

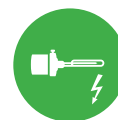
rosenthal design



## 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®.



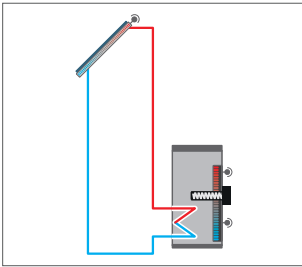
For electric immersion heaters!

## 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	<i>DeltaSol®</i> AL E HE – Solar controller	A
115 326 03	<i>DeltaSol®</i> AL E HE – Full kit » incl. 3 Pt1000 sensors (1x FKP6, 2x FRP6)	A

## EXAMPLES



Solar system with electric backup heating  
(Abstracted representation on the display)

## 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:** 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

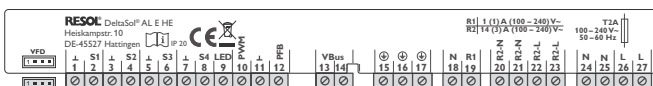
**Relative humidity:** 10 ... 90 %

**Fuse:** T2A

**Maximum altitude:** 2000 m above MSL

**Dimensions:** 144 x 208 x 43 mm

## ELECTRICAL CONNECTION



## ACCESSORIES

### KM2 Communication module



For remote access to the controller via VBus.net

### 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