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Mohlenhoff OEM ALPHA Smart System User Guide

Contents

Möhlenhoff

Mohlenhoff OEM ALPHA Smart System

Product Information

- The OEM Alpha Direct: System is a top-quality room-by-room temperature control solution for new builds and modernization projects. It offers high-precision control, user-friendliness, and a modern design.
- The portfolio includes a room thermostat that can be used for both water-based and electric underfloor heating systems. It features a clear, language-neutral, back-lit display, a knob for easy use, and a compact design.
- The OEM Alpha Control Unit Analog HK is designed for heating and cooling panels. It automatically switches between the two operating modes and includes frost and valve protection functions.

Specifications

- **Power Supply:** 24 V or 230 V
- **Valve Compatibility:** All valves
- **Display:** Back-lit display
- **Control:** High-precision control
- **Design:** Compact design (86 mm x 86 mm)

Product Usage Instructions

OEM Alpha direct: System Room Thermostat

The OEM Alpha Direct: System Room Thermostat is designed for temperature control in rooms with water-based or electric underfloor heating systems.

Installation

1. Choose a suitable location on the wall for mounting the room thermostat.
2. Connect the room thermostat to the power supply (24 V or 230 V) as per the installation instructions.
3. Connect the room thermostat to the heating system or underfloor heating system using the appropriate connections.
4. Securely mount the room thermostat on the wall using screws or adhesive as per the installation instructions.

Setting the Temperature

To set the desired temperature:

1. Turn the knob on the room thermostat to adjust the temperature.
   The display will show the current temperature and the set temperature.
2. Rotate the knob clockwise to increase the temperature and counterclockwise to decrease it.

Programming Temperature Profiles

The room thermostat allows the programming of custom temperature profiles for different times of the day or week.

1. Press the menu button on the room thermostat to access the programming menu.
2. Use the knob to navigate through the menu options and select the desired settings, such as operating mode and holiday mode.
3. Use the weekly time switch feature to program specific temperature profiles for each day of the week.
4. Save the settings and exit the programming menu.

Smart Start/Stop Technology

- The room thermostat features Smart Start/Stop technology, which automatically adjusts heating or cooling based on the ambient conditions in the room.
- This technology ensures energy-efficient operation by only using as much energy as necessary to reach and maintain the desired temperature.

OEM Alpha Control Unit Analog HK

The OEM Alpha Control Unit Analog HK is designed for heating and cooling panels. It provides precise temperature control and includes frost and valve protection functions.

Installation

1. Choose a suitable location on the wall for mounting the control unit.
2. Connect the control unit to the power supply (24 V or 230 V) as per the installation instructions.
3. Connect the control unit to the heating or cooling panels using the appropriate connections.
4. Securely mount the control unit on the wall using screws or adhesive as per the installation instructions.

Switching Between Heating and Cooling Modes

- The control unit automatically switches between heating and cooling modes based on the change-over input.
- If you want to prevent cooling in a particular room, such as a bathroom, you can disable the cooling function on the device.

Frost and Valve Protection

- The control unit includes frost and valve protection functions to ensure safe and efficient operation.
- The frost protection function prevents freezing temperatures in the controlled area, while the valve protection function protects the valves from damage.

FAQ

- **Q:** Can the OEM Alpha direct: System Room Thermostat be used for both water-based and electric underfloor heating systems?
- **A:** Yes, the room thermostat is compatible with both water-based and electric underfloor heating systems.
- **Q:** What power supply options are available for the OEM Alpha direct: System Room Thermostat?
- **A:** The room thermostat is available in both 24 V and 230 V power supply options.
- **Q:** Does the room thermostat have a weekly time switch feature?
- **A:** Yes, the room thermostat has an integrated weekly time switch that allows the programming of custom temperature profiles for each day of the week.
- **Q:** What is Smart Start/Stop technology?
- **A:** Smart Start/Stop technology is a feature of the room thermostat that adjusts heating or cooling based on the ambient conditions in the room. It ensures energy-efficient operation by using only as much energy as necessary.
- **Q:** Can the OEM Alpha Control Unit Analog HK be used for both heating and cooling panels?
- **A:** Yes, the control unit is designed for both heating and cooling panels.
- **Q:** Does the control unit include frost protection?
- **A:** Yes, the control unit includes a frost protection function to prevent freezing temperatures in the controlled area.

