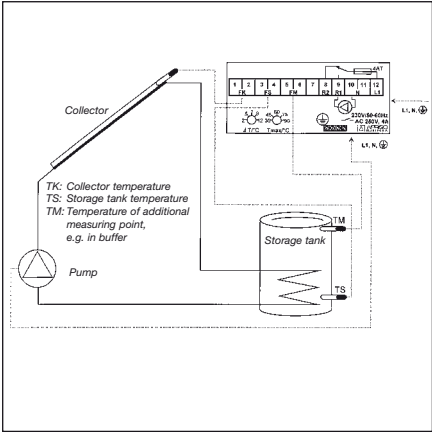


Differential temperature controllers for solar collectors



Solar controller SR1

Designed for manual or automatic control of solar systems for water heaters with one hot water circuit.

In automatic mode, the pump is switched on when the temperature difference between the collector and the storage tank has reached the adjustable value ΔT . If ΔT is below the set value or if the maximum tank temperature T_{max} . (adjustable) is reached, the pump is switched off and there is no further charging.

The digital display of the solar controller displays one of three selectable temperatures. The solar controller consists of a control unit and a maximum of 3 temperature probes (2 probes are supplied with the system). The control unit and the probes are connected by two-core signal cables (maximum length 50 m). Two probes detect the temperatures necessary to control the collector (TK) and the storage tank (TS). A third probe can be connected to display the temperature of an additional measuring point (TM) (e.g. buffer tank).

However, the latter has no influence on the control functions. The control unit evaluates the probe signals and switches the pump relay, depending on the adjustable parameters „temperature differential ΔT “ and „maximum storage tank temperature T_{max} .“.

Operating mode is selected using the operating mode selector switch with the following settings:

- 0 Pump off
- Auto Automatic pump control depending on collector and storage tank temperatures
- 1 Pump on

Technical specifications

- Control unit
- W x H x D: 113 x 53 x 108 mm
- Weight: 0.4 kg
- Supply voltage: AC 230 V
- Power consumption: 4 VA
- Measuring range: -19.9 °C/+149.9 °C
- Accuracy of measurement: ± 1 % FS
- Probe supply: 5 V, $R_i = 1$ k Ω
- Probe type: Pt 1000
- Output relay
- Changeover contact, max. 250 V, 3 A
- On/off time delay in automatic mode
- Approx. 15 s
- Display
- 7-segment LED, 3 digits,
- 9.9 °C/+99.9 °C: resolution 0.1 °C

Switch points

- Temperature difference ΔT
- Range +2 °C/+12 °C, adjustable,
- on/off switching hysteresis: 1.5 °C
- Storage tank max. temperature T_{max} .
- Range +30 °C/+90 °C,
- On/off switching hysteresis: 2 °C
- Collector max. temperature
- 140 °C, on/off switching hysteresis: 2 °C
- Ambient temperature
- 10 °C/+50 °C

- Protection class: II (EN 60730)
- Protection: IP 30 (EN 60529)
- Noise suppression: EN 50081-1
- Noise immunity: EN 50082-1
- Electrical safety: EN 60730

Probes

- Dimensions (\varnothing x L): 6 x 45 mm
- Sensor type
- Pt 1000, DIN EN 60751 class B
- Probe cable
- Collector sensor
- Silicone cable, 1.5 m, 2 x 0.5 mm²
- 30 °C/+170 °C
- Standard sensor
- Oil-resistant cable, 2.5 m,
- 2 x 0.5 mm² -5 °C/+80 °C

Solar controller SR1R

Similar to SR 1, but with integrated overheating protection function.

In automatic mode, the overheating protection prevents excessive temperatures in the solar circuit if no water is withdrawn or in case of intensive sunshine. The pump remains on even if the set maximum storage tank temperature T_{max} . is exceeded. This allows the system to be cooled down via the collector after sundown.

When T_{max} . is reached, the pump is switched off.

If the maximum collector temperature is exceeded in automatic mode, the pump is switched on to prevent further heating up, thereby protecting the collector from possible damage.

DG: H	VE	Part no.	Price €
Solar controller SR1	1	78493	
Solar controller SR1R	1	78494	