



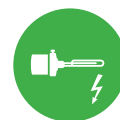
rosenthal design



DeltaSol® AL E HE

The *DeltaSol®* AL E HE controller is especially designed for standard solar systems with a high-efficiency pump and electric backup heating. It is equipped with a PWM output and two high-current relays to which an electric immersion heater of up to 3 kW (230 V~) can be connected. The heater can be directly connected to the controller without the need of auxiliary relays.

For data communication, the controller has a RESOL VBus®.



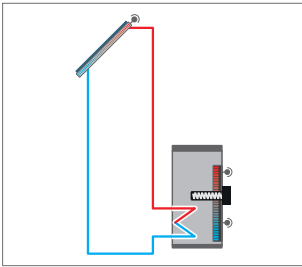
For electric immersion heaters!

The simple solution for your DHW supply!

- Direct connection of an electric immersion heater up to 3 kW (230 V~)
- DHW heating with rapid heat-up and thermal disinfection
- Time and temperature control of the electric backup heating
- Solar backup heating suppression
- Heat quantity measurement via VFD Grundfos Direct Sensor™
- PWM output for the speed control of a high-efficiency pump
- Quick access to the holiday and the manual modes
- Status display for a bidirectional HE pump
- Drainback option and tube collector function
- Commissioning menu

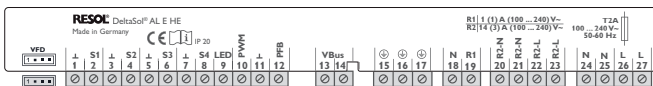
Article no.	Article	Price bracket
115 325 93	DeltaSol® AL E HE – Solar controller	A
115 326 03	DeltaSol® AL E HE – Full kit » incl. 3 Pt1000 sensors (1x FKP6, 2x FRP6)	A

EXAMPLES



Solar system with electric backup heating (application example)

ELECTRICAL CONNECTION



TECHNICAL DATA

Inputs: for 4 Pt1000 temperature sensors (thereof 1 usable as an RCTT input), 1 VFD Grundfos Direct Sensor™, 1 PWM feedback

Outputs:

1 semiconductor relay, 2 high-current relays for electric immersion heater, 1 PWM output

PWM frequency: 512 Hz

PWM voltage: 10 V

Switching capacity:

1 (1) A 240 V~ (semiconductor relay)

14 (3) A 240 V~/24 V== (potential-free high-current relay)

Power supply: 100–240 V~ (50–60 Hz)

Supply connection: type X attachment

Standby: 0.67 W

Temperature controls class: I

Energy efficiency contribution: 1 %

Mode of operation: type 1.B.Y action

Rated impulse voltage: 2.5 kV

Data interface: RESOL VBus®

VBus® current supply: 35 mA

Functions: function control, operating hours counter, tube collector function, heat quantity measurement, time-controlled thermostat function, DHW heating with rapid heat-up, thermal disinfection, holiday mode and backup heating suppression

Housing: plastic, PC-ABS and PMMA

Mounting: wall mounting, mounting into patch panels is possible

Indication / Display: System-Monitoring-Display for system visualisation, 16-segment display, 7-segment display, 8 symbols for system states, background illumination and operating control LED

Operation: 3 buttons and 1 slide switch

Ingress protection: IP 20/EN 60529

Protection class: I

Ambient temperature: 0 ... 40 °C

Degree of pollution: 2

Dimensions: 144 x 208 x 43 mm

ACCESSORIES

KM2 Communication module



Incl. service CD, network cable and mains adapter, VBus® cable pre-connected

VFD Grundfos Direct Sensor™



Digital sensors in different versions

SD3 Smart Display



Display module with 3 displays for collector and store temperature as well as for heat quantity

Electric immersion heater



Electric immersion heater 3 kW 230V~ (1½")

AM1



Alarm module for signalling system failures

RCTT Remote control



Activating the rapid heat-up function without accessing the controller menu