The new generation of a favourite product

- A perfect solution for all new builds and modernisation projects.
- Top-quality features, installation and user-friendliness.

OEM Alpha direct: System

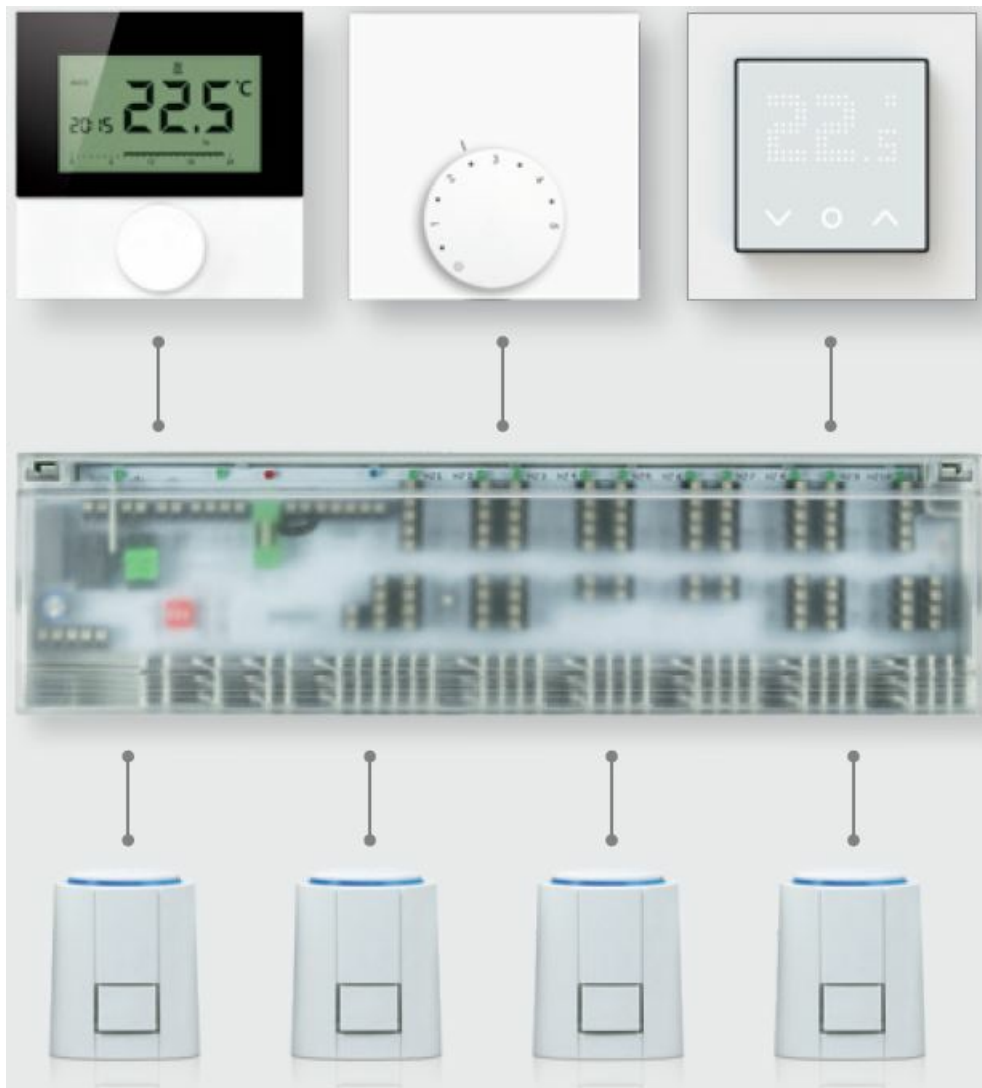- Classic room-by-room temperature control that makes no compromises

- A range of different factors influence people's feeling of well-being. Optimum distribution of heat plays a major role in making homes feel cosy.
- The majority of people like the radiant heat emitted by panel heating systems which ensure perfect distribution of heat. To function well, room-by-room temperature control needs to be highly precise and energy-efficient.
- It also has to offer a high degree of precision to adjust heating and cooling functions to people's needs as best as possible.
- The OEM Alpha direct: System is a room-by-room, wired temperature control system by Möhlenhoff in a modern design.
- All components in this traditionally wired room-by-room temperature control unit can be used independently or as part of a system. The control types and basic designs can be combined into one room-by-room temperature control system.
- The result is a response to simple as well as complex requirements for heating and cooling applications that tick all the boxes.
- The portfolio is complemented by a new room thermostat for the switch range that can be used for both water-based and electric underfloor heating systems.

