



rosenthal design 



## DeltaSol® A series

The *DeltaSol® A*, *AX* and *AX HE* controllers are the simplest solution for all differential controls. The version *DeltaSol® A* is equipped with an adjustable temperature difference and an antifreeze function.

The *DeltaSol® AX* presents an extended version which is additionally equipped with an adjustable target temperature for minimum or maximum temperature limitation.

Equipped with an electromechanical relay and a PWM output, the *DeltaSol® AX HE* controller manages the speed control of a high-efficiency pump.

The enclosed silicone sealing cord guarantees a protection against dripping water.

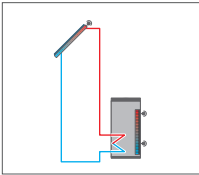
## Differential temperature controller for solar, heating & air conditioning systems

- Adjustable temperature difference 2... 16 K, hysteresis 1.6 K
- Antifreeze function adjustable by jumper/DIP switch
- Maximum or minimum temperature limitations adjustable by DIP switches (*DeltaSol® AX/AX HE*)
- Protection against dripping water
- Speed control of a high-efficiency pump with adjustable minimum speed (*DeltaSol® AX HE*)

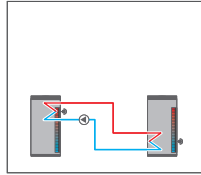
Also available as 12V~, 12V==, 24V== and 115V~ versions!

Article no.	Article	Price bracket
115 211 23	<i>DeltaSol® A</i> – Differential temperature controller	A
115 211 33	<i>DeltaSol® A</i> – Full kit » incl. 2 Pt1000 sensors (1 x FKP6, 1 x FRP6)	A
115 211 73	<i>DeltaSol® AX</i> – Differential temperature controller	A
115 211 83	<i>DeltaSol® AX</i> – Full kit » incl. 2 Pt1000 sensors (1 x FKP6, 1 x FRP6)	A
115 213 43	<i>DeltaSol® AX HE</i> – Differential temperature controller	A
115 213 53	<i>DeltaSol® AX HE</i> – Full kit » incl. 2 Pt1000 sensors (1 x FKP6, 1 x FRP6)	A

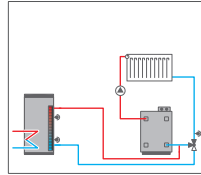
## EXAMPLES



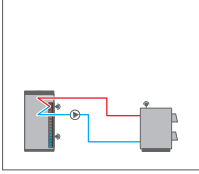
Solar system with 1 store



Heat exchange control



Heating circuit return preheating



Solid fuel boiler  
(DeltaSol® AX/AX HE)

## TECHNICAL DATA

**Inputs:** 2 Pt1000 temperature sensors

**Outputs:**

1 electromechanical relay (changeover), 1 PWM output (DeltaSol® AX HE)

**PWM frequency:** 1000 Hz (DeltaSol® AX HE)

**PWM voltage:** 11.0 V (DeltaSol® AX HE)

**Switching capacity:**

4 (1) A 240 V~ (electromechanical relay)

**Total switching capacity:** 4 A 240 V~

**Power supply:**

220–240 V~ (50–60 Hz),

100–240 V~ (50–60 Hz) (DeltaSol® AX HE)

**Supply connection:** type X attachment

**Standby:**

1.35 W (DeltaSol® A),

1.36 W (DeltaSol® AX),

0.39 W (DeltaSol® AX HE)

**Mode of operation:** type 1.B action

**Rated impulse voltage:** 2.5 kV

**Functions:** antifreeze function, DeltaSol® AX/AX HE

additionally with maximum or minimum temperature limitation

**Housing:** plastic, PC-ABS and PMMA

**Mounting:** wall mounting

**Display:** 1 operating control LED

**Operation:**

potentiometre and 1 jumper (DeltaSol® A), 2 potentiometres and 4 DIP

switches (DeltaSol® AX), 3 potentiometres, 4 DIP switches and 1 jumper (DeltaSol® AX HE)

**Ingress protection:** IP 20/EN 60529 (with IP 22 seal)

**Protection class:** I

**Ambient temperature:** 0 ... 40 °C

**Degree of pollution:** 2

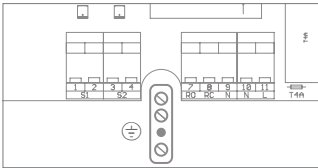
**Relative humidity:** 10 ... 90 %

**Fuse:** T4A

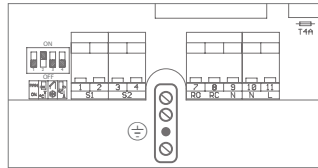
**Maximum altitude:** 2000 m above MSL

**Dimensions:** Ø 139 mm, depth 45 mm

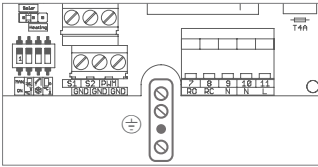
## ELECTRICAL CONNECTION



DeltaSol® A



DeltaSol® AX



DeltaSol® AX HE

## ACCESSORIES

### HR230 Auxiliary relay



Single-phase, suitable for all RESOL controllers

### HR230/3 Auxiliary relay



Three-phase, suitable for all RESOL controllers

### HRG2 Housing



For up to 2 HR230 Auxiliary relays

### HRG3 Housing



For 1 HR230/3 Auxiliary relay

### SP10



Sensor overvoltage protection