



Pymeter PY-20TH Temperature Controller Instruction Manual

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Pymeter

Pymeter PY-20TH Temperature Controller



READ before USE

1. Q: How Pymeter Thermostat Control Temperature?

A: It controls temperature by turning ON(OFF) the Heater/Cooler to Start(Stop) Heating/Cooling.

2. Q: Why cannot control the temperature at a single point?

- A: Temperature is fluctuating all the time in our changing environment
- A: If you attempt to use a temperature controller to keep the temperature at a single point, once the temperature changes slightly, it will trigger the heating or cooling device ON&OFF very frequently, which will damage the heating/cooling device in a very short time. Conclusion: All-temperature controllers are used to control temperature range.

3. Q: How Pymeter Thermostat control temperature range? (The same to Humidity)

• A: In Heating mode (Low ON High OFF)

Ask yourself a question, why you need to heat? the answer is current temperature is lower than the target temperature you desired, we need to START the heater to heat up the temperature. Then there comes another question, at what point to Start Heating? Thus we need to set a low-temperature point to trigger heating(Turn ON outlet for Heater), which is called “ON-Temperature” in our product, along with current temperature rising up, what if overheat? at what point to Stop Heating? Thus next we need to set a high-temperature point to Stop Heating(Turn OFF outlet for Heater), which is called “OFF-Temperature” in our product. After heating stops, the current temperature may fall down to the low-temperature point, then it will trigger heating again, into another loop.

• A: In Cooling mode (High ON Low OFF)

Why do you need to cool? the answer is current temperature is higher than the target temperature you desired, we need to START the cooler to cool down the temperature, at what point to we Start Cooling? We need to set a high-temperature point to trigger Cooling(Turn ON outlet for Cooler), which is called “ON-Temperature” in our product, along with current temperature falling down, what if too cold as we don't wish? Thus next we need to set a low-temperature point to Stop Cooling(Turn OFF outlet for Cooler), which is called “OFF-Temperature” in our Cooler), which is called “OFF-Temperature” in our up to the high-temperature point, then it will trigger cooling again, into another loop. By this way, Pymeter

Thermostat controls the temperature range at “ON-Temperature”~ “OFF-Temperature”.

Keys Instruction

1. CD PV: underworking. mode, . display current Temperature; under the setting mode, display menu code.
2. SV: under the working mode, display current Humidity; under the setting mode, display setting value.
3. SET key: press SET key for 3 seconds to enter the menu for function setting.
4. SAV key: during the setting process, press SAV key to save and exit the setting.
5. INCREASE key: under the setting mode, press the INCREASE key to increase the value.
6. DECREASE key: under the setting mode, press
7. DECREASE key to decrease value. I (J) Indicator 1: the lights are on when outlet 1 is turned on.
8. Indicator 2: the lights are on when outlet 2 is turned on. I @ LED1-L: the light is on if outlet 1 is set for HEATING.
9. LED1-R: the light is on if outlet 1 is set for COOLING.
10. LED2-L: the light is on if outlet 2 is set for HUMIDIFICATION.
11. LED2-R: the light is on if outlet 2 is set fo DEHUMIDIFICATION.

Working Mode (Important!!!)

- Outlet 1 supports Heating/Cooling mode;
- Outlet 2 supports Humidification/Dehumidification.

Use for Heating device:

Set ON-Temperature(1 tn) < OFF-Temperature(1 tF}.

- Outlet 1 turns on when current Temperature<= ON- Temperature, and turn off when current Temperature rises to OFF-Temperature or higher, it will NOT turn on until current Temperature falls to ON-Temperature or lower!
Heating Mode(Cold→Hot), MUST set 1 tn LESS than 1
 - **HF:** 1tn: the minimum temperature(How COLD) you allow it to be (it is the point to turn ON the outlet to START HEATING);
 - **HF:** the maximum temperature(How HOT) you allow it to

Use for Cooling device:

Outlet 1 turns on when current Temperature>= ON- Temperature, and turns off when current Temperature falls to OFF-Temperature or lower, it will NOT turn on until current Temperature rises to ON-Temperature or higher!

- Cooling Mode(Hot→Cold), MUST set 1tn GREATER than1tF 1tn: the maximum temperature(How HOT) you allow it to be (it is the point to turn ON outlet to START COOLING);
 - **HF:** the minimum temperature(How COLD) you allow it to be (it is the point to turn ON the outlet to START COOLING);
 - **HF:** the minimum temperature(How COLD) you allow it to be (it is the point to turn OFF outlet to STOP COOLING).

