

## SPECIFICATIONS

	PART NUMBER
	Last digit denotes ON/OFF Differentials
	0 — 9/2.5°F
	1 — 6/2.5°F
	2 — 18/2.5°F
<b>HARDWIRED</b>	DTT-80, 81, 82
	DTT-3410, 11, 12
	DTT-70
<b>LINE CORD and RECEPTACLE</b>	DTT-90, 91, 92
	DTT-790, 791, 792
	DTT-690, 691, 692
<b>TEMP-TRAK™ with LINE CORD and RECEPTACLE</b>	DTT-90T, 91T, 92T
	DTT-790T, 791T, 792T
	DTT-690T, 691T, 692T

All units are rated for an output control of 10 amps, 1/3HP.

## DELTA-T® MODEL APPLICATION AND SELECTION

Models can be selected within three general categories:

1. Hard wired Models.
2. Line Cord and Receptacle Models.
3. Temp-Trak® Models with Line Cord and Receptacle. The Temp-Trak® features a digital display of the storage and collector temperature.

All models are available with a choice of ON/OFF Differentials. The last digit in the part number indicates the Differentials as shown in the PART NUMBER COLUMN.

Specific features of each model are described in the EXTRA FEATURES COLUMN. These features include Adjustable High Limit, Adjustable Differential, two receptacles wired together and the 690 Series. The 690 Series, for "Freeze-Dump" systems, has one receptacle for pump and one 120V receptacle

for a drain dump valve package. The valve receptacle remains energized until 42°F is reached when it turns off. It remains off until a rising temperature of 52°F is achieved, or when the pump turns on, whichever occurs first. If an unusually long pipe run is employed it is recommended to use additional FS-5 sensors to afford full freeze protection as determined by a qualified installer.

Storage and Collector Sensors, (SAS-3), for the basic differential temperature function are packaged with each model. The DTT-3410 Series and the DTT-690 Series have additional sensors as required for their specific functions. These sensors are detailed in the INCLUDED WITH CONTROLLER COLUMN.

Auxiliary functions may be added to the models by ordering sensors separately. These sensors are listed in the TO BE ORDERED SEPARATELY COLUMN.

**SENSORS**, Thermistor type 3,000 ohm @ 25°C



### SAS-3, SCREW ATTACHED SENSOR, STANDARD SENSOR

Screw-attached sensor in copper housing providing minimum thermal mass. May also be clamp attached to pipe.



**BP-50, BRASS PLUG**  
1/2" MPT



### RBP-50, REVERSE BRASS PLUG 1/2" MPT

The RBP series is utilized for direct top immersion into a non-pressurized tank. Utilize a pipe coupling and the necessary length of pipe to fabricate a drop tube with the open end above the tank top. The wire connections should be made before the RBP is connected to the pipe coupling.



**IS-6.5, STAINLESS STEEL IMMERSION SENSOR**  
1/2" MPT, 6 inches deep immersion

EXTRA FEATURES	SENSORS INCLUDED WITH CONTROLLER	SENSORS TO BE ORDERED SEPARATELY (optional auxiliary functions)		
		MODE 1 OFF Below 80°F	MODE 2 FREEZE RECYCLE	MODE 4 HIGH LIMIT OFF
None	Two each SAS-3	One each OPB-6-80	Two each FS-4	One each SAS-3
External knob for Adjustable 'HIGH LIMIT'	Three each SAS-3	One each OPB-6-80	Two each FS-4	Included with controller
External knob for Adjustable 'Differential ON' 3-24°F, OFF fixed @ 1.5°F	Two each SAS-3	One each OPB-6-80	Two each FS-4	One each SAS-3
One receptacle for pump/fan	Two each SAS-3	One each OPB-6-80	Two each FS-4	One each SAS-3
Two receptacles wired together	Two each SAS-3	One each OPB-6-80	Two each FS-4	One each SAS-3
One receptacle for pump and one receptacle for drain dump valve	Two each SAS-3 and Two each FS-5	One each OPB-6-80	_____	One each SAS-3
One receptacle for pump/fan	Three each SAS-3	One each OPB-6-80	Two each FS-4	One each SAS-3
Two receptacles wired together	Three each SAS-3	One each OPB-6-80	Two each FS-4	One each SAS-3
One receptacle for pump and one receptacle for drain dump valve	Three each SAS-3 and Two each FS-5	One each OPB-6-80	_____	One each SAS-3

Please contact factory representative for: **(1)** Primary voltages other than 120V  
**(2)** Relay contacts other than "NO" **(3)** Output control up to 3 HP. **(4)** Controller with line cord but without receptacle.

**MODE 1** keeps the pump off when the collector is below 80°F. This feature prevents the pump turning on at night when a large amount of hot water has been consumed, or when a reverse thermosyphon effect causes the Collector Sensor to turn the pump on. The MODE 1 requires one OPB-6-80 Sensor which is wired in Series with the Collector Sensor lead and requires no additional wires to the collector.

**MODE 2** turns the pump on when freezing conditions occur and is known as the "Freeze-Recycle" method of collector freeze protection. The pump turns on at 42°F and off at 52°F. This method circulates a small amount of storage water through the collector to warm the collector to prevent freeze damage. MODE 2 requires two FS-4 Sensors which are wired in parallel with the Collector Sensor lead and requires no additional wires to

the collector. One FS-4 Sensor is connected to the entrance of the collector array and the other connected to the exit of the collector array. The "Freeze-Recycle" method is not recommended on systems which have more than three collectors. If an unusually long pipe run is employed it is recommended to use additional FS-4 Sensors to afford full freeze protection as determined by a qualified installer.

**MODE 4** turns the pump off when the storage tank has reached 180°F (other settings are available upon specification). This feature prevents excessive temperatures in the storage tank. MODE 4 requires an extra SAS-3 Sensor and a separate wire pair from the controller to the storage tank. All models are provided with leads/terminals for connection to the extra MODE 4, SAS-3 Sensor. When this MODE 4 is not desired the leads/terminals are left unconnected.

### SENSORS, Switching type



#### FS-4

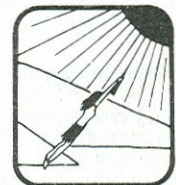
Open with lowering temperatures until 42°F when sensor closes and re-opens at 52°F. Adds MODE 2 function when used with models DTT-80, 90 and 790 series and DTT-70. Wire in parallel with collector sensor.

#### FS-5

Closed with lowering temperatures until 42°F when sensor opens and re-closes at 52°F. Included with DTT-690 models.

#### OPB-6-80

Open below 80°F and closed above 80°F. Adds MODE 1 function when used with any model. Wire in series with collector sensor lead.



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