





Discover our product portfolio!

All around heating and solar thermal control technology

www.resol.com





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

? Why RESOL solar controllers?

- 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





DeltaSol[®] SLT

The smallest freely configurable system controller

- LAN interface, Mini-USB port
- 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
- 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 0-10V boiler control
- Energy efficiency contribution of up to 5% due to ErP classes I, III, VI, VII and VIII

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 by means of a dew point switch
- Energy efficiency contribution of up to 5% due to ErP classes I, III, VI, VII and VIII

Why RESOL system controllers?

- 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 afterheating demand

Temperature controls class: VIII

DeltaTherm[®] HC

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

Temperature controls class: VIII

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

Temperature controls class: VIII

? Why RESOL heating controllers?

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

- RESOL VBus.net Internet portal
- RESOL apps for visualisation
- Data logging and storing via SD memory card and/or Datalogger
- Numerous accessories can be connected such as Alarm modules, Room control units, Remote controls, Dataloggers, etc.
- ErP kits with matching accessories for different temperature controls classes available







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).

? Why RESOL DHW exchange controllers?

- 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
- Commissioning menu
- Cascades of up to 6 DHW exchange controllers or stations
- Integrated data logging
- Remote access over a local network or over the Internet possible via RESOL VBus[®]





RESOL controller

DL3/DL2 Datalogger or KM2 Communication module

Router

Why RESOL visualisation?

- Controllers, Dataloggers and visualisation solutions from one and the same developer team
- Software solutions for remote parameterisation, data evaluation and visualisation
- 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.

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.

? Why VBus.net?

- Suitable for all RESOL controllers connected to a Datalogger
- Basic version free of charge
- For every operating system and all mobile devices worldwide

 no software installation required



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Live system editor with extended format and layout functions

Customise and design your own diagrams

Automatic e-mail notifications and reports

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

Why RESOL pump stations?

- 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





HE-Check

Generates and measures PWM and 0-10V signals

- Intuitive operating concept
- Ergonomic design
- Easy fault diagnostics

The PSW Pump signal converter series

The PSW Pump signal converters are used for connecting speed-controlled high-efficiency pumps to a controller without a corresponding output. Thus, when replacing the pump, speed control can be enabled without replacing the controller.

- Pre-assembled and ready to plug in, also available with a Wilo PARA high-efficiency pump
- Choice of different pumps
- Signal conversion for products from all pump and controller manufacturers

Why RESOL tools / accessories?

- Indispensable helpers for craftsmen, service technicians and lab workers
- Facilitate maintenance of solar thermal and heating systems
- Increase efficiency, maintain reliability and yield stability
- Innovative developments, also with partners such as WILO or Grundfos
- Different sensors/immersion sleeves
- Valves, thermostat / circulation controllers, calorimeters
- Compatible with all makes and models of pumps and controllers





FlowSol[®] **E** – for converting excess current into thermal energy

- Integrated high-efficiency pump and DeltaTherm® E controller
- Integrated electric heater of up to 3 kW, variable and grid compliant
- Retrofittable in all heating and DHW systems
- Reliable household power priority

- Converts excess PV current into heat and stores it for later use
- Helps by using more regenerative power for yourself and decreasing heating costs
- Only converts current which is actually available as excess power into heat
- Contains power fluctuations, observes household power priority

Example

Intelligent control technology for optimum store stratification, e.g. loading of the upper store zone for optimum energy use

PV heating

The products from our "PV heating" category enable They form the missing link between the photovoltaic converting excess current into thermal energy.

you to use and store your home-generated power by system and the heat generator - for more independence, decreased heating costs and less CO₂ emissions.





DeltaTherm® PV - POWER TO HEAT

The **DeltaTherm® PV** immersion heater controller detects excess current, e.g. produced by PV systems, calculates the energy available and redirects it to an electric heater.

Thus, excess PV current can be directly converted into thermal energy and stored.



- Using excess current for heating a water store
- Electric heater of up to 3 kW, variable and grid compliant
- Direct control of the electric immersion heater in the store
- Can be fitted to all stores equipped with an electric immersion heater
- Reliable household power priority
- Economical solution for using excess current
- Intelligent control technology for variable electric heaters
- Converts excess PV current into heat and stores it for later use
- Helps by using more regenerative power for yourself and decreasing heating costs
- Contains power fluctuations, observes household power priority



We develop your product - custom-made, if you wish!



Customised hardware design – the optimum basis for your product



Our standard softwares can be extended to suit your individual wishes



Controls after each individual manufacturing step warrant a 100 % quality assurance



All products are tested in our in-house EMC and hydraulics laboratories



Pre-connected sensors and cables to suit your requirements



Adaption to your Corporate design and target markets