

## Alpha Smartware Base Station

The Alpha Smartware Base Station is the central connection and control unit for precise centralized room-by-room temperature control system of surface heating systems.

The Base Station processes the registered target and actual temperatures of connected Alpha Smartware room control units. According to this information, the rooms are always set to the specified temperature via the connected thermal actuators.

Alpha Smartware components can be installed and operated standalone without an Internet connection. Alternatively, there is the possibility of expansion and integration into the cloud-based Alpha Smart Home System and thus an intelligent control and individual configuration via Alpha Smart App.



### 1.1 Features

- High-quality, modern OEM design
- OEM differentiation of appearance and function
- Perfect for the use in detached and multi-family houses
- Uses the 868.3 and 869.525 MHz SRD band
- Secure due to AES 128 encryption of user data
- 230 V versions with 6 or 10 zones,
- Proven cable guide and strain relief
- Screwless plug-in/clamping connection technique
- Connection of a maximum of 14 A5 actuators (1 - 2 per zone)
- Integrated pump module
- Perfect control algorithm thanks to years of experience.
- Automatic load balancing for balanced heating medium flow. Ideal for heat pumps
- Automatic hydraulic balancing (TÜV Rheinland certified)
- Heating profiles with different temperatures and switching times
- Operating modes (frost protection, automatic, emergency, vacation)
- Smart Start/Stop function with self-learning effect for an even more energy-efficient operation
- Valve protection function and pump protection function
- For actuators with control direction NC
- Typical radio range in free field: 270 m.
- Secure radio technology for optimal positioning without cabling effort
- Proven, easy installation and maintenance
- Easy operation, programming, initialisation
- Universal bus for future extensions
- Compatible with Alpha Cloud Services. Subsequent expansion of standalone operation to a comprehensive smart home solution via IoT gateway

### 1.2 Versions and scope of delivery

The basic version of the Alpha Smartware base station is supplied in gray as a neutral version without a logo.

The Quick Install Guide for installation and commissioning is included in the following 12 languages:

- German
- English
- French
- Dutch
- Italian
- Spanish
- Danish/Norwegian
- Finnish
- Swedish
- Polish
- Russian

For more details on the products, system and cloud solutions, visit [www.alphasmartware.de](http://www.alphasmartware.de).

Version	Option	Operating voltage	Zones	Scope of supply
EC-52010-06	Standard	230 V	6	OEM Alpha Smartware Base Station in individual packaging Commissioning instructions in 12 languages
EC-52010-10	Standard	230 V	10	

### 1.3 Alpha Smartware accessories: Base Station

- Thermal valve drives 230 V

### 1.4 Optional extensions or differentiations to the basic version

Packaging	Packaging can be manufactured and printed individually according to requirements.
Imprint on casing	Pad printing of the company mark (e. g. logo), the individual type designation and your device designation
Light strip	Individual colour adaptation

Casing	Bottom – adaptation of colour, marked casing lines on request Cover – individual colour and transparency, shape and discontinuation by casing lines
DIN rail	The scope of delivery is extended by a DIN rail for installation in the heating circuit distributor
Please contact us if you have further wishes.	

## 2 Function

### Standalone operation (local pairing or preconfigured) without connection to Alpha Cloud Services



- **Simple pairing at the touch of a button**
  - Fast allocation of room control units to the desired zones
  - No internet connection required for commissioning and use
- **Control via room control unit radio with display**
  - Comfortable commissioning of the system without auxiliary material
  - The most important functions are accessible with the room control unit display

### Extension of system functions by means of IoT gateway



- **Upgrade via IoT Gateway**
  - Adding an IoT gateway enables access to the Internet
  - Thus, full access to the system is achieved via the Alpha Smart App
- **Control via Alpha Smart App**
  - Convenient parameterization and configuration of the system via app
  - Maximum comfort feeling in every room
  - App available for iOS and Android
  - User-friendly, intuitive operation
  - Access the system from anywhere
  - Ability to react quickly and flexibly to changes
- **Individual software application**
  - Customer-specific software solutions/parametrisations for an optimum adjustment of your overall system including unique position characteristics

**Regulation and control functions**

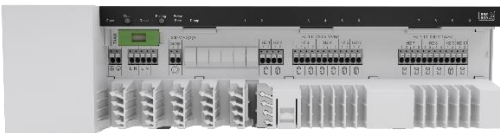
- **Automatic load balancing**
  - Thanks to state-of-the-art control, the heating medium flow is controlled in such a way that load peaks and sinks are almost completely eliminated. Thus, a more continuous flow of heating medium is obtained, which keeps the power generator in the optimal working range.
- **Integrated pump module including pump protection function**
  - Pump activation via potential-free contact
  - Base station as interconnected 230 V source for a direct connection of the pump.
  - Starting and coasting delay predefined with 2 minutes
  - Cyclic switching of the pump in order to avoid damage during longer times of standstill
- **Emergency operation**
  - Cyclic triggering of the actuators of a zone if no signal is received from it for a prolonged time (e. g. due to empty batteries).
  - Prevents a complete cooling of the affected zone.
- **Antifreeze protection**
  - Avoids the freezing of lines during times without temperature control (e. g. in case of absence)
- **Valve protection function at all outputs**
  - Cyclical triggering of actuators
  - Avoids the clogging of valves in times without temperature control
- **Smart Start function**
  - With self-learning effect
  - Automatic calculation of the required heating lead times and heating lag times
  - Exact provision of the temperature desired by the user at the set point of time with as low energy consumption as possible
  - No over-heating of rooms
- **Möhlenhoff OEM Online Service**
  - Download of comprehensive product documentation from [www.alphasmartware.de](http://www.alphasmartware.de)