OEM Alpha Room thermostat direct

- For heating and cooling applications
- A slender, high-quality design
- A broad range of devices for different applications
- User-friendly and intuitive to operate

- Easy to install

OEM Alpha Base station direct

- 24 V and 230 V versions, optionally with 6 or 10 zones
- Pump relay/boiler relay directly on-board
- Suitable for heating and cooling
- Tried-and-tested, easy installation

OEM Actuator 5

- 24 V and 230 V, normally closed (NC) or normally open (NO)
- Power consumption is just 1 watt
- 100 % waterproof regardless of installation angle (360 °)
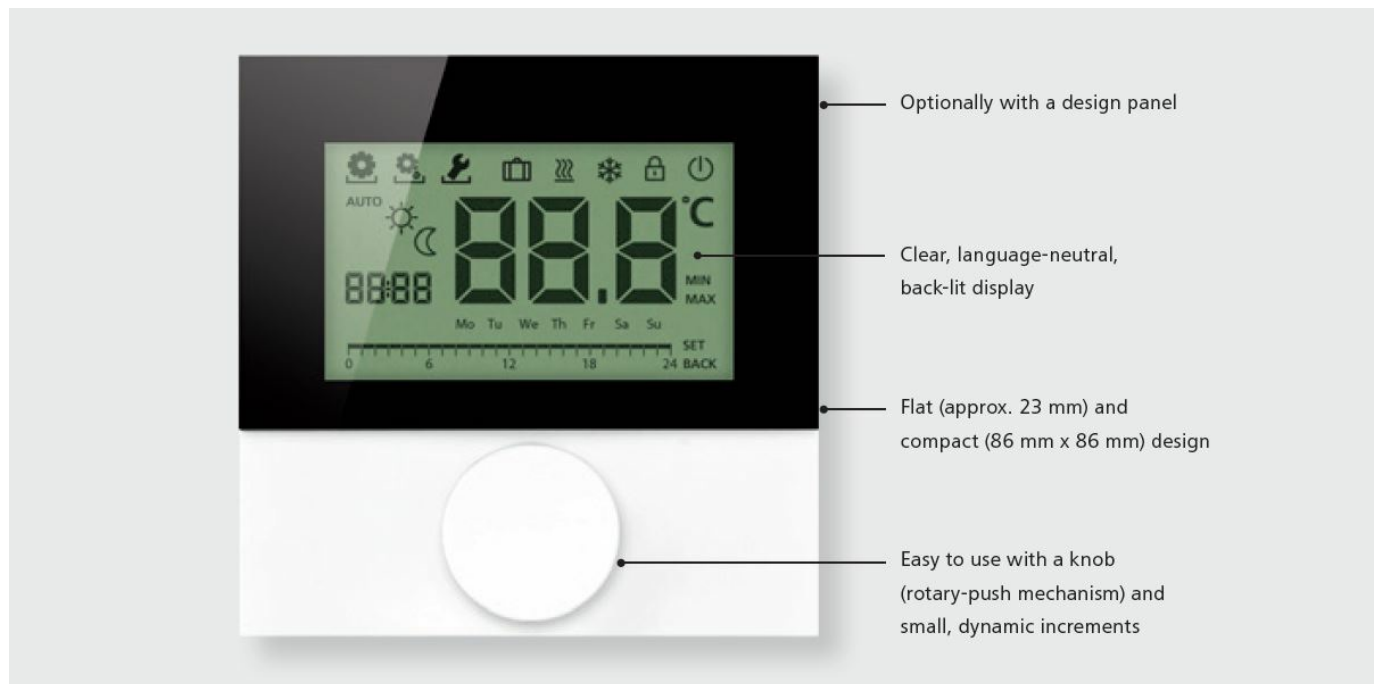- Established adaptor system for 99 % of all valves