Use for Humidification device:

Set ON-Humidity(2hn) < OFF-Humidity(2hF}. Outlet 2 turns on when current Humidity<= ON-Humidity and turn off

when current Humidity rises to OFF-Humidity or higher, it will NOT turn on until current Humidity falls to ON-Humidity or lower!

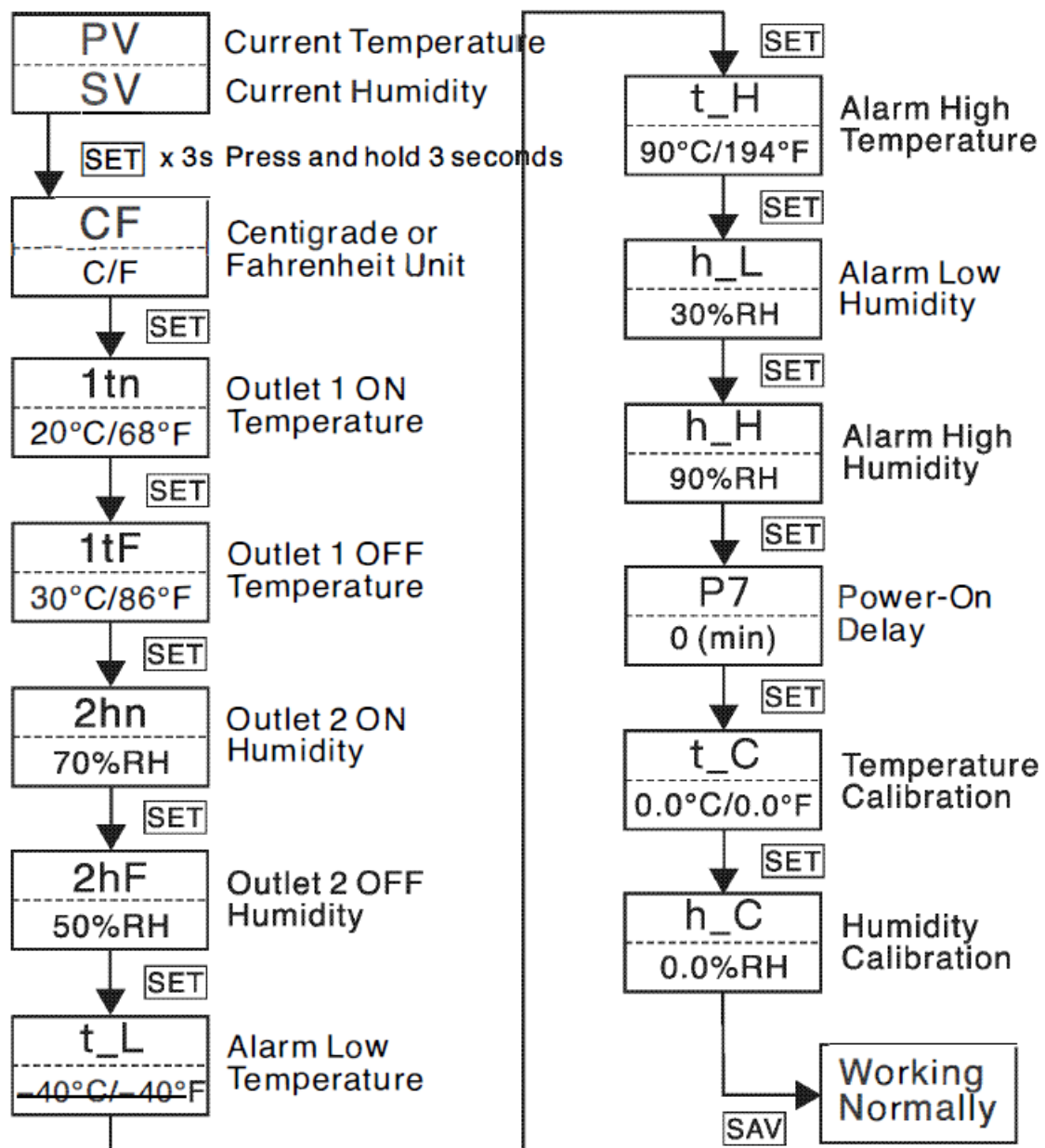
- Humidification Mode(Dry→Wet), MUST set 2hn LESS than 2hF:
 - 2hn: the minimum humidity you allow it to be (it is the Point to turn ON outlet to START HUMIDIFY);
 - 2hF: the maximum humidity you allow it to be (it is the point to turn OFF outlet to STOP HUMIDIFY).

