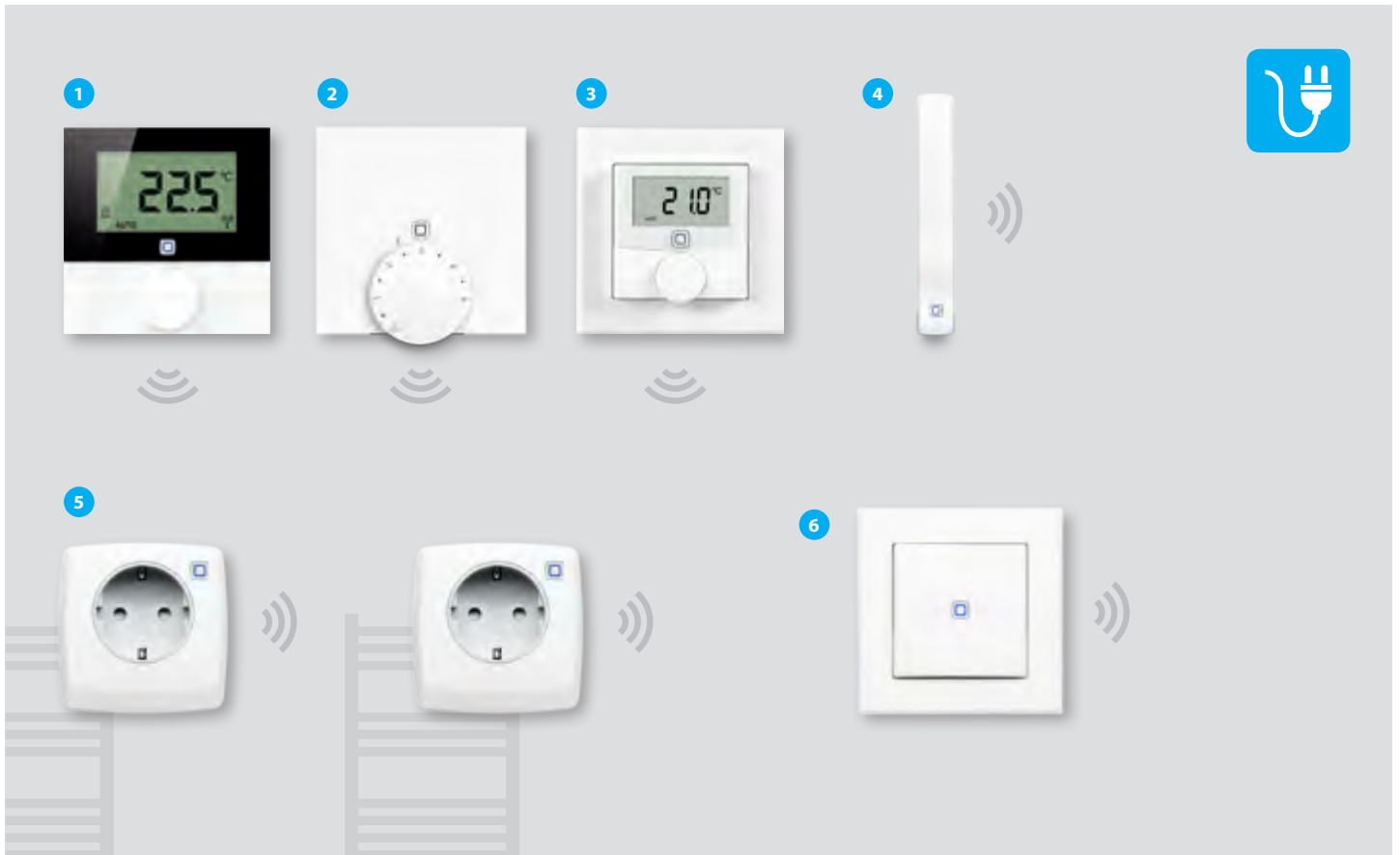
### 6 COMFORT IP Wall Mount Switch 2 Push Button

At the touch of a button, the wall mount switch allows users to turn all radiator thermostats down to ECO temperature. Users select the temperature and the time span.