Specifications at a Glance

- 24 V or 230 V, 6 to 10 zones – to comply with your requirements and system
- 21 connections for up to 18 valve actuators per base or 5 per room thermostat
- Very good value
- Standardised, certified components
- As a system or stand-alone solution
- Intelligent and very precise control
- Smart Start/Smart Stop technology for even greater energy efficiency
- Intuitive and easy to install
- Out-of-the box functionality
- Easy to operate
- Standardised, modern design series with OEM Alpha Smart System

OEM Alpha Room thermostat direct Display

High-precision control in a modern design

Optionally with a design panel

Clear, language-neutral, back-lit display

Flat (approx. 23 mm) and compact (86 mm x 86 mm) design

Easy to use with a knob (rotary-push mechanism) and small, dynamic increments

Alpha Room thermostat direct Display
Alpha Room thermostat direct Display is Möhlenhoff's new generation of high-quality room temperature controls with displays. With its restrained, timeless design, as well as generous, language-neutral LC display and practical knob with precise dynamic increments, the control looks impressive. The intuitive concept takes the user through the menu structure and allows easy navigation with a rotary-push mechanism. This allows direct access to functions like operating mode and holiday. The integrated weekly time switch allows the programming of customised temperature profiles. This guarantees people's day-to-day comfort and energy-efficient heating and cooling.

Smart Start/Smart Stop
Smart Start/Smart Stop technology is another highlight. Based on each room's ambient conditions, it recognises when it's time to start heating or cooling and adjusts itself exactly to the required temperature at the right time.

And during the process, it only uses as much energy as necessary.

A versatile device
The control is designed to handle any situation – as a stand-alone control with up to 5 valve actuators connected, or in a system with the Alpha Base station direct. It comes in various designs.
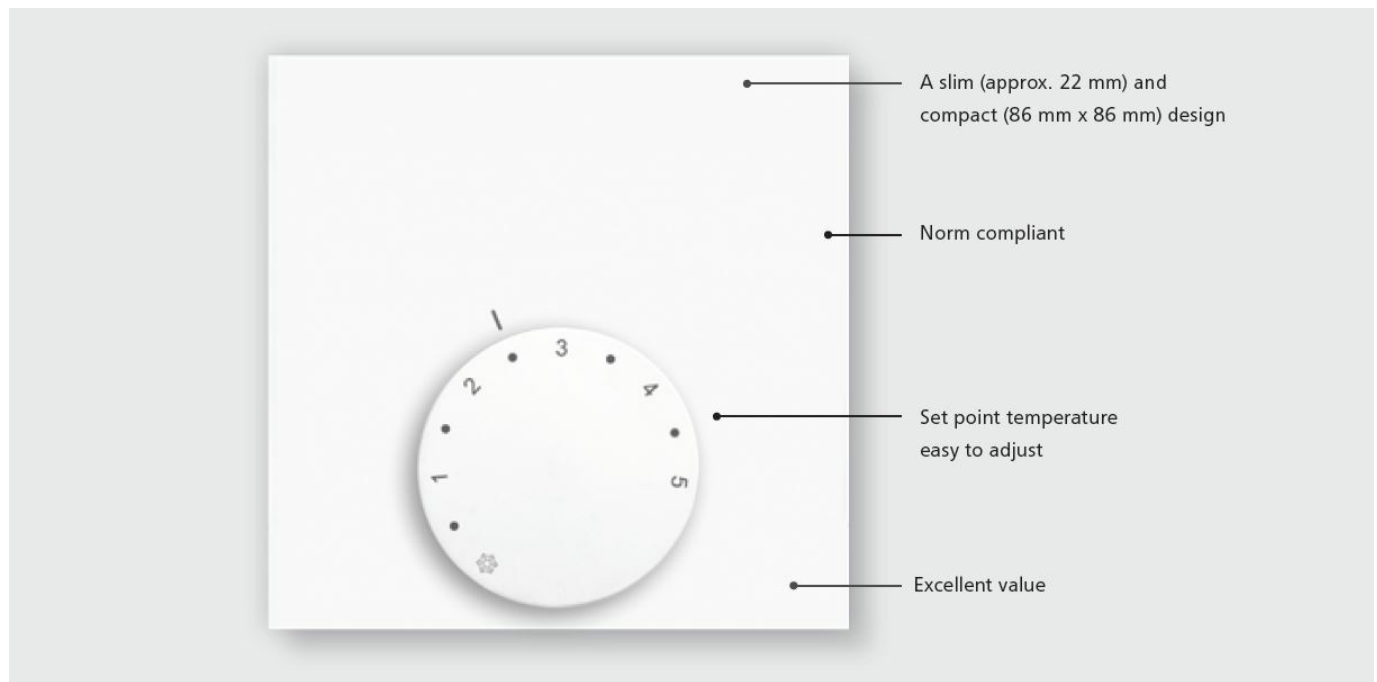
Highlights at a glance

