



## HCE20

### 6 zone heating/cooling underfloor controller

#### APPLICATION

The HCE20 is a wired underfloor heating controller for both heating and cooling.

The controller can control up to six individual temperature zones.

For the temperature control of the individual Zones/rooms the OpenTherm® room thermostats T4M, T87M and T87HC are used.

With the T4M as Zone 1 thermostat it is possible to set also the other zones to an energy saving temperature (ECO function).

For example, if the program in the T4M goes the night setting the other zones will also go to a lower temperature.

Also with the T4M as zone 1 thermostat the changeover from heating to cooling or vice versa can be made.

The heat demand from all the zones is via a fuzzy logic control algorithm converted into general heat demand. An on/off or OpenTherm® communicating boiler can be controlled with the different outputs.

An integrated pump relay ensures that the pump runs when heat is requested from one of the zones.

If required, an outdoor and supply water temperature sensor can be connected to control the boiler according to outdoor temperature compensation.

Cooling can easily be added via a cooling module. This module has a cooling demand output and a heat/cool changeover input to change the status of the controller (external switch).

There is also a separate heating and cooling status output to control the valves in the supply pipes.

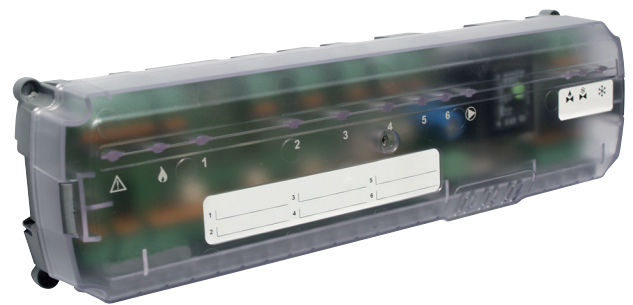
#### APPROVALS

European EN approvals:

- ETSI EN 300 220-1
- EN61000-6-1(2007)
- EN61000-6-3(2007)
- EN60730-1(2007)

Environmental requirements:

- RoHS
- WEEE



#### SPECIAL FEATURES

- 6 temperature controlled zones with (OpenTherm® or on/off) thermostats
- Max. 4 thermo actuators per zone
- Integrated 230 V pump relay
- Boiler control
  - OpenTherm®
  - Integrated potential free relay contact (230 V)
- Optional “Cool module” extension
  - Changeover via Zone 1 thermostat or heat/cool input
  - Control of heat or cool demand
  - Humidity switch input to switch off cooling
  - Option to switch off cooling for zone 6 (e.g. bathroom)
- Fast installation, no screws used for wired terminals (except for power and pump)
- Intelligent Fuzzy Logic algorithm for temperature control
- LED status indications on cover of controller

## TECHNICAL DATA

Specifications	
Application:	Wired underfloor heating system With only heating or heating and cooling functionality
Number of zones:	6
Inputs	
Zone 1 – 6:	OpenTherm® or on/off thermostat input
Supply water sensor:	20K NTC sensor
Outdoor sensor:	20K NTC sensor
Outputs	
Zone 1:	3 x 230 V TRIAC (actuator) output
Zone 2:	3 x 230 V TRIAC (actuator) output
Zone 3:	2 x 230 V TRIAC (actuator) output
Zone 4-6:	1 x 230 V TRIAC (actuator) output
Pump:	230 VAC
Heat demand (boiler):	OpenTherm® On/off relay 230 VAC
Cascade link:	Option for multiple controllers
DIP switches	
1:	Zone 1 is leading thermostat (yes/no)
2:	ECO function (on/off)
3:	NO or NC valves
4:	No cooling in zone 6
Environmental	
Wiring:	Connection terminals suitable for wires from 0.15 to 1.5 mm <sup>2</sup>
Power supply:	230 VAC +10, -15 %, 50 Hz
Maximum power:	12 VA

Extension – Cool module	
Inputs	
Cool demand:	Cool demand Status output heating or cooling (230 V)
Heating cooling status:	2 relay outputs switching 230 V
Inputs	
Heat/cool changeover input:	Digital input
Humidity switch input:	Digital input
DIP switches	
1:	Zone 1 thermostat or external heat/cool changeover

## TRANSPORTATION AND STORAGE

Keep parts in their original packaging and unpack them shortly before use.

The following parameters apply during transportation and storage:

Parameter	Value
Min. ambient temperature:	0 °C
Max. ambient temperature:	40 °C
Min. ambient relative humidity:	0 % *
Max. ambient relative humidity:	90 % *

