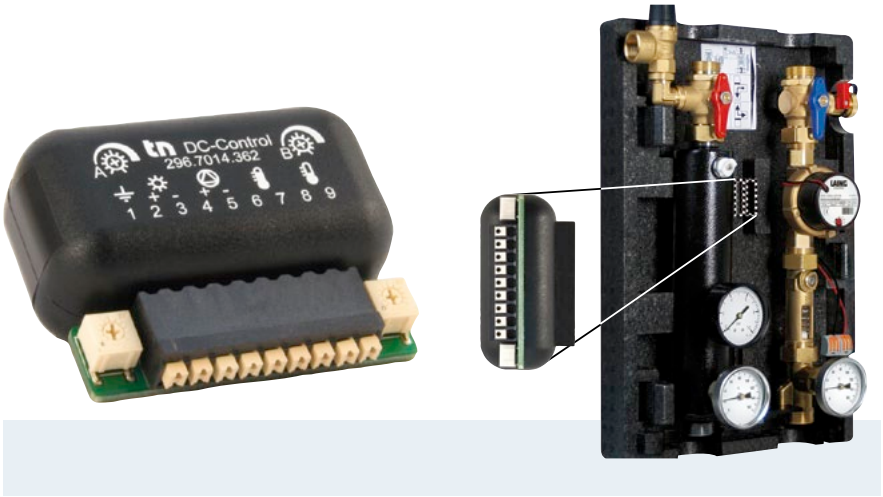
FX 96 DC-Control

Pump control unit



Advanced control functions for solar station TACOSOL EU21.

Description

To prevent cooling of the storage unit in a solar therm al system at supply temperatures that are too low, the hydraulic circuit must be interrupted under unfavorable conditions (for example, early in the morning, heavy cloud cover or low storage volumes). The system must also be protected against overheating.

The DC-Control provides all control functions required to automatically switch the self-sufficient solar station on or off. Power to the DC-Control can be provided by the PV panel.

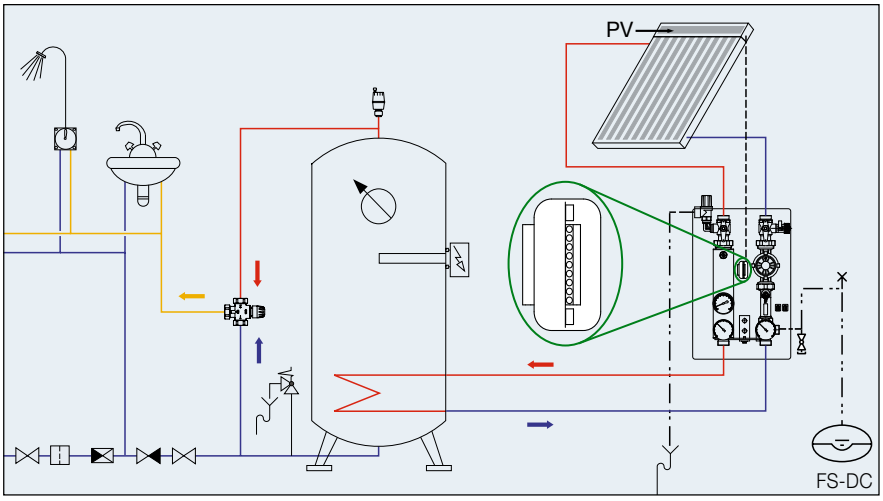
The DC-Control regulates the following aspects in accordance with exposure to the sun or the heat evolution in the collector:

- Activation of the pump if there is adequate exposure to sunlight
- Deactivation of the pump if the supply temperature is too low

The maximum storage tank temperature and the desired difference in temperature are each adjusted by a potentiometer.

Advantages

- Monitoring of temperature differences in the collector and storage tank
- Monitoring of the maximum temperature in storage tank
- Adjustable maximum storage tank temperature and temperature difference (collector/storage tank)
- Power can be provided through the PV panel
- Compact dimensions
- Easy to install
- Low-cost addition to the solar station TACOSOL EU21
- Uncomplicated integration into the insulation box of the solar station
- Deactivation of the pump upon exceeding the maximum collector and storage tank temperature
- Activation and deactivation of the pump according to the configured temperature difference
- Activation of the control unit before power-up of the d.c. pump
- Includes two temperature sensors



Operation

A sensor is mounted in both the collector and storage tank to monitor the maximum temperature and temperature differences. The desired temperatures are defined using potentiometers.

If the temperature is below the configured difference in temperature, the pump is switched off by the DC-Control. If the difference in temperature measured is sufficient, the pump starts working. This control function is also used to monitor the maximum storage tank temperature.