- Type of control: PI
- Compliant with DIN EN 60730-1
- Smart Start/Smart Stop function
- Control algorithm to match heating system
- Adjustment of set point/actual value
- Cooling can be prevented
- Target temperature adjustable in 0.5 k increments
- Temperature range 5…30°C
- Frost and valve protection function
- Wall mounted/fitted on a flush-mounted box
- Easy, intuitive installation
- Intuitive user navigation and operation
- As a stand-alone version or as a system
- Heating and cooling program settings exactly to the day

	Standard	Comfort	Control
24 V / 230 V			
Display showing actuators' operating status	●	●	●
Setpoint limiter	●	●	●
Internal weekly time switch	–	–	●
Adjustable temperature reduction	–	●	●
Heating/cooling (change over)	–	●	●
Control direction NC/NO selectable	–	●	●
Smart Start/Stop function	–	–	●
Timer output	–	–	●

OEM Alpha Room thermostat direct Analog

Reduced to the max

A slim (approx. 22 mm) and compact (86 mm x 86 mm) design

Norm compliant

Set point temperature easy to adjust

Excellent value

OEM Alpha Room thermostat direct Analog
In the heating and heating/cooling types, the room-temperature control OEM Alpha Room thermostat direct Analog has been reduced to the max. This adds up to highly precise temperature control. The slim, modern design integrates superbly with any interior. Due to its excellent value, the various versions of the OEM Alpha Room thermostat direct Analog round off any product range to perfection. The set-point temperature is adjusted by a convenient rotatable knob with easy-to-read numbers. An actuator to adjust the set value and an optional actuator to limit the set point is located below the rotatable knob. When the user is absent, the control temperature is cut by 2 K via the timer input. As a stand-alone device, the OEM Alpha Room thermostat direct Analog can also control up to 5 valve actuators or is used as part of a system with the OEM Alpha Base station direct.

Heating and cooling
The Alpha Control Unit Analog HK is mainly used for heating and cooling panels. The switch between the two operating modes is automatically carried out via the change-over input. If required, the cooling function on the device can be prevented for a particular room (e.g. a bathroom). In this version, the control has a frost and a valve protection function.
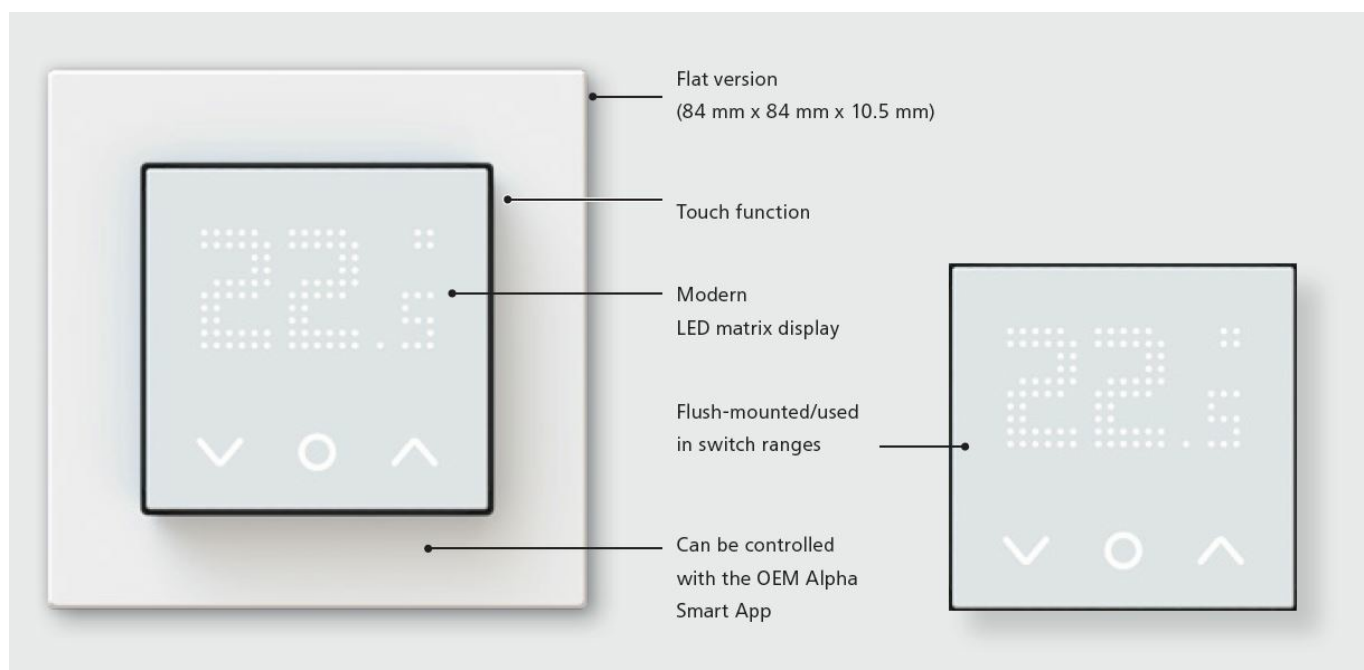
	Analog	Analog HK	Roomsensor	Roomsensor HK
24 V / **230 V**				
Heating	●	●	●	●
Cooling	–	●	–	●
Set temperature reduction (2 K)	●	●	●	●
Timer input	●	●	●	●
Set value adjustment/ Set point limiter*	●	●	–	–
Valve protection function	–	●	–	●
Frost protection function	–	●	–	●

