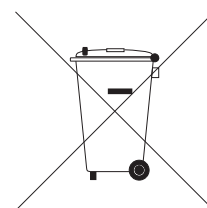




Electronic Solar Heat Regulator

SH-E01

**For a large print version of these instructions
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SH-E01

Electronic Solar Heat Regulator



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1.0 Installation Overview

Please Note:

This product should only be installed by a qualified electrician or competent heating installer and should be in accordance with the current edition of the IEEE wiring regulations.

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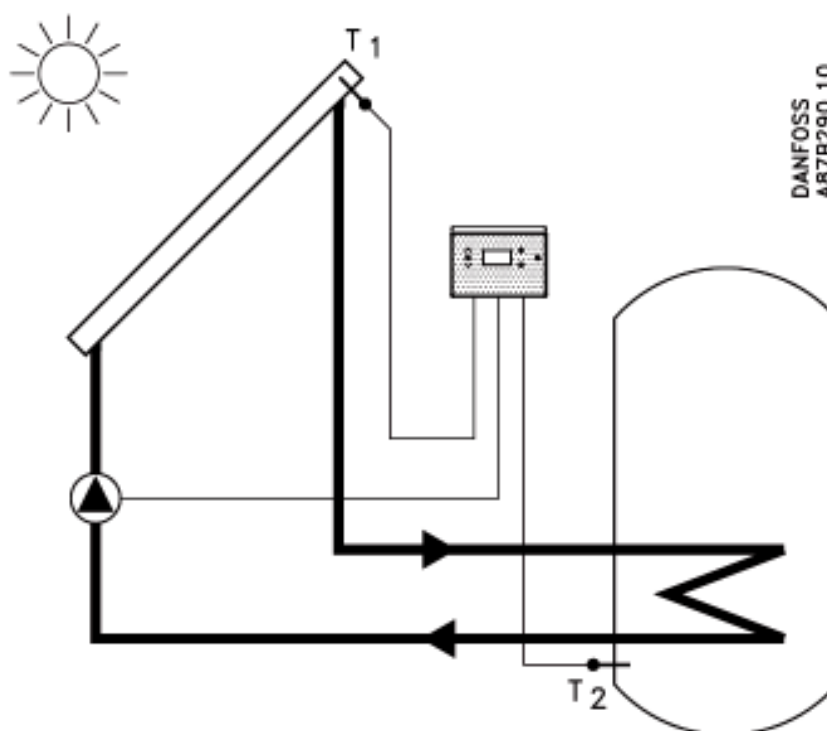
2.0 System Overview

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T1 : Temperature sensor in solar collector

T2 : Temperature sensor in hot-water tank

▲ : Circulation pump

☐ : Solar heat regulator

The SH-E01 regulator is used for controlling utility water installations consisting of a solar collector circuit and a hot water tank, where the utility water is heated by solar energy.

The solar heat circuit circulation pump is controlled by the differential temperature between the solar collector and the tank bottom. If the differential temperature is higher than the preset start-up temperature differential, the circulation pump will run.

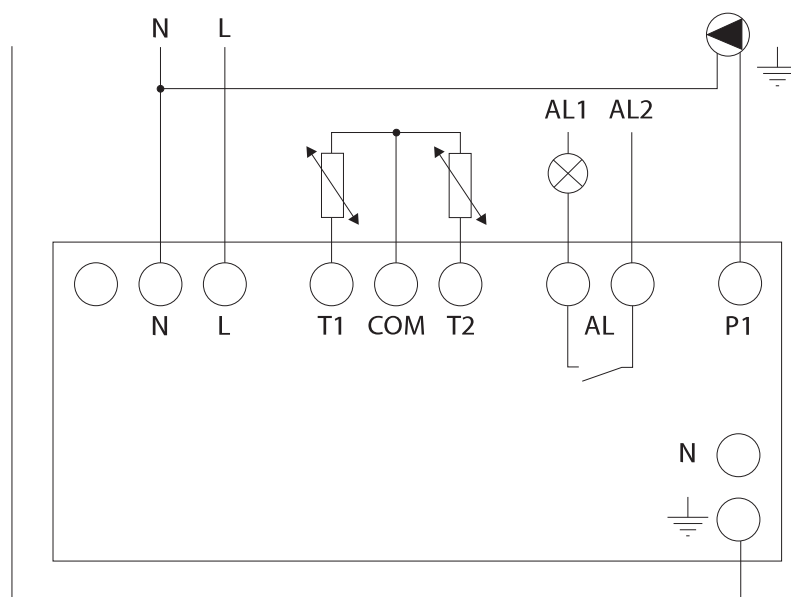
To avoid unnecessary pump operation the temperature of the solar collector has to be higher than 15°C before the pump starts operating. The pump will run until the temperature differential is below 2°C.

