

Discover our  
product portfolio!

SOLAR THERMAL | HEATING | HEAT TRANSFER  
PV HEATING | BUILDING MANAGEMENT | VISUALISATION

[www.resol.com](http://www.resol.com)



# SOLAR CONTROLLERS



## DeltaSol® AL E HE

For standard solar systems with electric backup heating

- Direct connection of an electric immersion heater up to 3 kW
- Solar backup heating suppression
- Rapid heat-up also with RCTT remote control
- Drainback option, tube collector function, thermal disinfection

## DeltaSol® CS series

The versatile solution for many standard applications

- Input for a VFD Grundfos Direct Sensor™, suitable for heat quantity measurement
- Up to 10 pre-programmed basic system layouts

## DeltaSol® SL

27 basic system layouts with up to 3 hydraulic variants each to choose from

- Heat quantity measurement also by means of a Grundfos Direct Sensor™ or impulse input
- With a potential-free relay for boiler demand
- Integrated MicroSD card slot
- Microbuttons for quick access to the manual mode and the holiday function

- 40 years of experience in the solar thermal and control technology field
- From simple differential temperature controllers up to controllers for solar thermal and combined systems

- Many different sensor inputs: Pt and semiconductor temperature sensors, Grundfos Direct Sensors™, impulse inputs, etc.
- RESOL apps for visualisation

- RESOL VBus.net Internet portal
- Remote parameterisation with RPT



# SYSTEM CONTROLLERS



## DeltaSol® SLT

The smallest freely configurable system controller

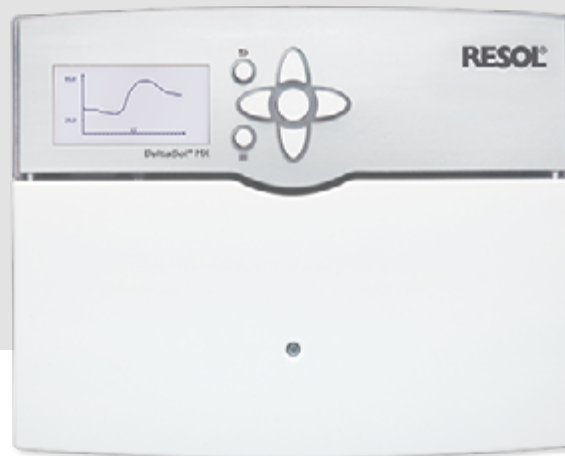
- Heat quantity measurement also by means of a Grundfos Direct Sensor™ or impulse input
- Microbuttons for quick access to the manual mode and the holiday function
- Integrated MicroSD card slot
- 27 basic systems to choose from



## DeltaSol® BX Plus

System controller for multi-store solar and heating systems

- Up to 2 extension modules via VBus® (21 sensors and 15 relays in total)
- Weather-compensated heating circuits
- Modulating heating control with 0-10 V boiler control
- Cooling over the heating circuit with condensation detection



## DeltaSol® MX

Our most versatile system controller for complex solar and heating systems

- Up to 5 extension modules via VBus® (45 sensors and 39 relays in total)
- Cooling over the heating circuit with condensation detection
- Dew point calculation by means of the FRH(d) humidity sensor to avoid condensation

- Optimum collaboration of solar, arrangement and heating system parts
- Different energy-saving and efficiency-boosting functions

- Many pre-programmed optional functions from bypass to zone loading
- Data logging, storing and firmware updates via SD memory card

- Automatic function control according to VDI 2169
- Remote parameterisation with RPT
- RESOL VBus.net Internet portal



# HEATING CONTROLLERS



## DeltaTherm® HC mini

Controls a weather-compensated heating circuit and its backup heating demand

- Modulating heating control with 0-10V boiler control

## DeltaTherm® HC

Controls a weather-compensated heating circuit (up to 6 with EM Extension Modules), the DHW loading and the afterheating demand for both

- Weather-compensated control with room influence or demand-based room control with up to 5 room temperature sensors

## DeltaTherm® HC MAX

Controls up to 4 weather-compensated heating circuits (up to 7 with EM Extension modules), the DHW loading and the backup heating demand for both

- Dew point calculation by means of the FRH(d) humidity sensor to avoid condensation

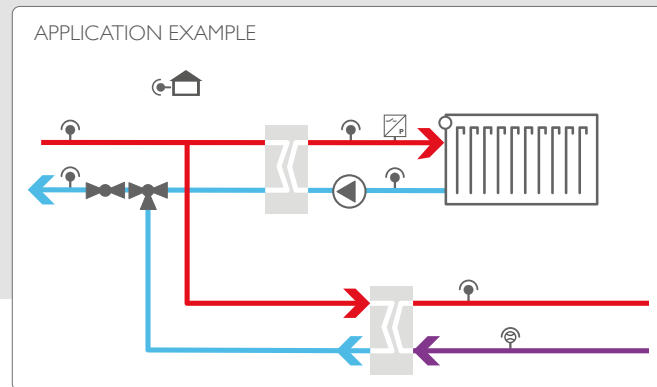
- From small water heating stoves up to large multivalent systems
- Room thermostats from all manufacturers can be connected
- Remote parameterisation with RPT

- Remote access with a room control unit or the VBus®Touch HC App
- RESOL VBus.net Internet portal
- Data logging and storing via SD memory card and/or Datalogger.

