

## DELTA-T DIFFERENTIAL CONTROLLERS



**DELTA-T:** Designed to regulate the operation of a solar heating system, the Delta-T monitors collector and storage temperatures, and will automatically turn pumps on or off when the set differential is reached. The controller can also provide additional functions, such as system freeze-protection, by recirculation and storage tank high-limit shut-off.

### Features

- For use in open loop, closed loop or drainback systems
- Automated pump recirculation for freeze-protection
- High temperature limit shut-off
- Pre-wired 120 VAC
- Comes as a standard component in the Helio-Pak and Helio-Flo heat-transfer appliances



**DELTA-T PRO:** The new Delta-T Pro performs all the basic functions of the Delta-T, but adds much more, and is an exceptional addition to any residential solar hot water system. However, its full potential is often utilized in larger commercial installations where system performance and monitoring are critical.

### Features

- Exportable energy data
- Fully adjustable system settings
- Variable speed pump operation
- Zone pump operation
- High capacity relays
- Switchable 120/240 VAC, 50-60 Hz power

### DELTA-T PRO WEB MONITORING FUNCTION

The Delta-T Pro comes standard with the ability to communicate via a web monitoring system, which allows a user to check on the system from anywhere with an Internet connection. In other words, the installer or owner can view the system from the convenience of his or her own office or home miles away from the actual installation.

### Features

- Complimentary web-based solar system performance monitoring
- Remote system setting and software upgrade service
- Automated email notifications inform the owner/installer of any service alerts



### System Requirements

- DSL, cable or other broadband Internet connection
- Open, WPA or WPA2 network authentication/encryption Wi-Fi router
- Rich Internet browser (e.g, Internet Explorer, Firefox, Safari)
- T1 and T2 temperature sensors and flow sensor installed



# TECHNICAL SPECIFICATIONS

- 8 Sensor ports (5 Temperature, 2 Flow and 1 Pressure)
- Relay power (1 hp motor, 125 VAC @ N.O. contact)
- Real-time clock
- Software included

## DELTA-T PRO CONTROLLERS

Digital Flow sensor port detects the rate of flow as well as the temperature of the solar fluid exiting the heat exchanger

4 inputs for 24 VAC thermostat zone detection (e.g., space heating thermostat)

5 sensor inputs are available for precise temperature readings

Digital Pressure sensor port detects the rate of pressure as well as the temperature of the solar fluid entering the heat exchanger

2x 4-20 mA output controlled current for optional pump speed control

Input for optional pulse flow meter (check compatibility with Heliodyne)

T1 Collector Out  
T2 Storage Low  
T3 Storage High  
T4 Energy Out  
T5 Outdoor (Ambient)



Relay 1 operates the solar loop pumps

Relay 2 is used as a temperature operated relay (e.g., use with combination systems, etc.)

Relay 3 is generally used for either extraneous heat use to operate the electrical ignition in a gas water heater, or as a timer to prioritize solar water heating over auxiliary heating

NOTE: If non-Heliodyne sensors are used, check with Heliodyne for controller compatibility

TECHNICAL FEATURES	DLTA 000 000	DLTA 001 000	DLTA 002 000	DLTA 000 001	DLTA 000 002
Voltage (AC)	120	120	240	120/240	120/240
Adjustable system settings	Limited	Limited	Limited	Yes	Yes
Pre-installed software	n/a	n/a	n/a	Yes	Yes
Exportable data	n/a	n/a	n/a	Yes	Yes
Remote monitoring	No	No	No	Yes	Yes
Monitoring connection type	n/a	n/a	n/a	Ethernet plug in	Wi-Fi
Prewired with plug	Yes	No	Yes	Yes	Yes
Power draw standby/running (watts)	<6	<6	<6	<6	<6
Max current out (Amps)	2	2	2	4.45	4.45
ON differential (degrees)	18/19	18/19	18/19	Adjustable	Adjustable
OFF differential (degrees)	5/4	5/4	5/4	Adjustable	Adjustable
High limit (°F)	180/160	180/160	180/160	Adjustable	Adjustable
Low limit (°F)	80	80	80	70	70
Pump recirculation	Yes	Yes	Yes	Yes	Yes
High temperature limit shut-off	Yes	Yes	Yes	Yes	Yes
Vacation mode	No	No	No	Yes	Yes
Realtime clock	No	No	No	Yes	Yes
Warranty (years)	3	3	3	3	3

PTLS 080309

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