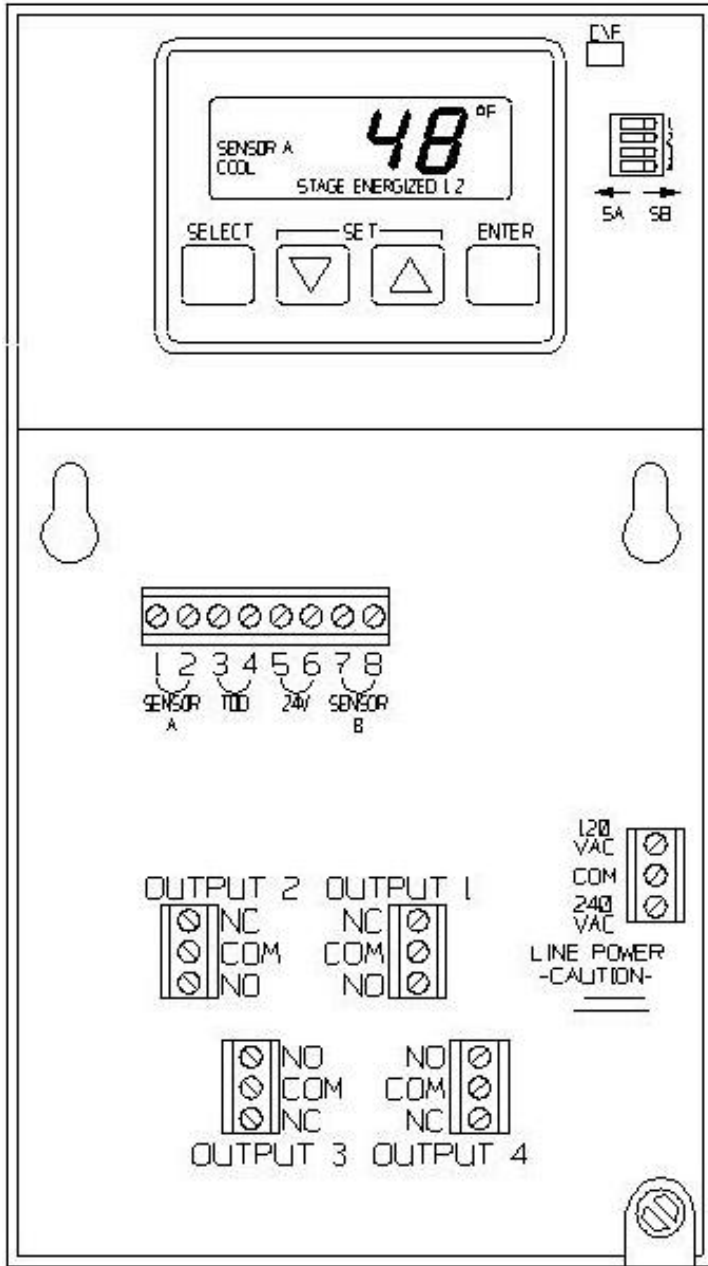


# Programming the Honeywell T775B 1000 (2 Stage 2 Sensor) Control



Turn on the power to the Chiller and the Honeywell will begin a 210 second countdown.

To override this countdown press the SELECT key.

The display will give the temperature reading sensed by SENSOR (B).

If the word HEAT is located under the word SENSOR (B) then press the SELECT & ENTER keys simultaneously. Then use the SET (DOWN) key to change it to COOL. Then press ENTER to lock this setting in the memory.

Press the SELECT key to advance to SENSOR (A). Perform the same routine to change SENSOR (A) from HEAT to COOL if needed.

If SENSOR (A) & (B) are already set for COOL then skip the above steps. Even though your system has reverse cycle heating the Honeywell control Must be set to COOL for sensor (A) & (B) to function correctly.

\*Press the SELECT key to advance to the SETPOINT / SENSOR (B) / COOL / 1 screen. The temperature should read 45 deg F. If it does not, then use the SET (DOWN / UP) keys to obtain the correct reading. Once the display reads 45 deg F

press the ENTER key to lock this setting into the memory.

Press the SELECT key to advance to the SENSOR (B) / COOL / DIFFERENTIAL / 1 screen. The reading should read 03. If it does not, then use the SET (DOWN / UP) keys to obtain the correct reading. Once the display reads 03 press the ENTER key to lock this setting into the memory.