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Specification text

The DC-Control is a pump control unit that can be optionally used with the Tacosol EU21.

The unit can be installed to prevent cooling of the storage system at insufficient collector temperatures under less than optimum conditions (small storage system, flat-plate collectors with poor working efficiency).

The unit also protects the system against overheating.

The unit can be provided with power through the PV panel.

The maximum storage tank temperature and the difference to the collector temperature are adjusted using potentiometers.

Technical data

Housing material: Plastic (ABS)

Connections:
- 1 potential equalization system
- 1 power PV panel (max. 24 V)
- 1 pump (max. 24 V)
- 2 temperature sensors (input voltage)

Adjustment range of potentiometer A:
max. storage tank temperature:
57–97 °C

Adjustment range of potentiometer B:
difference in collector temperature to storage tank temperature Δt = 1–11K

Flow temperature limits:
off: 130 °C
on: 110 °C

Maximum power consumption:
at 24 V: 220 mW
at 5 V: 40 mW

Maximum power consumption: 9 mA

Operation readiness: as of 5 V

Pump activation by DC-Control:
as of 8 V

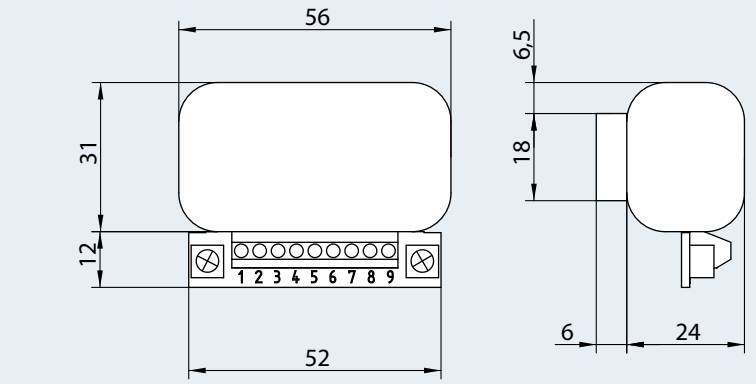
Potential equalization terminal 1:
protection of electronic circuitry against voltage peaks in strong electric fields (e.g., close to lightning strikes)

Terminals: 0.5 mm²

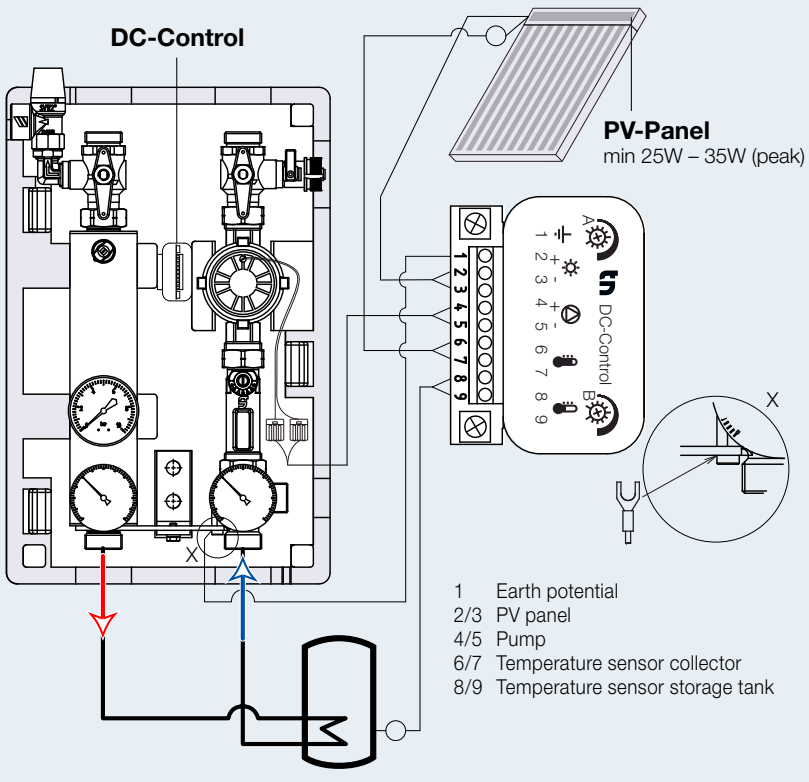
Type program

Order no.	Model collector
296.7014.362	Including two temperature sensors and a potential equalization cable

Dimensions



Electrical connection



Spare part

Temperature sensor PT1000

Order no.	Length
296.7009.000	2 m

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