3rd Gen Beaglebone Delta-T Pro Controllers

All of the Heliodyne controllers are available as stand-alone versions or integrated into Heliodyne heat transfer appliances. The appliances come with standard/analog, Pro Ethernet, or Pro Ethernet with WiFi dongle controller versions. The Pro controllers will offer BTU metering (with compatible flow sensor), web based performance and energy monitoring, vacation mode, and an input for a digital pressure sensor. The HPAK, HFLO, HPAS & HCOM appliances come with 2 x 10K Ohm lug type sensors.

The new, 3rd generation controller platform for the Delta-T Pro controllers has a default Ethernet and mini USB to USB connection. To get a Wifi version, you can either order it as the WiFi+Ethernet version, or add on a WiFi dongle later. Pro controllers are factory default set up to run in closed-loop residential system mode. These new controllers don't connect via ad-hoc connection as the previous versions did. **To make changes or to set up remote monitoring, one will be required to connect the controller to a laptop that has a USB port connection and download a driver from www.deltatcontrols.com Please also read the "Quick Start Guide" also available on the same website.**

The Delta-T Pro

-Has inputs for 5 x 10K ohm temperature sensors: T1 collector out + T2 bottom of solar storage tank are mandatory. The other 3 can be used for different temperature uses such as T3 top of solar storage tank(controller has an average of T2 +T3 option), T4 Energy out, and T5 outdoor/ambient.

-Has T7 input for Digital Pressure & Temperature monitoring, CT meter, or pyranometer for insolation (solar radiation) monitoring.

-For energy monitoring, a flow sensor that will measure temperature and flow (such as Grundfos Vortex Flow Sensors that Heliodyne carries) is required. If the pipe size to be used is larger than 2", we recommend sourcing a pulse flow sensor (Heliodyne does not carry these) as the Pro controllers will read VFS or pulse type meter.

- Includes 3 relays. Relay 1 operates the solar loop pumps. Relay 2 is used as a temperature operated relay (for use with combination space + DHW systems). Relay 3 has various options such as to operate an additional pump as in a heat dump loop a recirculation pump between solar storage and back-up heater as BTU saver set-up, to operate a single tank gas water heater system, or a combination DHW + pool system. This relay is combined with an internal timer to prioritize solar water heating over auxiliary heating.

-Allows for variable speed pump operation (only in "Closed Loop Commercial" system mode) with a 4-20 milliAmp output along with appropriate voltage supply to the pump's AC input with Relay 1.

The Pro versions of the controllers also have the capability of tying into an existing Building Automation System (BAS). It is important to ascertain whether the BAS system uses Modbus communication or another language. Our Pro controllers use Modbus communication via TCP/IP or RTU as described here. If the BAS system uses another protocol (e.g. Lonworks or BACnet), then a Field Server gateway translator can be used to translate.

 The amp rating on relay #1 NO contact is 20A; the relay #1 NC contact is rated for 10A
 Both relay 2 and 3 are rated at 30A (Only Pro Controllers have relays 2 & 3)