Highlights at a glance

- Type of control: PI
- Compliant with DIN EN 60730-1
- Cooling can be prevented
- Target temperature finely adjustable by ¼ degrees
- Set value adjustment
- Frost and valve protection function
- Easy, intuitive installation
- Wall mounted/fitted on a flush-mounted box
- Optimum value

OEM Alpha Smartware Thermostat direct Matrix 230 V WiFi

For water-based and electric underfloor heating

Flat version
(84 mm x 84 mm x 10.5 mm)

Touch function

Modern
LED matrix display

Flush-mounted/used
in switch ranges

Can be controlled
with the OEM Alpha
Smart App

Two applications in one

Möhlenhoff's OEM Alpha Smartware Thermostat direct Matrix 230 V WiFi gives you a simple solution for two applications: room-by-room temperature control for water-based and electric underfloor heating systems is possible with this thermostat. The modern design LED matrix display allows the intuitive operation of the device via a touch screen. Connected to the WiFi in just a few steps, the OEM Alpha Smartware Thermostat direct Matrix 230 V WiFi is also easy to operate via the OEM Alpha Smart App.

Versatile integration

The OEM Alpha Smartware Thermostat direct Matrix 230 V WiFi is all about versatility. It can be fitted to all international flush-mounted boxes and be used in all standard switch ranges with 55 mm frames. If you don't want to fit the thermostat to the range of frames, the scope includes a replaceable frame it the thermostat is to be used on its own.
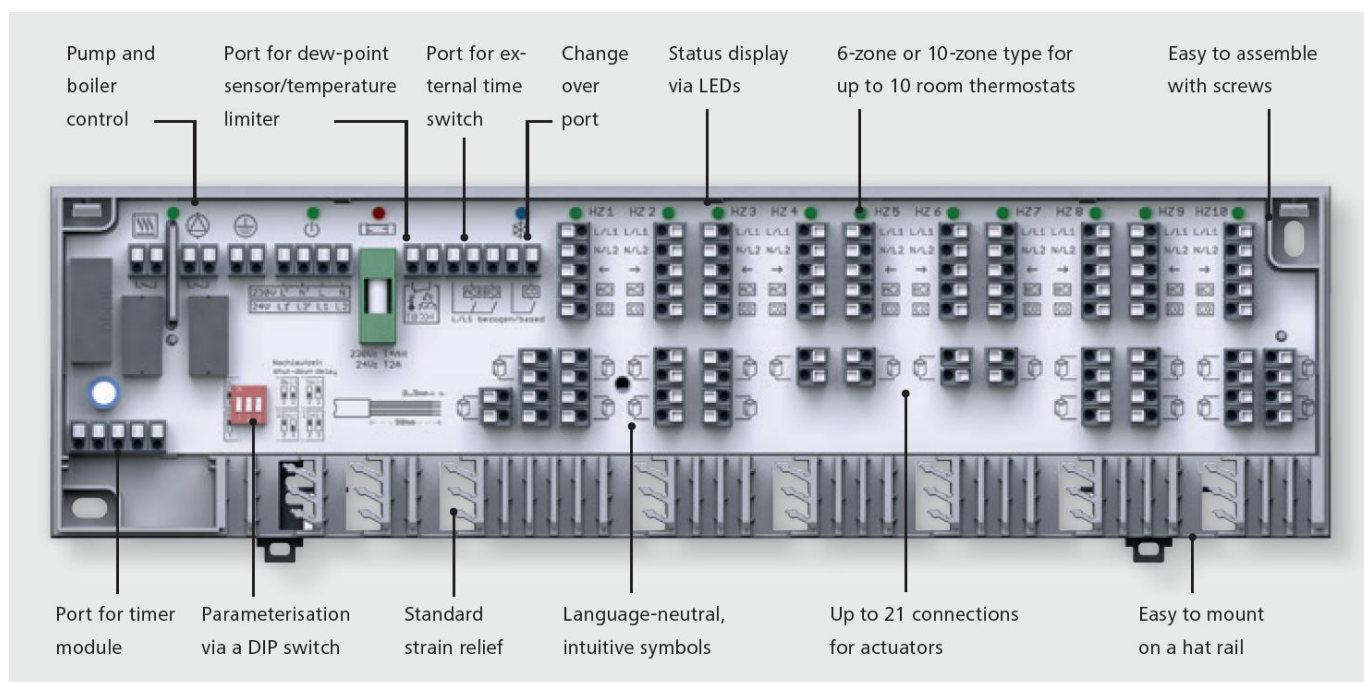
Highlights at a glance

- For water-based and electric underfloor heating systems up to 16 A/3680 W
- Modern design with an LED matrix display and touch screen
- WiFi functionality allows fast connection to the smart home
- Can be operated via the OEM Alpha Smart App
- Can be used on its own or in a switch range
- Weekly programs with up to 6 switching times per day
- Target temperature range: 0.5 …30°C
- Heats and cools when used in water-based systems (connection for changeover)
- Cooling mode can be deactivated for sensitive areas