Use for Dehumidification device:

Set ON-Humidity{2hn} > OFF-Humidity{2hF}. Outlet 2 turns on when current Humidity>= ON-Humidity, and turn off when current Humidity falls to OFF-Humidity or lower, it will NOT turn on until current Humidity rises to ON-Humidity or higher!

- Dehumidification Mode(Wet→Dry), MUST set 2hn GREATER than 2hF:
 - 2hn: the maximum humidity you allow it to be (it is the point to turn ON outlet to START to DEHUMIDIFY);
 - 2hF: the minimum humidity you allow it to be (it is the point to turn OFF the outlet to STOP DEHUMIDIFY).

Setup Flow Chart



Setup Instruction

When the controller is powered on or working, press SET key for over 3 seconds to enter setting mode, PV window displays the first menu code "CF", while SV window displays according to setting value. Press the SET key to go to the next menu, press the INCREASE key or DECREASE key to set the current parameter value. After setup is done, press the SAV key to save the settings and return to normal display mode. During setting, if there is no operation for 30 seconds, the system will save the settings and return to normal display mode.

Main Features

- Designed with independent dual outlets;
- Dual Relays, able to control Heating / Cooling, Humidification / Dehumidification devices simultaneously or separately;
- Turn devices on and off at desired Temperature I Humidity, very easy and flexible to use;
- Celsius or Fahrenheit Read-out;
- Large Display, read current Temperature & Humidity;
- High and Low Temperature & Humidity Alarm;
- Power-on Delay, protect output devices from excessive on/off toggling;
- Temperature & Humidity Calibration;
- Settings are retained even when power off.

Specification

- Temperature; Humidity Range -50~99°C / -58~210°F; 0~99%RH
- Resolution 0.1 °C / 0.1° F;0.1%RH
- Accuracy ± 1 ° c / ± 1 ° F; ± 3 %RH
- Input / Output Power 85~250VAC, 50/60Hz, MAX 1 QA
- Buzzer Alarm High I Low Temperature I Humidity
- Input Power Cord; Sensor Cable 1.35m 14.5ft; 2m 16.56ft

MENU Instruction

Menu Code	Function	Setting Range	Default
CF	Centigrade/Fahrenheit	C / F	C
1tn	Outlet 1 ON Temperature	-50°C~99°C / -58°F~210°F	20°C/ 68°F
1tF	Outlet 1 OFF Temperature	-50°C~99°C / -58°F~210°F	30°C/ 86°F
2hn	Outlet 2 ON Humidity	0~99%RH	70%RH
2hF	Outlet 2 OFF Humidity	0~99%RH	50%RH
t_L	Alarm Low Temperature	-40°C~99°C/ -40°F~210°F	-40°C/ -40°F
t_H	Alarm High Temperature	-40°C~99°C/ -40°F~210°F	90°C/ 194°F
h_L	Alarm Low Humidity	0~99%RH	30%RH
h_H	Alarm High Humidity	0~99%RH	90%RH
P7	Power-On Delay	0-10mins	0 (min)
t_C	Temperature Calibration	-10°C~10°C/ -18°F~18°F	0.0°C/ 0.0°F
h_C	Humidity Calibration	0.0~10.0%RH	0.0%RH

Attention: Once CF value is changed, all the Setting values will be reset to Default Values. &Don't compare it to a common inaccurate thermometer or temp gun! Please Calibrate with the ice-water mixture (0 °C/32°F) if necessary!

Remarks: Buzzer will alarm with sound “bi-bi-bi ii” until the temperature is back to normal range or any key is pressed; “EEE” is displayed on PV/SV window with “bi-bi-bi ii” alarm if the sensor is fault.

Power-On Delay(P7):

(Example) if set P7 to 1 min, outlets won't turn on until 1 min countdown since last power off.

How to Calibrate Temperature?

Soak the probes fully into the ice-water mixture, the actual temperature should be 0°C/32°F, if the reading temperature are not, offset(+-) the difference in Setting -C1/C2, save, and exit.

Support and Warranty

Pyrometer products are provided with a Lifetime Warranty and Technical Support. Any questions/issue, please feel free to contact us any time on www.pymeter.com or Email support@pymeter.com.



User Manual PDF



LiveChat Support

The thumbnail shows the front cover of the instruction manual for the Pymeter PY-20TH Temperature Controller. It features a technical drawing of the device, which is a rectangular unit with a digital display and several control buttons. The text on the cover includes the model number 'PY-20TH', the title 'Instruction Manual', and other technical specifications in both English and Chinese.

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PY-20TH Temperature Controller, PY-20TH, Temperature Controller