# COMFORT IP electric heaters

## Ideal control of electrical convectors



### Smart Home solution for electric heating systems

Lots of households use one or several electrical bathroom radiators or mobile electric radiators in bathrooms, or in rarely used rooms or garages, or garden sheds. Combined with the COMFORT IP Pluggable Switch and Meter and a wall-mounted thermostat, the temperature in these rooms can be controlled exactly as desired. Another advantage is that the energy used by devices that have been connected is shown in the app and provides information about consumption and costs until that point.

### Overview of components

#### 1 COMFORT IP Room Control Unit Display

The COMFORT IP Room Control Unit with its large display registers the temperature and humidity in the room and transmits the results to the COMFORT IP Pluggable Switch/Pluggable Switch and meter to enable precise temperature control.

#### 2 COMFORT IP Room Control Unit Analogue

The Room Control Unit Analogue registers the temperature and humidity in the room and transmits the results to the COMFORT IP Pluggable Switch/Pluggable Switch and Meter to make precise temperature control possible.

#### 3 COMFORT IP Room Control Unit Display S

The COMFORT IP Room Control Unit Display S can be fitted over light switches, or directly on the wall. It registers the temperature and humidity in the room and sends the results periodically to allocated COMFORT IP pluggable switches/pluggable switches and meters in order to control the temperature precisely.

#### 4 COMFORT IP Door/Window Contact

The COMFORT IP Window/Door Contact Optical uses an infrared sensor to spot when windows and doors are opened and closed. Heating is interrupted if a window is open, for example while a room is being aired.