\*Press the SELECT key to advance to the SETPOINT / SENSOR (A) / COOL / 2 screen. The temperature should read 100 deg F. If it does not, then use the SET (DOWN / UP) keys to

obtain the correct reading. Once the display reads 100 deg F press the ENTER key to lock this setting into the memory.

Press the SELECT key to advance to the SENSOR (A) / COOL / DIFFERENTIAL / 2 screen. The reading should read 10. If it does not, then use the SET (DOWN / UP) keys to obtain the correct reading. Once the display reads 10 press the ENTER key to lock this setting into the memory.

Pressing SELECT again will return you back to the sensor readings. Once you have made changes to the settings you should scroll back through them using the SELECT key to ensure that the settings are locked into the memory.

\*The above settings are for the First Stage Chiller. For additional Chillers the set points must be staged. The 3 and 10 degree differentials apply to all the other stages.

These are the other set points:

SENSOR (B) Chiller 2 – 48 deg F, Chiller 3 – 51 deg F, Chiller 4 – 54 deg F.

SENSOR (A) Chiller 2 – 95 deg F, Chiller 3 – 90 deg F, Chiller 4 – 85 deg F.

## Sequence of Operation

### Component Arrangement

**Sensor (B)** is the system **Inlet** (return) water reading. It is used to control the Chiller in the **Cooling Mode**. It is allocated to **Stage 1**, which in turn controls **Terminal Block 3 (TB3) OUTPUT 1**.

**Sensor (A)** is the system **Outlet** (supply) water reading. It is used to control the Chiller in the **Heating Mode**. It is allocated to **Stage 2**, which in turn controls **Terminal Block 4 (TB4) OUTPUT 2**.

The Sensors are allocated to each stage by a set of dip switches which are located to the top left of the controller. These are set and sealed from the Factory. Should there be a need to check the dip switches they should be in the following positions:  
Stage 1 pushed down to the right. Stage 2, 3, 4 pushed down to the left.

Line Voltage power is applied to the Common & 240 VAC terminals on Terminal Block 2 (TB2).

The Common terminal (TB2) then feeds power to the Contactor or Relay coil.

The 240 VAC terminal (TB2) then feeds power to the Common terminal on TB3 (Cooling Output 1).

A wire is connected from Normally Open (NO) terminal on TB3 to the Common (COM) terminal on TB4 (Heating Output 2).

Another wire is connected from the Normally Closed (NC) terminal on TB4 to the Safety Devices for the Chiller. The return wire from the Safety Devices is connected to the other side of the coil for the Contactor or Relay.

## Sequence of Operation

Output 1 (TB3): The NO terminal is Open when the temperature is at or below setpoint and is Closed when the temperature is above setpoint.

Output 2 (TB4): The NC terminal is Closed when the temperature is at or below setpoint and is Open when the temperature is above setpoint.

Output 1 is set to 45 deg F and Output 2 is set to 100 deg F.

## Cooling Operation

Loop Temperature is at 70 deg F.

This is above the Output 1 setting and the NO terminal is now Closed.

This is below the Output 2 setting and the NC terminal remains Closed.

A continuous circuit is formed and the Contactor / Relay closes to start the compressor.

Loop Temperature drops to 45 deg F.

This is at the Output 1 setting and the NO terminal now Opens.

This is below the Output 2 setting and the NC terminal remains Closed.

The circuit has been broken by Output 1 and the Contactor / Relay de-energizes.

On a 3 deg F rise in loop temperature (48 deg F) Output 1 NO terminal will again Close.

## Heating Operation

Loop Temperature is at 70 deg F.

This is above the Output 1 setting and the NO terminal is now Closed.

This is below the Output 2 setting and the NC terminal remains Closed.

A continuous circuit is formed and the Contactor / Relay closes to start the compressor.

The toggle switch for Heating Mode on the AQCWP is turned to the on position. This is an independent circuit from the Honeywell and sends direct power to the reversing valve solenoid. The chiller is now operating in the reverse cycle mode and is heating the circulation water.

Loop Temperature rises to 100 deg F.

This is above the Output 1 setting and the NO terminal remains Closed.

This is at the Output 2 setting and the NC terminal now Opens.

The circuit has been broken by Output 2 and the Contactor / Relay de-energizes.

On a 10 deg F drop in loop temperature (90 deg F) Output 2 NC terminal will again Close.