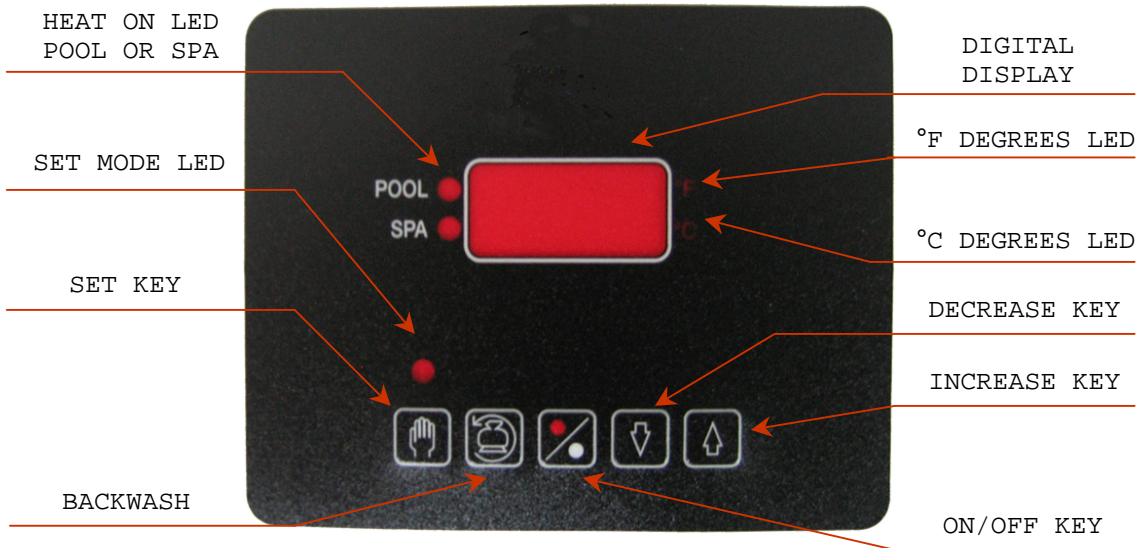


HP706  
SWIMMING POOL HEATPUMP CONTROL



USER GUIDE MANUAL

## 1. INSTRUMENT IDENTIFICATION



## 2. DESCRIPTION OF FRONT PANEL:

**DIGITAL DISPLAY:** Display normally shows the actual water temperature.

**HEAT ON LED POOL OR SPA:** Indicates that the heat pump is heating the pool or the spa.

**°F DEGREES LED:** Indicates that the temperature is being displayed in °F.

**°C DEGREES LED:** Indicates that the temperature is being displayed in °C.

**SET UP MODE LED:** Indicates the setup or adjustment mode.

**ON/OFF KEY [%]:** Turns the heat pump ON or OFF.

**BACKWASH KEY [BACKWASH]:** Hold for 3 seconds to activate the backwash mode.

**SET KEY [SET]:** Hold for 3 seconds to activate the setup mode.

**INCREASE KEY [^]:** Increases the desired or setpoint temperature.

**DECREASE KEY [v]:** Decreases the desired or setpoint temperature.

*NOTE: The display may be changed in steps by pushing the [^] or [v] keys briefly, or automatically by holding down the same key.*

### **3. OPERATION:**

The control is first shipped in the OFF mode. The digital display will show “- - -”, indicating the OFF mode. THE CONTROL MUST BE IN THE ON MODE IN ORDER TO CHANGE THE SETPOINT (THE DESIRED WATER TEMPERATURE) OR HAVE ACCESS TO THE OTHER FEATURES! The setpoint is factory set at 70 °F.

#### **a. SWITCHING THE HEATPUMP ON:**

Hold the [SET] key for 3 seconds. The set mode LED will come on to indicate the set mode. Now press the [%] key. The display will now show the actual water temperature. If there is a demand for heat, that is if the actual water temperature is lower than the desired or setpoint temperature, the Heat On LED, the compressor and fan will come on. Note that each time the compressor turns off there will be a 5 minute delay before it can be turned on. After 8 seconds the set mode LED will go off.

#### **b. SWITCHING THE HEATPUMP OFF:**

Hold the [SET] key for 3 seconds. The set mode LED will come on to indicate the set mode. Now press the [%] key. The display will now show “- - -”. After 8 seconds the set mode LED will go off.

#### **c. TO VIEW THE SETPOINT OR DESIRED TEMPERATURE:**

Hold the [^] key to display the setpoint or desired temperature.

#### **d. TO VIEW THE DEFROST TEMPERATURE:**

Hold the [v] key to display the defrost temperature.

#### **e. TO CHANGE THE SETPOINT TEMPERATURE:**

Hold the [SET] key for 3 seconds. The set mode LED will come on to indicate the set mode. Now press the [^] key to increase the value or the [v] key to decrease the value. The adjustment range is from 70 °F to 105 °F ( 21 °C to 41 °C in Celsius mode ). You have 8 seconds from the time that the last key was pressed to make the adjustment. After 8 seconds the set mode LED will go off.

#### **f. BACKWASH OPERATION:**

Hold the [BACKWASH] key for 3 seconds. The display will show [bac] to indicate the backwash mode. In this mode the heat pump is turned off for 20 minutes in order to allow time for backwash. The heat pump will turn on automatically at the end of the 20 minutes. If you would like to turn on the heat pump before the 20 minute delay, simply press the [BACKWASH] key for 3 seconds (when the circulation pump is returned to the filter position).