#### 5 COMFORT IP Pluggable Switch/Pluggable Switch and Meter

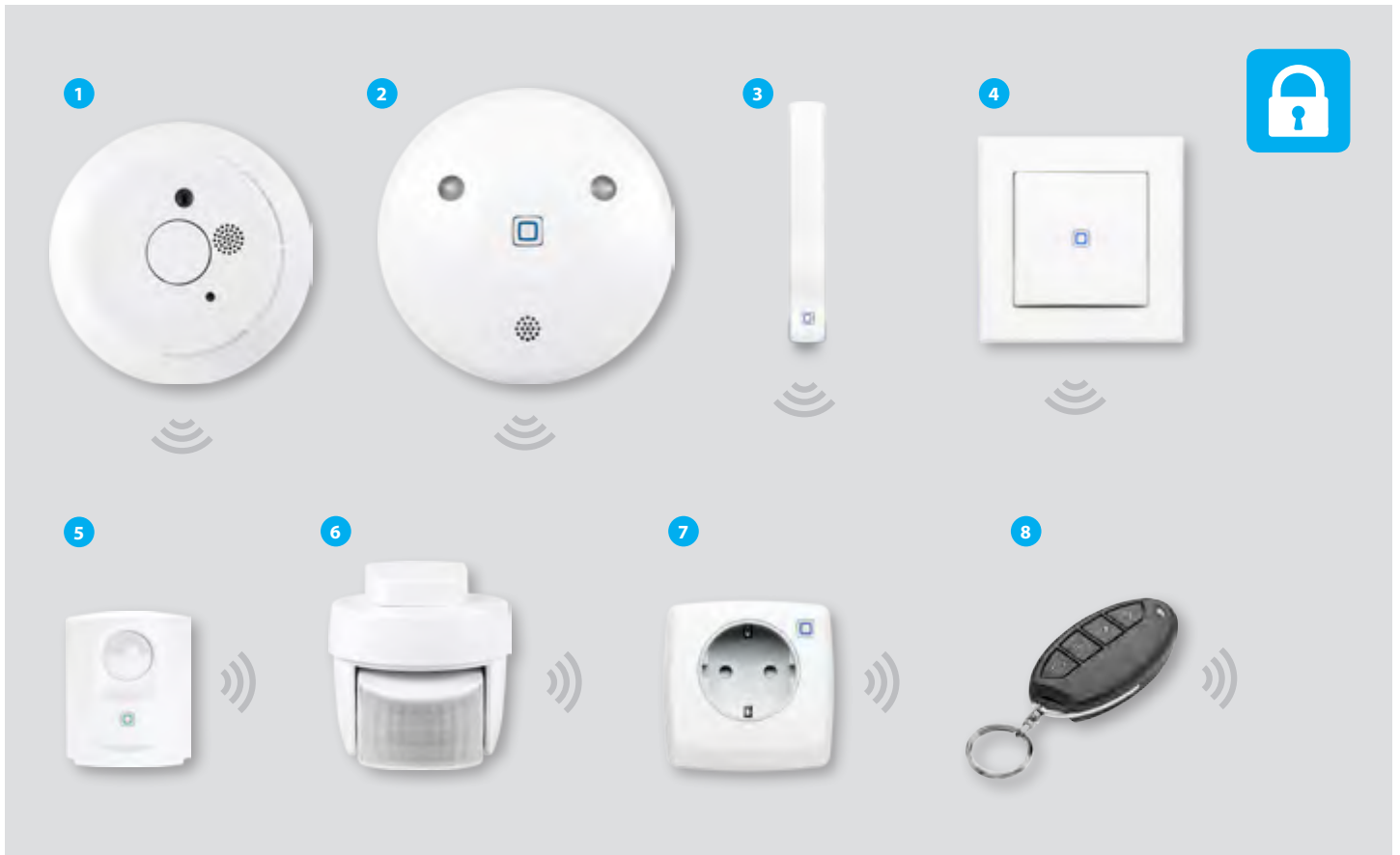
Switches on electric heaters that have been connected to allow precise temperature control in rooms that aren't connected to the central heating systems, such as garages or other sources of heat such as electric towel heaters in bathrooms.

#### 6 COMFORT IP Wall Mount Switch 2 Push Button

At just a touch of a button, the wall switch allows users to turn all electric heaters down to ECO temperature. Users select the temperature and the duration.

# COMFORT IP security and surveillance

## Security has top priority



### Smart Home solution for security and surveillance

The COMFORT IP Security and Surveillance solution is designed to protect rented property and owner-occupied homes. It allows residents to be comfort-able in the knowledge that they are being protected and alarms are issued in emergencies. Window and door contacts protect the building's outer shell, motion detectors reliably detect movement and smoke detectors warn residents if fires break out.

## Overview of components

### 1 COMFORT IP Smoke Detector

The COMFORT IP Smoke Detector with the Q label (German approval) gives reliable and early warnings when fires start to break out.

### 2 COMFORT IP Alarm Indoors

Should an emergency arise, the indoor alarm system provides a dependable, loud acoustic and bright optical warning.

### 3 COMFORT IP Door/Window Contact

Window and door contacts always indicate whether a door or window is open or closed, therefore protecting the building envelope.

### 4 COMFORT IP Wall Mount Switch

The wall mounted switch activates designated panic lights or lighting from switching groups.

### 5 COMFORT IP Motion Detector with Twilight Sensor – Indoor

The Motion Detector with Twilight Sensor – Indoor immediately reports intruders if full protection has been activated.

### 6 COMFORT IP Motion Detector – Outdoor

The COMFORT IP Motion Detector – Outdoor offers extra security for the home and garden.