### Operation and indication



- **Programming and operation via pushbuttons**
  - Comfortable programming and operation of Base Stations via pushbuttons (always accessible even when the cover is closed)
- **Clearly arranged, always well visible LED status indications for**
  - Operating status (on/off)
  - Fuse
  - System pairing
  - System errors
  - One status LED per heating zone
  - Switching state of the pump output
  - Poor reception
  - Pairing with room control units

### Connections (inputs and outputs)



- **Comfortable plug-in/clamping technology**
  - Quick connections of up to 14 actuators
  - Minimum effort for pump control integration
  - For solid and flexible cables 0.2 - 1.5 mm<sup>2</sup>
- **Outputs:**
  - Up to 14 thermal actuators (up to two actuators per zone)
  - Pump control
- **Other connections:**
  - Universal bus for future extensions
  - Mains connection
  - Mains connection tap (e. g. for the supply of a pump)
- Combination of several heating circuits with only one room control unit in large rooms

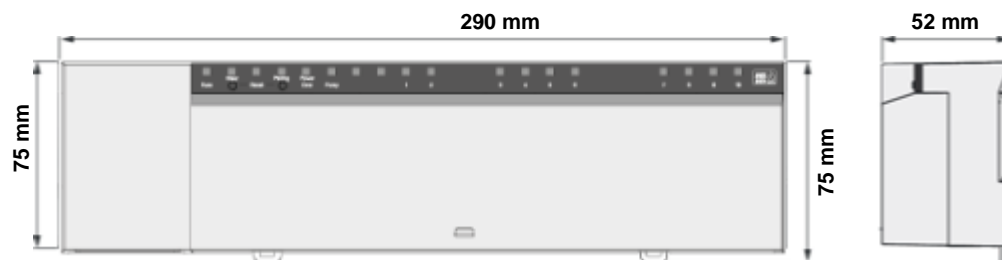
### 3 Technical data

	EC-52010-06	EC-52010-10
Max. number of heating zones	6	10
Operating voltage	230 V / ±10% / 50 ... 60 Hz	
Power consumption in idle operation	1.5 W	
Max. Number of actuators	4x2 + 2x1	4x2 + 6x1
Max. power input (without pump)	50 W	
Fuse	5 x 20 mm, T4AH	
Degree of protection	IP20	
Radio technology	868.3 and 869.525 MHz SRD band	
Radio protocol	cSP-L	
Type: Free-field radio range	270 m	
max. nominal load of all actuators	24 W	
Switching element design	Relay	
Switching power per heating zone	Max. 1 A admissible	
Overcharge protection	Current limitation via device fuse	
Pump connection	Contact: Single pole switching/closer relay/direct pump supply possible	
Lead time/follow-up time	2 minutes	
Switching power	8 A at cos $\phi$ =1 / inductive max. 200 VA	
Universal bus connection	RJ12	
Connection terminals		
Line cross-section: massive	0.2 to 1.5 mm <sup>2</sup>	
Conductor section: Finely stranded with ADH without plastic sleeve	max. 1.0 mm <sup>2</sup>	
Conductor section: Finely stranded with ADH with plastic sleeve	max. 0.75 mm <sup>2</sup>	
Wire stripping length	8 to 9 mm	

	EC-52010-06	EC-52010-10
Heating zones LED	green (one LED per HZ)	
Fuse-LED	red	
Pairing	yellow	
Clear	yellow	
Power / Error	green / red	
Pump	green	
Setting button Pairing	available	
Setting button Clear	available	
Control response	PI / 2-point after manual target temperature change for 30 minutes	
Controlling precision of the set target value:	±1 K	
Type: Hunting	±0.2 K	
Admissible ambient temperature	0 ... 50 °C	
Admissible ambient humidity	5 to 80%, not condensing	
Storage/transport temperature	-25 °C ... +70 °C	
Standards and regulations	2014/53/EU radio equipment; RoHS Directive 2011/65/EU	
ERP class acc. to EU 811/2013	1=1 %	
Mains connection design	NYM connection terminals 3 x 1.5 mm <sup>2</sup>	
Material	PC+ABS	
Colour	RAL7035 (light grey)	
Outer dimensions	290 x 52 x 75 mm	
Weight	670 g	700 g

### 3.1 Dimensions

#### 3.1.1 6-zone base station/10-zone base station



### 3.2 Approvals & certificates



The CE identification documents that the products that the products placed on the market comply with the applicable requirements of the EU Directives.