Solar Differential Temperature Controller: DDT2

Description

DDT2 is a digital differential thermostat for solar water heating and other applications with one relay output and two sensors.

- Supports digital sensors (DS18B20) and thermistors (NTC10k)
- Digital display with source and sink temperature
- Adjustable delta T (ΔT) differential
- Adjustable target point – storage tank – (T_{stop}) temperature
- Adjustable minumum starting (T_{start}) temperature
- Nighttime* water storage tank cooling T_{cool}
- Adjustable temperature sensor value offset
- Running hours counter
- Manual override of output (for system testing)
- Indicator for warning in case of sensor failure
- Solar panel overheat protection and relay delay protection

The controller measures two temperatures. In MODE ONE; if first (source) temperature rises above the second (sink) temperature the controller will switch relay output on and will switch it off when the sink temperature rises above the set target temperature or approaches source temperature.

In MODE TWO; it will switch relay output on only if the sink temperature is below target temperature. When sink temperature rises above the set point the controller will switch relay output off.

Specifications

Displaying range:	**−28.0 °C — +99.5 °C**
Delta (ΔT) range:	**1.0 °C — 20.0 °C**
Resolution:	**0.5 °C**
Power input:	**230 V AC** (fuse protected)
Power (relay) output:	**230 V 3 A**
Controller dimensions:	**100 x 100 x 60 mm**

DS18B20 (3 pin)

Temperature measuring range:	**−50.0 °C — +125.0 °C**
Accuracy:	**0.5 °C** (in range from −10 °C to +85 °C)

NTC10k (2 pin)

Temperature measuring range:	**−50.0 °C — +150.0 °C**
Accuracy:	**2 °C**

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