



## RESOL DHW exchange controllers



### DeltaSol® Fresh OEM DHW exchange controller

The controllers of the RESOL DHW exchange series are especially designed for the precise and energy-efficient control of the draw-off temperature in your OEM DHW station.

Pre-configured functions and basic systems facilitate the quick and easy adaptation to your OEM station.



## RESOL DHW exchange controllers – simply more

- Highly stable DHW draw-off temperature
- 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 standard or high-efficiency pumps
- Commissioning menu
- Cascades of up to 4 DHW exchange controllers or stations
- Integrated data logging
- Remote access over a local network or over the Internet possible via RESOL VBus®

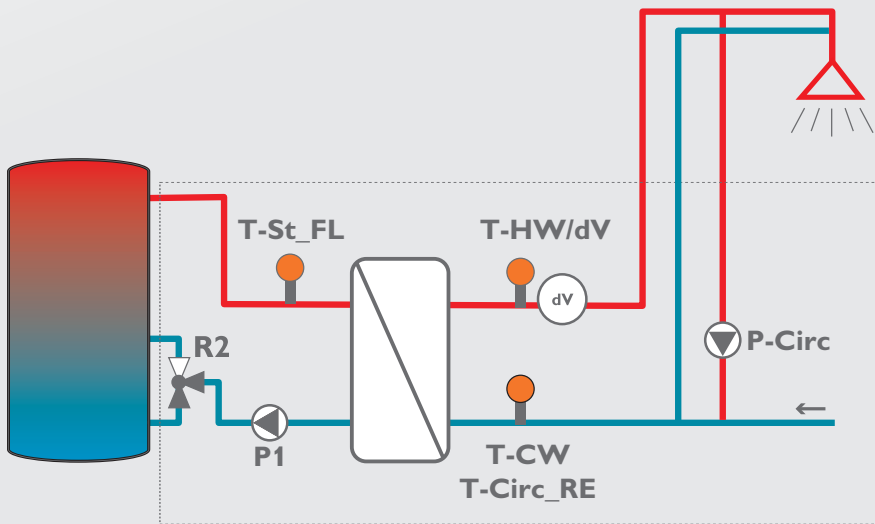
# Always a clean and safe solution!

RESOL offers a range of solutions for the control of DHW exchange modules.

The RESOL DHW exchange controllers are available in a number of versions for different system sizes. Additional features available are the control of high-efficiency pumps, integrated data logging and the remote access over a network or the Internet with the RESOL VBus®.

Customised versions are available on request. Please contact our sales team!

## Example



## Developing your DHW exchange station

When developing DHW controllers, RESOL always aims to achieve the best possible control quality. The boundaries of each individual development are determined by many equally individual factors. Among these factors are e.g.:

- the hydraulics in use
- the choice, number and positioning of the sensors
- the control algorithm

The control algorithm consists of a dynamic control aiming to balance out deviations in the stationary area as well as after load changes (changes in the draw-off flow rate). Special functions for the treatment of certain working points – such as draw-off breaks, warm and cold starts – are additionally implemented.

Parameterising these functions is an individual process that will be conducted according to your requirements. For quality assurance, our laboratories will run a number of dimensioning tests and check measurements with low and high store flow temperatures. Classification of control quality is conducted on the basis of the VDI 6003 Directive as well as the research of the Rapperswil Institute of Solar Technology.

## TECHNICAL DATA (EXAMPLES)

### DeltaSol® Fresh 20

**Inputs:** 3 inputs for Pt1000, 2 digital Grundfos Direct Sensors™ (VFD 2 - 40 Fast)  
**Outputs:** 2 semiconductor relays, 1 PWM output  
**Switching capacity:** 1 (1) A (100 ... 240 V~) (semiconductor relay)  
**Total switching capacity:** 2 A 240 V~  
**Power supply:** 100 ... 240 V~ (50 ... 60 Hz)  
**Supply connection:** type Y attachment  
**Power consumption:** < 1 W (standby)  
**Mode of operation:** type 1.Y  
**Rated impulse voltage:** 2.5 kV  
**Data interface:** RESOL VBus®  
**VBus® current supply:** 35 mA  
**Housing:** plastic, PC-ABS and PMMA  
**Mounting:** wall mounting, mounting into patch panels is possible  
**Indication/Display:** System-Monitoring-Display  
**Operation:** 3 push buttons  
**Ingress protection:** IP 20/EN 60529  
**Protection class:** I  
**Ambient temperature:** 0 ... 40 °C  
**Pollution degree:** 2  
**Dimensions:** 172 x 110 x 46 mm

### DeltaSol® Fresh 100

**Inputs:** 8 (10) inputs for Pt1000, 2 V40 impulse inputs, inputs for 2 Grundfos Direct Sensors™ (digital), 1 input for a CS10 irradiation sensor  
**Outputs:** 4 semiconductor relays, 1 potential-free relay, 4 PWM outputs (convertible to 0-10 V signal outputs)  
**Switching capacity:**  
1 (1) A 240 V~ (semiconductor relay)  
4 (1) A 24 V~/240 V~ (potential-free relay)  
**Total switching capacity:** 4 A 240 V~  
**Power supply:** 100 ... 240 V~ (50 ... 60 Hz)  
**Supply connection:** type Y attachment  
**Power consumption:** < 1 W (standby)  
**Mode of operation:** type 1.B.C.Y action  
**Rated impulse voltage:** 2.5 kV  
**Data interface:** RESOL VBus®, SD card slot  
**VBus® current supply:** 60 mA  
**Housing:** plastic, PC-ABS and PMMA  
**Mounting:** wall mounting, mounting into patch panels is possible  
**Indication/Display:** full graphic display  
**Operation:** 7 push buttons  
**Ingress protection:** IP 20/EN 60529  
**Protection class:** I  
**Ambient temperature:** 0 ... 40 °C  
**Pollution degree:** 2  
**Dimensions:** 198 x 170 x 43 mm