### 7 COMFORT IP Pluggable Switch

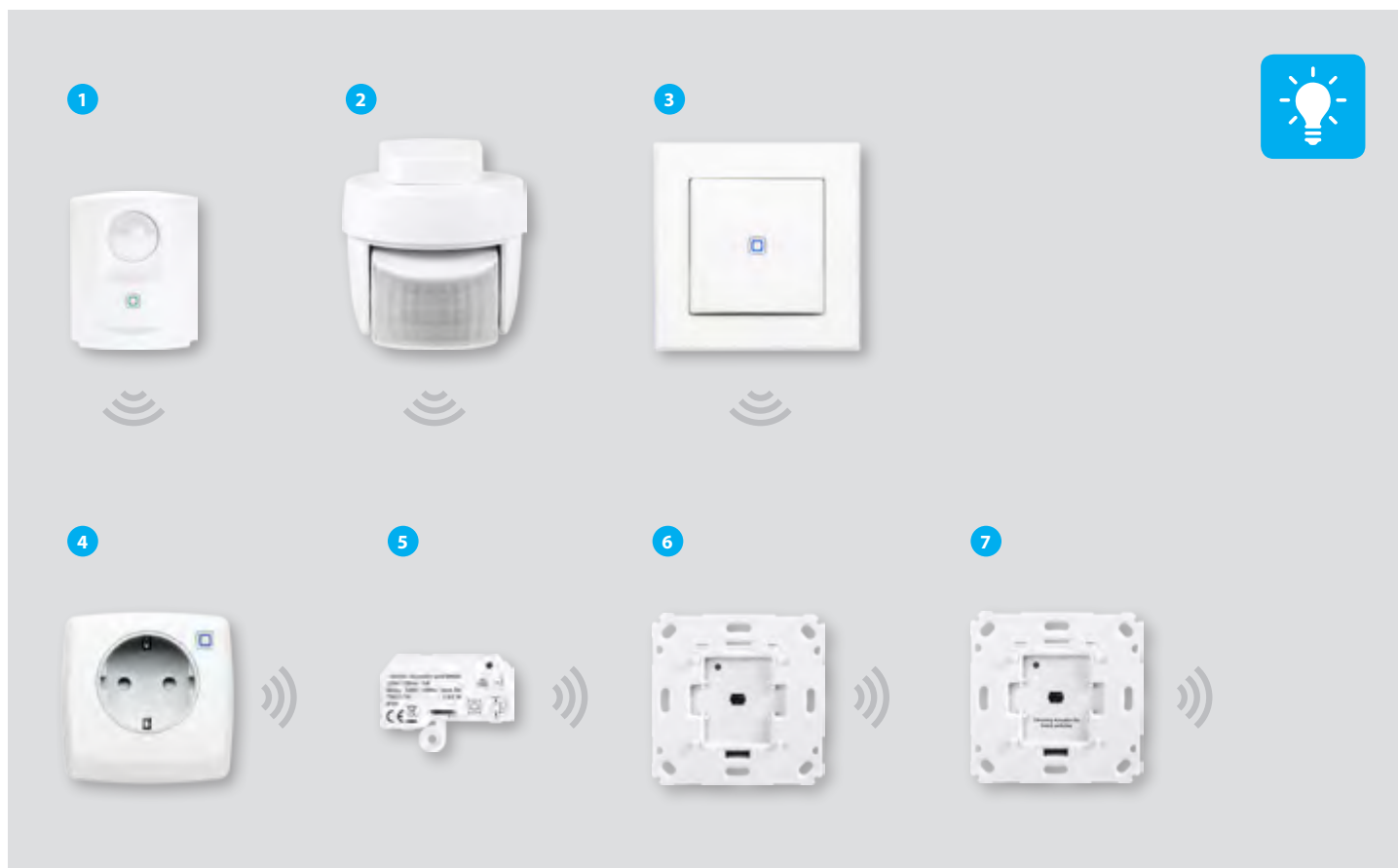
The COMFORT IP Pluggable Switch activates panic and alarm lights or 230 V pluggable acoustic alarms as part of the security solution.