#### **g. SWITCHING BETWEEN °F AND °C:**

Hold the [SET] key for 3 seconds. The set mode LED will come on to indicate the set mode. Press the [^] key and the [BACKWASH] simultaneously to select the °F mode. Press the [v] key and the [BACKWASH] simultaneously to select the °C mode. After 8 seconds the set mode LED will go off.

### **4. CALIBRATION:**

Other features are available on the control which aid for both installation and servicing.

#### **a. TO VIEW DEFROST TEMPERATURE:**

To view the defrost temperature, push the [v] key.

#### **b. TO CANCEL THE 5 MINUTE ANTI-SHORT CYCLE DELAY:**

For a quick restart, push both the [BACKWASH] and [%] keys for 3 seconds. Ensure that the high and low pressures are equalized.

Another mode exists which permits the service technician to modify the calibration of the sensors as well as different control parameters.

#### **TO ENTER THE SERVICE MODE:**

To access the service mode hold the [SET] key for 3 seconds. The set mode LED will come on to indicate the set mode. Now hold both the [^] and the [v] key simultaneously for 3 seconds. The service mode LED will come on to indicate the service mode. In the service mode, unlike the set mode, the control does not return automatically to the normal mode 8 seconds after the last key was pressed. To exit the service mode you must step through the parameters until you come to the setpoint adjustment mode ( see i. on page 4 ). The first parameter is the water sensor calibration.

**c. WATER SENSOR CALIBRATION:**

The digital display will show [CXX]. "C" represents the water sensor calibration mode. "XX" is the actual water temperature in °F. If water sensor calibration is necessary, measure the water temperature with a precise digital thermometer and adjust the digital display to show the same value using the [^] and the [v] key. To view or step to the next parameter (defrost sensor calibration), press the [SET] key.

**d. DEFROST SENSOR CALIBRATION:**

The digital display will show [cXX]. "c" represents the defrost sensor calibration mode. "XX" is the actual defrost temperature in °F. If defrost sensor calibration is necessary, measure the temperature of the defrost sensor, installed on the side of the evaporator, with a precise digital thermometer and adjust the digital display to show the same value using the [^] and the [v] key. To view or step to the next parameter (defrost cut-in temperature), press the [SET] key.

**e. DEFROST CUT-IN TEMPERATURE ADJUSTMENT:**

The digital display will show [LXX]. "L" represents the defrost cut-in temperature adjustment mode. The defrost cut-in temperature is the temperature of the evaporator at which the defrost sequence is initiated. "XX" is the defrost cut-in temperature in °F. This adjustment is factory set at 30 °F. If it is necessary to change this adjustment, adjust the digital display to show the desired value using the [^] and the [v] key. The range of this adjustment is from 10 °F to 60 °F. To view or step to the next parameter (defrost cut-out temperature), press the [SET] key.

**f. DEFROST CUT-OUT TEMPERATURE ADJUSTMENT:**

The digital display will show [HXX]. "H" represents the defrost cut-out temperature adjustment mode. The defrost cut-out temperature is the temperature of the evaporator at which the defrost sequence is terminated. "XX" is the defrost cut-out temperature in °F. This adjustment is factory set at 48 °F. If it is necessary to change this adjustment, adjust the digital display to show the desired value using the [^] and the [v] key. The range of this adjustment is from 10 °F to 60 °F. To view or step to the next parameter (deadband adjustment), press the [SET] key.

**g. DEADBAND OR TEMPERATURE DIFFERENTIAL ADJUSTMENT:**

The digital display will show [bXX]. "b" represents the deadband adjustment mode. The deadband is the differential between the cut-in and cut-out water temperatures. "XX" is the differential in °F. This adjustment is factory set at ±0.4 °F ([b0.4] on the display). If it is necessary to change this adjustment, adjust the digital display to show the desired value using the [^] and the [v] key. The range of this adjustment is from ± 0.1 °F to ± 1.0 °F. To view or step to the next parameter (compressor defrost delay-off time adjustment), press the [SET] key.

**h. COMPRESSOR DEFROST DELAY-OFF TIME ADJUSTMENT:**

The digital display will show [dX.X]. "d" represents the compressor defrost delay-off time adjustment. The compressor defrost delay-off time adjustment is the time that the compressor continues to operate after the defrost temperature falls below the defrost cut-in temperature (ie. 30 °F) "X.X" is the delay time expressed in hours and fractions of hours. This adjustment is factory set at 1.0 hour ([d1.0] on the display). If it is necessary to change this adjustment, adjust the digital display to show the desired value using the [^] and the [v] key. The range of this adjustment is from 0.1 hours to 1.5 hours. To view or step to the next parameter or to exit the service mode (setpoint adjustment), press the [SET] key.

**i. TO CHANGE THE SETPOINT TEMPERATURE OR TO EXIT THE SERVICE MODE:**

Press the [^] key to increase the setpoint or the [v] key to decrease the setpoint. The adjustment range is from 70 °F to 105 °F (21 °C to 41 °C in the °C mode). You have 8 seconds from the time that the last key was pressed to make the adjustment. After 8 seconds the set mode LED will go off and the control will exit the service mode and return to the normal mode.