\*non condensing

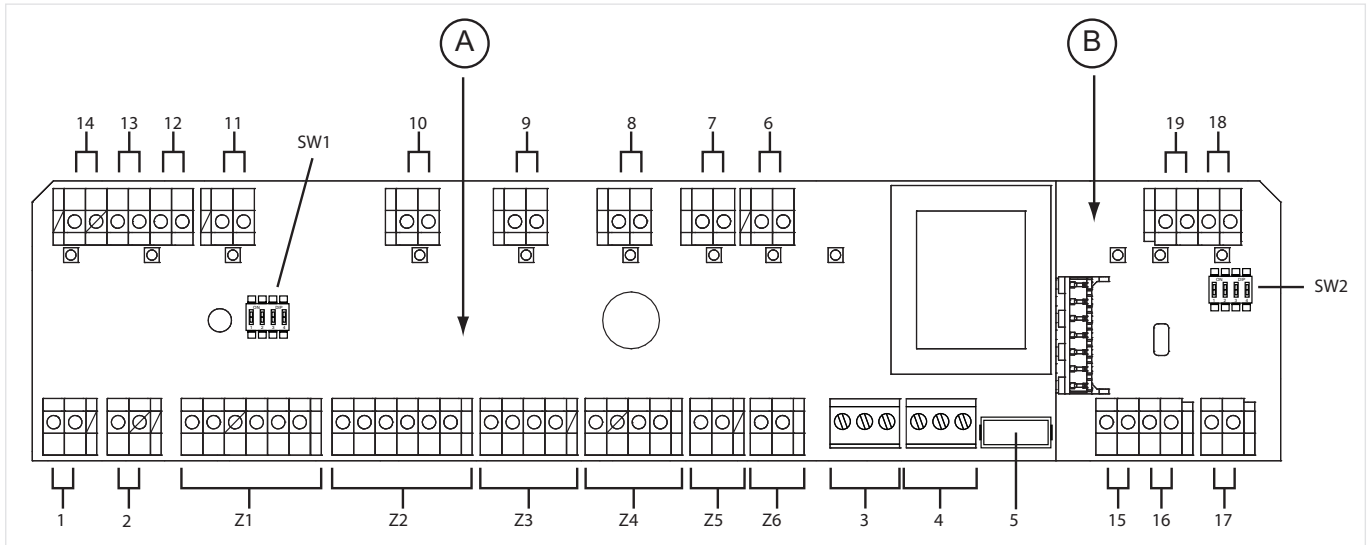
## INSTALLATION GUIDELINES

### Setup requirements

- The HCE20 controller can be placed directly on the wall with 4 mounting holes or can be placed on a standard DIN-rail

## TECHNICAL CHARACTERISTICS

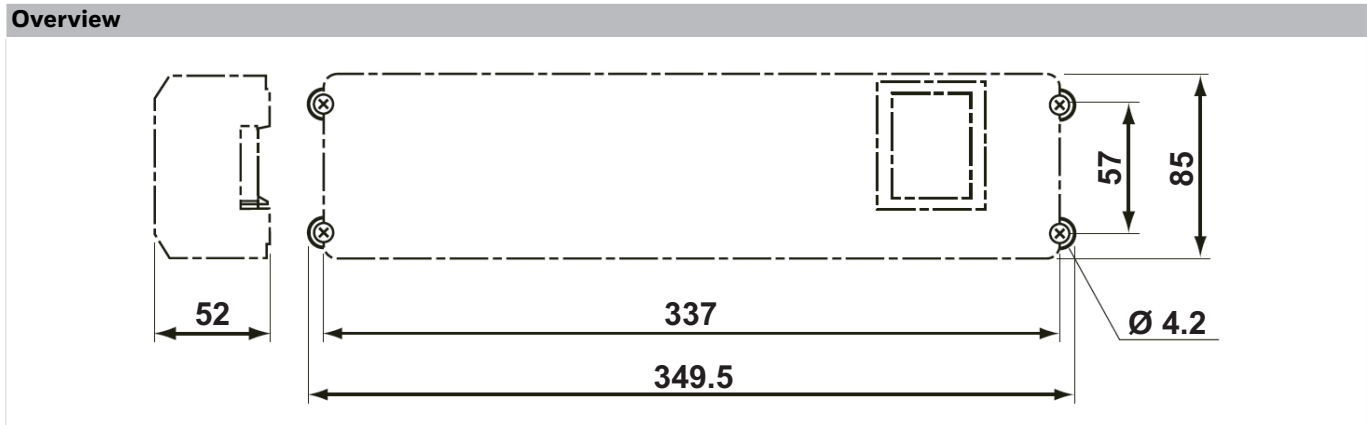
### Wiring



- 1 Main PCB  
2 Cool PCB

Number	Terminal
<b>1</b>	Heat demand OpenTherm®
<b>2</b>	Heat demand (relay, on/off)
<b>3</b>	Pump 230 Vac
<b>4</b>	Mains power 230 Vac
<b>5</b>	Fuse 230 Vac; 2,5 A; fastl
<b>6 - 11</b>	Zone 1 – 6 thermostat
<b>12</b>	Outdoor temperature sensor
<b>13</b>	Supply water temperature sensor
<b>14</b>	Link
<b>Z1 - Z6</b>	Thermo actuators for 6 zones, maximum 4 per zone
<b>15</b>	Valve heating (230 Vac)
<b>16</b>	Valve cooling (230 Vac)
<b>17</b>	Cool demand (relay, on/off)
<b>18</b>	Humidity switch input (on/off)
<b>19</b>	External Heat/Cool changeover
<b>SW2</b>	DIP switch
<b>SW1</b>	DIP switch

## DIMENSIONS



Note: All dimensions in mm unless stated otherwise

## ORDERING INFORMATION

### Options

OS.-No.	Description
HCE20G1011	6 zone heating/cooling underfloor controller version with English literature
HCS20-C	Cool module

### For more information

[homecomfort.resideo.com/europe](http://homecomfort.resideo.com/europe)



Ademco 1 GmbH  
 Hardhofweg 40  
 74821 MOSBACH  
 GERMANY  
 Phone: +49 6261 810  
 Fax: +49 6261 81309

Manufactured for and on behalf of the  
 Pittway Sàrl, La Pièce 4, 1180 Rolle, Switzerland  
 by its Authorised Representative Ademco 1 GmbH  
 EN0H-2808GE23 R1020

Subject to change

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