- ErP kits with matching accessories for different temperature controls classes available



# HEAT TRANSFER



## DeltaTherm® HIU

### Controller concept for heat interface units

RESOL offers individual solutions for the control of OEM heat interface units.

The **DeltaTherm® HIU** is a controller for heat interface units and can be used for heating circuit control as well as for DHW heating.

The controller concept enables adaptation to the individual requirements. The graphic menu and pre-programmed functions ensure high operating comfort.

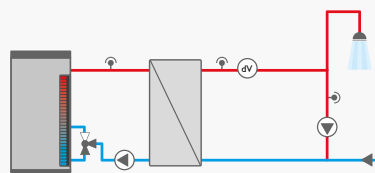
- Heating circuit control with DHW exchange switchover
- Return limitation, night correction, summer operation, etc.
- DHW with standby function
- Weather-compensated control or demand-based room control
- Control of PWM pumps and valves
- Adaptable to many commonly used flow rate sensors
- Remote access with a room control unit
- Data logging and firmware updates via SD card



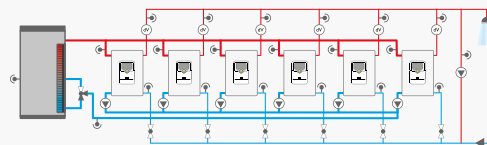
# DHW EXCHANGE CONTROLLERS



APPLICATION EXAMPLE



APPLICATION EXAMPLE



## DeltaSol Fresh®

### DHW exchange controller platform

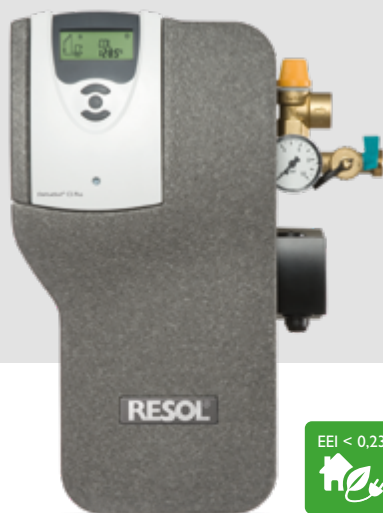
RESOL offers a range of solutions for the control of DHW exchange modules. The controller platform is equipped with an enhanced and faster control algorithm and enables the precise and energy-efficient control of the draw-off temperature.

In order to achieve the best possible control quality, our laboratories run a number of dimensioning tests and check measurements. Classification of control quality is conducted on the basis of research results of the Rapperswil Institute for Solar Technology and the Institute for Solar Energy Research in Hamelin (ISFH).

- Constantly high control quality by adaptation to the end user system by means of self-learning neural networks
- Customised control for systems with or without circulation
- Flexible circulation function for different user profiles, also available with thermal disinfection
- Reliable DHW heating even in the case of a fault condition
- Control of PWM and LIN bus pumps
- Adaptable to many commonly used flow rate sensors
- Cascades of up to 6 DHW exchange controllers or stations



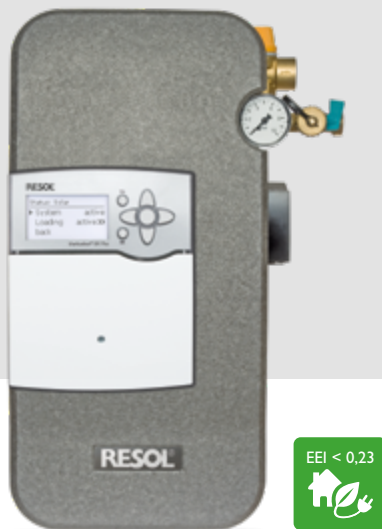
# PUMP STATIONS & ACCESSORIES



## FlowSol® S HE

Single-line pump station

- Safety assembly with connection for the expansion vessel, safety valve and pressure gauge
- Fill and drain valves



## FlowSol® B HE

Twin-line pump station

- Innovative hinged controller panel for easy access to the hydraulic components
- Safety assembly with connection for the expansion vessel, safety valve and pressure gauge



## SBS 2000

Filling and flushing station for heat transfer fluids and cleaning fluids

- Extra-large filling opening
- Safety plug and switch at an ergonomic height
- Powerful pump

- As a control technology specialist, we develop stations and controllers in perfect sync – for an optimum outcome
- Available with different pumps and controllers

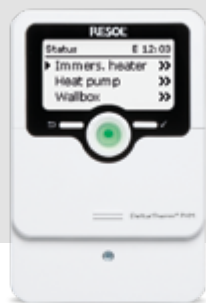
- All units necessary for the operation of a solar system combined in one pre-assembled station
- Broad range of accessories – perfectly matched with station and controller

- OEM versions and customised housing prints possible even for small-batch series
- Award-winning functionality and design



# PV HEATING

Intelligent distribution of excess PV current



## DeltaTherm® PHM

The **DeltaTherm® PHM** is the ideal solution for using excess PV current for the control of different loads. Heat pumps, electric immersion heaters, and charging stations for electric vehicles can be controlled as needed.