### 8 COMFORT IP Keyring Remote Control

The COMFORT IP Keyring Remote Control allows you to switch full protection of the system on or off easily without a smartphone. It's also used to activate pre-defined light sources.

# COMFORT IP light

## Smart lighting control



### Smart Home lighting control solution

Switching on and dimming lighting creates an appealing atmosphere in homes. The COMFORT IP Lighting Control Solution creates lighting scenarios, puts lamps into lighting groups and controls them via a switch or smartphone.

### Overview of components

#### 1 COMFORT IP Motion Detector with Twilight Sensor – Indoor

The Motion Detector with Twilight Sensor – Indoor activates defined lighting and/or switching groups as soon as movement is detected.

#### 2 COMFORT IP Motion Detector – Outdoor

The Motion Detector – Outdoor activates defined lighting and/or switching groups as soon as movement is detected.

#### 3 COMFORT IP Wall Mount Switch

The COMFORT IP Wall Mount Switch switches defined sources of light on and off. Thanks to wireless technology and batteries it can be put anywhere in the home without the need to lay cables.

#### 4 COMFORT IP Pluggable Switch/Pluggable Switch and Meter

The COMFORT IP Pluggable Switch switches devices connected such as lamps on and off via the COMFORT IP Wall Mount Switch or smartphone.

#### 5 COMFORT IP Switch Actuator and Meter

The COMFORT IP Pluggable/Meter Actuator is placed in flush-mounted boxes, e.g. behind sockets to bring it up to date. All connected devices can be easily switched on and off using the Alpha IP app. Energy consumption is measured and shown in the app at the same time.

#### 6 COMFORT IP Switch Actuator and Meter – Brand Switches

The COMFORT IP Switch Actuator and Meter – Brand Switches replaces traditional light switches, adding Smart Home functions and recording energy consumption. A comprehensive adaptor system allows seamless integration into numerous switching programs.

#### 7 COMFORT IP Dimming Actuator – Brand Switches

The COMFORT IP Dimming Actuator – Brand Switches replaces traditional light switches, adding Smart Home functions and a dimming function. A comprehensive adaptor system allows seamless integration into numerous switching programs.

# Exceptionally easy – right from the start

Automatic installation, simple configuration and intuitive operation



The intelligent user guide on the free ALPHA IP app makes the system easy to set up and control.

Installing each of the components is virtually automatic, as all the links between the devices are created automatically. And operations, such as setting the required room temperature, or configuring heating profiles, are carried out via the smartphone's touchscreen. At the touch of a button you can switch the heating to energy-saving mode in all rooms – whether you're using underfloor heating, radiators, electric heaters or a mixture of different systems.

Straightforward to install and intuitive to use  
 The ALPHA IP app's clearly set-out, intuitive user interface and transparent menu structure make setting up and operating the system especially easy.



Main menu  
 All key data at a glance

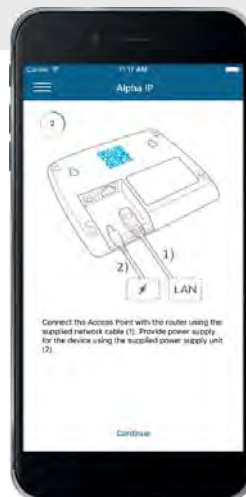
Display showing local information, weather data and ECO mode

Overview of rooms

Current target temperature

Current heating profile

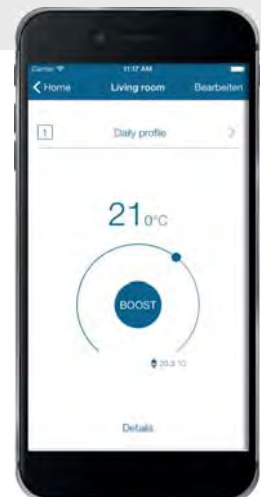
Symbol display (e.g. wireless communication malfunction, open window, empty battery)



Simple installation  
 The app takes you through the set-up process step by step.