- Connections for a floor temperature sensor and an external temperature sensor
- Maintenance free
- Excellent value
- Can be used in the OEM Alpha direct: System
- Can't be combined with the OEM Alpha Smartware base stations

	Water-based system	Electric heating
230 V		
Heating option	●	●
Cooling option	●	–
Control direction NC/NO selectable	●	–
Setpoint calibration /limitation	●	●
Internal daily/weekly programmes	●	●
Holiday mode	●	●
Automatic winter/summer time switchover	●	●
Connection for a floor sensor/ external sensor	●	●

OEM Alpha Base station direct

Optimum connections

Pump and boiler control	Port for dew-point sensor/temperature limiter	Port for external time switch	Change over port	Status display via LEDs	6-zone or 10-zone type for up to 10 room thermostats	Easy to assemble with screws

Port for timer module	Parameterisation via a DIP switch	Standard strain relief	Language-neutral, intuitive symbols	Up to 21 connections for actuators	Easy to mount on a hat rail

Perfectly in tune

Alpha Base Station Direct is the central connecting unit and provides power for all Alpha System direct components. In a clear layout, actuators and controls are easily and conveniently connected. The tried-and-tested wire management system and standard-compliant strain relief, as well as the screwless plug/clamp method,

guarantee reliable and fast wiring.

The Alpha Base station direct is optionally available in a 6 or 10 heating-cooling-zone design. A maximum of 10 room thermostats and 18 actuators (21 connections) are supplied with power. In the Komfort version, the device has ports to connect a pump and a boiler, or another electrical device.

Ports for external time switches that feature timer signals on room thermostats and (in the maximum configuration) a timer module in the lid of the housing allows a time-controlled reduction of room temperature. A dip switch adapts the device to NC or NO systems and adjusts the pump's pre-run and overrun times. The CO input makes this control system suitable for heating and cooling. The switch variant allows a fully functional customer-specific pre-configuration.