3.0 Installation

3.1 Wiring

The wiring to the regulator must be connected to the back plate terminal strip:

Designation	Terminal
Ground	⏏
Neutral	N
Phase	L
Sensor in solar collector	T1
Sensor, common	COM
Sensor in tank	T2
Alarm	AL1, AL2
Pump, phase	P1
Supply voltage	L1, max. 2(1)A



3.2 Reset and setting of regulator

Set the regulator via the DIL switch on the back.

Factory settings:

		Setting range
Start-up temp. differential	5 °C*	5 - 10 - 15 - 20 °C
Pump exercise	ON**	ON-OFF
Reset	OFF	

*) Pump stop temperature differential is fixed: 2°C

***) Pump exercise sequence: 1 min/14 days

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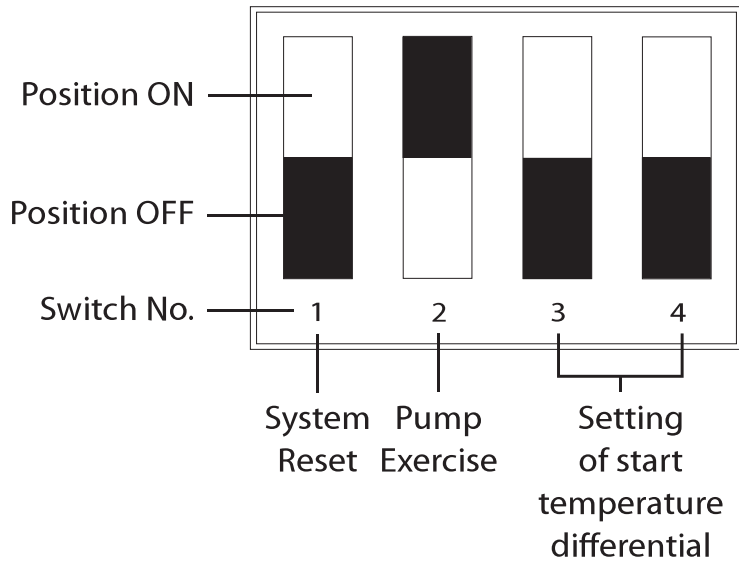
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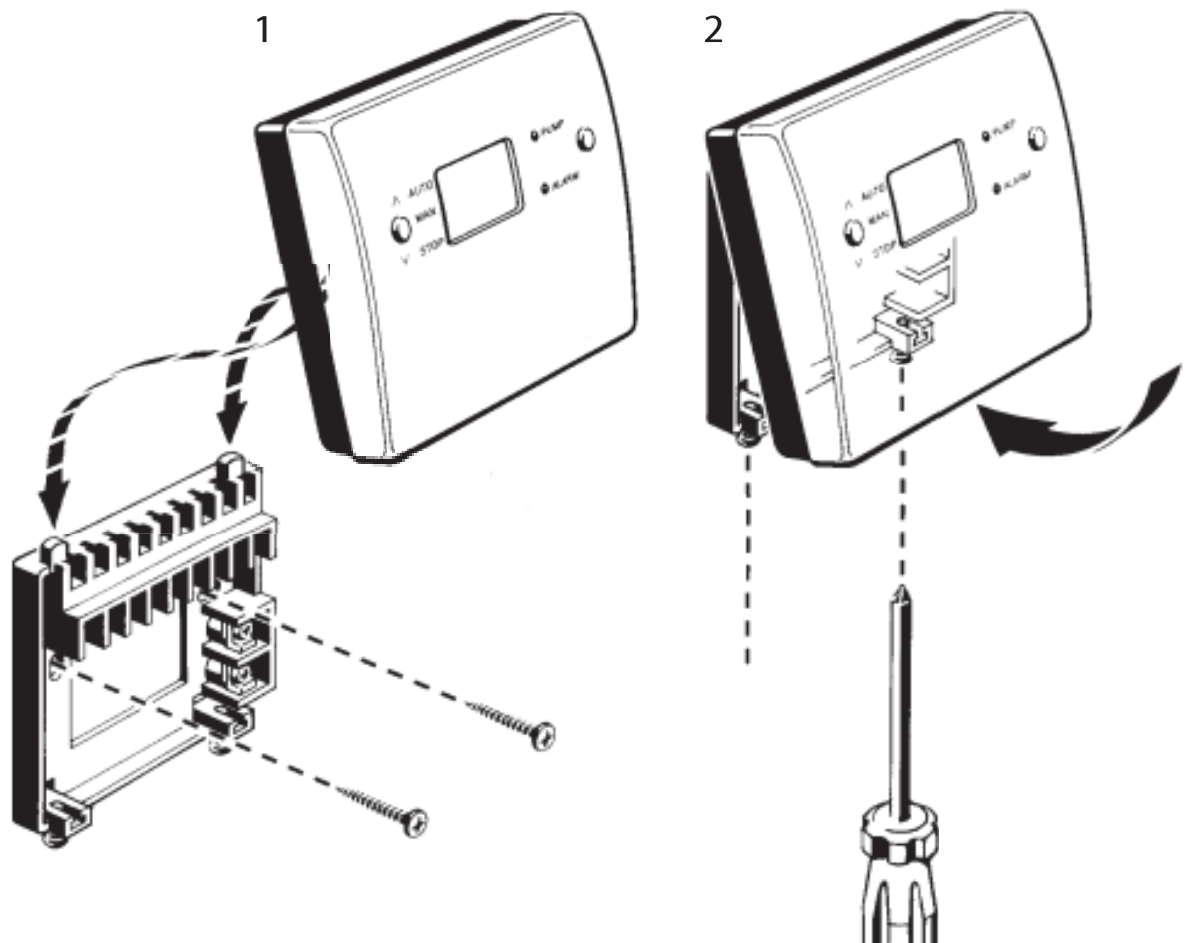
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Switch No.		Start temp. differential
3	4	
OFF	OFF	5°C
OFF	ON	10°C
ON	OFF	15°C
ON	ON	20°C