Heating profiles  
 Heating profiles can be customised and configured to suit preferences for each room.



Room menu  
 Room configuration, tailored temperature settings, as well as activation of the boost function.

# Ready to go in just a few steps

## Minimal installation procedures required for the whole system



### Easy and secure commissioning

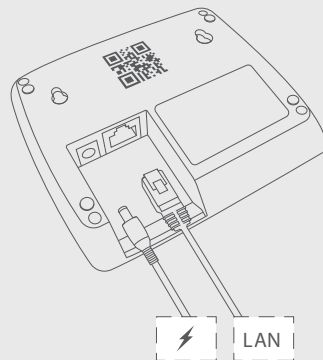
Starting up the internet-based COMFORT IP System couldn't be easier. All you need is internet access with a customary router. The COMFORT IP access point is connected via an unused network connection with the router using a network cable. The smartphone app allows you to set up and control the COMFORT IP System intuitively and without any problems. You can download the app free of charge in the Google Play Store (for Android) or in the App Store (for iPhones) onto your smartphone.

Registering the other COMFORT IP components is equally as uncomplicated as commissioning the system – a quick scan is all that's required to set up the connection.



### 1 ALPHA IP app downloads

The ALPHA IP smartphone app is available to download free of charge for Android from version 4.4 and for iOS from version 7.



### 2 Connecting

Use the network cable supplied to connect the COMFORT IP access point with the router and the mains adapter to connect it to the power supply.



### 3 Scan the QR code and off you go!

Now just use the ALPHA IP app to scan the QR code on the back of the access point. Once it's been registered on the server, the access point is set up and ready to go.

# Your own customised system

## Tailored to requirements



### Your own customised system

Our system solutions, created to handle a range of different scenarios, make access to the world of COMFORT IP exceptionally uncomplicated. Just select a system solution or create one to suit your needs – COMFORT IP offers the right solutions for you.



### System solution 1 - underfloor heating

High-quality system for radiant heating – whether heating or cooling. This plug & play room-by-room temperature control is the perfect start. What's more, it can be turned into a comprehensive Smart Home system with app control at any time.



### System solution 2 –

radiators and electric heaters  
Room-by-room temperature control for radiators and electric heaters. With the access point and the app, this solution allows in-depth remote access, top levels of availability and very simple configuration.



### Indoor environment solution

All-in-one-solution for perfect entry into the Smart Home world. Excellent control of radiant heating, radiators and electric heating systems. Convenient programming and control by smartphone.

Pettinaroli A/S

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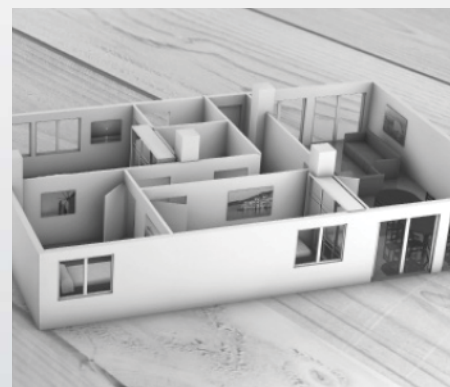
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## Pettinaroli for a Smart Home



Pettinaroli A/S is a supplier of quality components and complete solutions including ball valves, valves and underfloor heating systems to the Danish plumbing industry. Furthermore, Pettinaroli A/S cooperates with several European companies. Pettinaroli A/S was founded in 1976 under the name of Jørgen Pedersen VVS.

The production and product development of hot stamped brass components take place in Italy.

Pettinaroli A/S is located in Middelfart and from this warehouse Pettinaroli distributes the vast assortment of products to all Danish wholesalers in the industry as well as to 22 countries in Northern, Central and Eastern Europe.

QUALITY, SERVICE and FLEXIBILITY are important keywords in our daily work, and our skilled employees are always ready with support and guidance.