## DeltaTherm® PV

The **DeltaTherm® PV** is used for the direct and stepless control of an electric immersion heater in the store. Installation is quick and easy.

also available as a 9 kW version



## FlowSol® E

The **FlowSol® E** electrothermal station is equipped with a HE pump as well as with an electric heating up to 3 kW. Intelligent control technology enables optimum store stratification, e.g. loading of the upper store zone for optimum energy use.

The products from our "PV heating" category enable you to use your PV current e.g. by converting excess current into thermal energy.

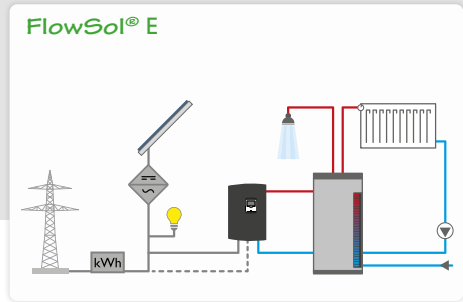
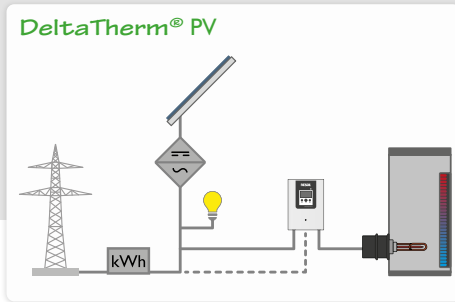
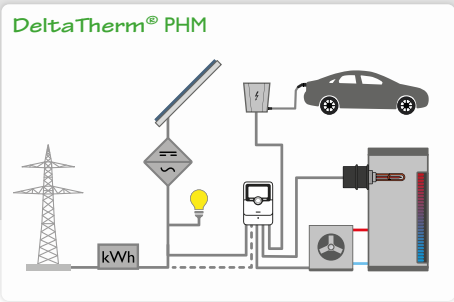
They form the missing link between the photovoltaic system and the heat generator – for more independence, decreased heating costs and less CO<sub>2</sub> emissions.



Available accessories:  
Electric immersion heater,  
3 kW 230V~



Examples



	DeltaTherm® PHM	DeltaTherm® PV	FlowSol® E
Electric immersion heater, stepless variable up to 3 kW	-	✓	✓
Electric immersion heater, constant power stage	3 x via auxiliary relays	-	-
Control of a heat pump	✓	-	-
Control of a wallbox	✓	-	-
Control of external loads	-	-	2 x via auxiliary relays
Backup heating with mains current (optional, time-controlled)	✓	✓	✓
SmartRemote access	✓ (on/off)	✓	✓
0-10 V power control	-	✓	✓
Inverter power limitation	-	✓	✓
Suitable for all grid-connected systems	✓	✓	✓
Can be easily fitted to the systems	✓	✓	✓
Household current priority	✓	✓	✓
Visualisation via VBus.net	✓	✓	✓
MircoSD card slot	✓	inside the housing	✓

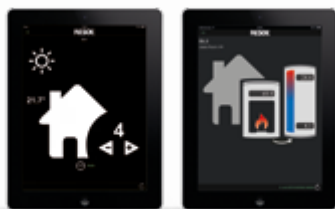


# VISUALISATION



- Controllers, Dataloggers and visualisation solutions from one and the same developer team
- Software solutions for remote parameterisation, data evaluation and visualisation
- Connection to a building management system via BACnet/IP or Modbus/TCP
- Apps for different purposes
- VBus.net – the Internet portal for your system
- Configure your controllers from your PC, free of charge, with RPT
- The best solution for each computer and all mobile devices
- OEM versions of all solutions possible with your design

## VBus®Touch apps



VBus®Touch HC

VBus®Touch FK

### VBus®Touch HC

Adjust your heating via app  
Use mobile devices to adjust your RESOL heating controller:

### VBus®Touch

Keep an eye on your solar system  
View detailed temperature charts, generate yield balances and monitor the status of your system.

### VBus®Touch FK

Your mobile remote display  
Turn your mobile devices into a remote data display for your RESOL controller with a solid fuel boiler function.

### VBus®Touch Trainer

Your controller as an app  
Ideal for all who wish to train – themselves or others – in operating RESOL controllers.



Freely configurable Dashboard  
– your live system or diagram incl.  
weather data at a glance.

## VBus.net

The Internet portal for easy and secure access to your system data – [www.vbus.net](http://www.vbus.net).

With VBus.net, you can display live data of your system. Furthermore, you can create and download diagrams for defined periods of time from the data stored.

- Suitable for all RESOL controllers connected to a datalogger / communication module
- Basic version free of charge
- For every operating system and all mobile devices worldwide  
– no software installation required



Live system editor with extended format  
and layout functions



Customise and design  
your own diagrams



Automatic e-mail notifications  
and reports