Highlights at a glance

- Up to 5 connections for actuators/zones
- Change-over input for heating/cooling
- Wall-mounted or on a hat rail
- Easy, intuitive installation with a screwless clamping method
- Connections laid out
- Automatic temperature reduction for 2 heating programs is possible via an external digital time switch
- Standard transformer (optional), standby < 0.3 watts
- Standard DIN EN 60730-1 compliant strain relief

OEM Alpha Base station direct

Overview of functions

24 V / 230 V	Standard	Standard Plus	Komfort	Control
Timer bus	●	●	●	●
Heating	●	●	●	●
Cooling	–	●	●	●
Input for temperature limiter/ dew-point sensor	–	●	●	●
Control direction NC/NO	NC/NO	NC	selectable	selectable
Integrated timer module	–	–	–	●
Pump/boiler output	–/–	●/–	●/●	●/●
LED status displays	●	–	●	●
Hydraulic balancing	–	–	–	–
Switch functionality	–	–	–	–

	Switch	Balance	Balance Switch
24 V / 230 V			
Timer bus	●*	●	●
Heating	●	●	●
Cooling	●	●	●
Input for temperature limiter/ dew-point sensor	●	●	●
Control direction NC/NO	NC**	NC	NC
Integrated timer module	–	–	–
Pump/boiler output	●/–	●/●	●/●
LED status displays	●	●	●
Hydraulic balancing	–	●	●
Switch functionality	●	–	●

Advantages at a glance

High-tech from a specialist

- Reliable technology with a good track record, developed and tested by Möhlenhoff
- Quality products compliant with standards

Best OEM service

- A distinctive look due to a range of different types/functions
- A consistent market presence

A coherent and compatible system

- A perfectly coordinated product range
- Future-proof
- Standardised design

Ideal in new builds

- Excellent for new builds and refurbishment projects
- Easy to plan
- The right solution for any requirements

Easy to install

- Simple and convenient to install in just a few steps
- Safe to set up and operate

Expertise

- High-quality product
- Top support
- Satisfied customers from day one

Energy and cost savings

- Saves up to 20% on heating energy
- Can be controlled to match personal levels of comfort and lifestyles

An attractive design

- Integrates well with today's and tomorrow's interiors
- Timeless, restrained design that pledges quality

Reliable and child's play to operate

- Reliable technology
- Convenient and intuitive to operate
- Safe to use

The outlook for OEM partners

Range of products and services
Providing application-driven advice and technical support for our products and systems are part of the services we deliver to our OEM customers. We also offer in-depth product information to assist in providing customised technical literature and advertising materials.

Guarantee of quality

- Möhlenhoff has recognised testing, inspection and simulation devices that make our high level of quality and innovation possible.
- We underpin this high standard by providing a modern management system.
- We also ensure our staff are quality-driven and have a strong environmental awareness.

Tailored system modifications

- We can offer different logos, casing designs, packaging or additional functions.
- Möhlenhoff's OEM solutions enable you to present a customised image to the market.
- As a result, you can create a distinctive product portfolio, adapted exactly to your customers' wishes.
- Contact us for advice on how to make your products stand apart.

Your OEM partner

- Möhlenhoff GmbH has been an established player on the international market for more than 4 decades.
- The company is a reliable, expert OEM that excels.
- These factors, combined with innovative ideas and a spirit of fairness in partnerships, have made it a very successful player worldwide for years.
- As an OEM, Möhlenhoff GmbH supplies products and complete systems for heating, ventilation and air-conditioning systems.
- As a specialist in control components and systems, the company offers its expertise to manufacturers worldwide.
- Möhlenhoff GmbH is a global market leader in thermal valve drives.

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Documents / Resources

Mohlenhoff OEM ALPHA Smart System [pdf] User Guide
OEM ALPHA Smart System, OEM ALPHA, Smart System, System

References

- ⊕ **Möhlenhoff GmbH - The OEM for Heating, Ventilation & Air Conditioning**
- Ⓜ **Möhlenhoff - Der OEM Hersteller für Heizungs-, Lüftungs- & Klimatechnik**
- **User Manual**