3.3 Mounting Instructions

Install the regulator on a wall. Start by attaching the back plate to a vertical flat surface by means of 2 x Ø 4 mm screws. The terminals must be at the top.



Fit the temperature sensors in the immersion pockets - in the solar collector and at the bottom of the hot-water tank. The cables are 3 m, but can be extended as required by 2 x 0.75 mm² double-insulated cable. EMC approved for 50 m cable length.

4.0 Operation

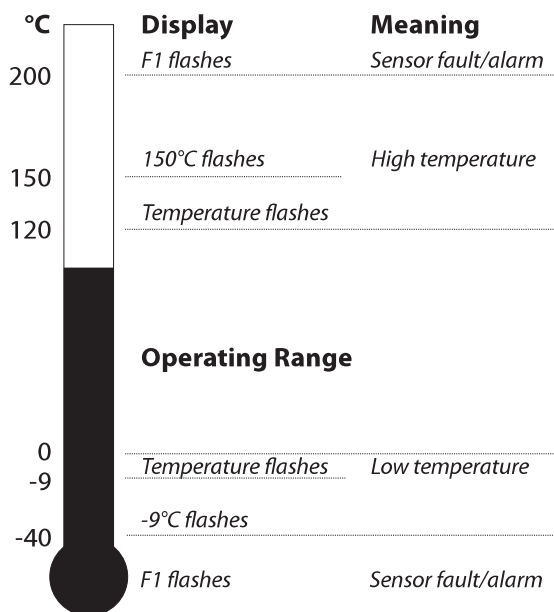
4.1 Function Test

The regulator is ready for operation when connected the mains. The display becomes active and current temperatures are shown.

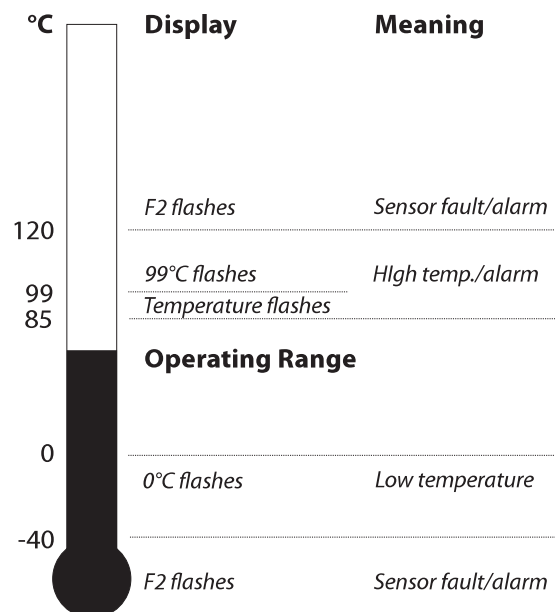
Display updates once per minute. Pressing the INFO button causes the display to update immediately.

4.2 Temperature Indication

Solar Collector



Tank



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5.0 Trouble Shooting

Display	Cause	Remedy
No display	230V supply off	Check supply/connections
Red LED lit Display flashes F1	Fault at sensor 1 (Collector)	Check connections/sensor
Red LED lit Display flashes F2	Fault at sensor 2 (Tank)	Check connections/sensor
Red LED lit Tank temp. >95°C	Pump does not run Pump cannot 'keep up'	Check pump mode/ connections Set speed higher
No alarm Temperature flashes	Pump runs, indicates high temperature Pump does not run	Set speed higher Pump or pump output defective

6.0 Technical Data

Supply voltage	230V/ 50 Hz \pm 10%
Ambient temperature	Tmin 0°C, Tmax 45°C
Pump output	230 VAC, 2(1)A
Alarm output	Voltage free relay output, 2(1)A
Enclosure rating	IP40
Switching action	Type 1B
Control pollution situation	Pollution degree 2
Rated impulse voltage	2.5 kV
Ball pressure T	75 °C

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