# BN-LINK BNQ-T10WT Smart Temperature Controller Instruction Manual



BNQ-T10WT Smart Temperature Controller
Instruction Manual


BN-LINK Smart

Available on the App Store

ANDROID APP ON Google play

ENERGY SAVING

Contents



## PRODUCTS VIEW


1. **Screens**

   PV: Process Value. Under working status, display current probe temperature Under setting status, display menu code SV: Set Value. Under working status, display set temperature. Under setting status, display the set value of each parameter displayed on the PV screen.

2. **indicators**

   Heating Indicator.

   The indicator is on when the heating device is working.

   Cooling Indicator:

   The indicator is on when the cooling device is on. It flickers when the compressor is under delay protection.

3. **HEATING**

   Heating output socket.

4. **COOLING**
   Cooling output socket
5. **Setting button (SET), Increase button(▲), Decrease button(▼)**
   More details on Control Function Instructions.

## INSTALL THE BN-LINK SMART" APP

1. Search for BN-LINK Smart App on the APP store/Google Play Store, or just scan the QR code below to download. (For iPhone, you can use a built-in camera to scan the QR code. For Android, you may need a barcode scanner to do that. Please confirm the App icon before downloading.)
   ps: You can also add this smart plug to the bn-link smart app directly if you already have it on your phone, it is compatible and works the same way
2. Register an account and memorize the password, enter your email address or your phone number, then obtain a verification code to complete the registry.

BN-LINK Smart

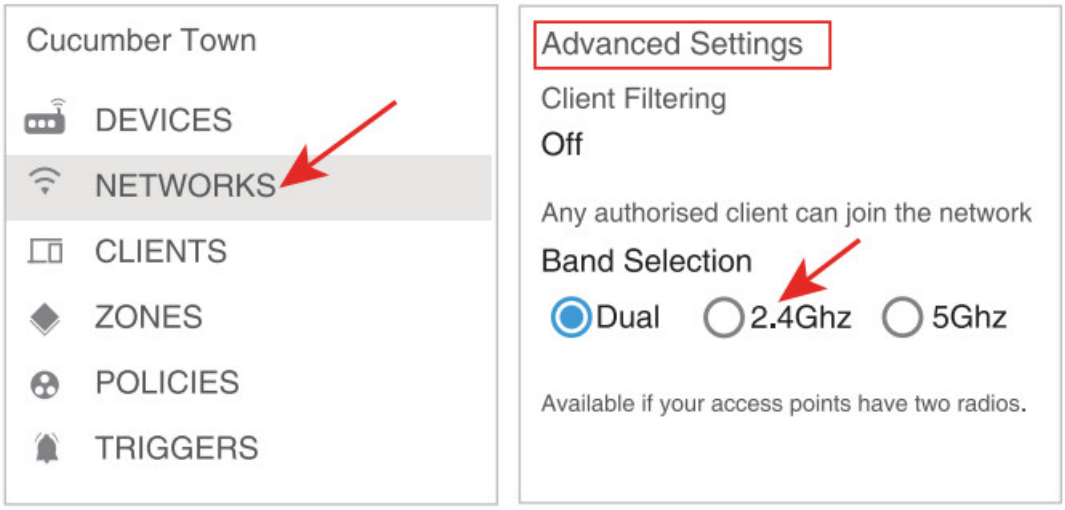
https://a.smart321.com/bnlinksmart

## CONNECT WITH YOUR CELLPHONE

**Requirements:** 2.4GHz Wi-Fi network please note:

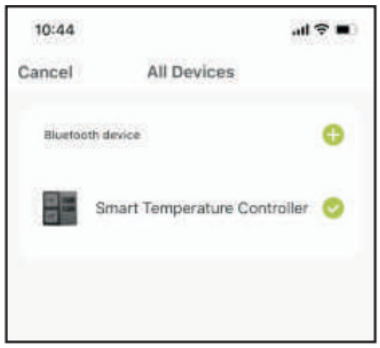
1. If you only have a 5GHz W-Fi router, you will not be able to complete the connection
2. If you are using a dual Wi-Fi router and it broadcast 2 Wi-Fi signals, make sure that your phone is connected with the 2.4GHz W.Fi signal, it should be the W.Fi signal that is next to _5G


3. If you are using a dual-band Wi-Fi router but it broadcast only 1 Wi-Fi signal, you will have to manage your Wi-Fi router and change the settings to have a 2.4GHz W-Fi.



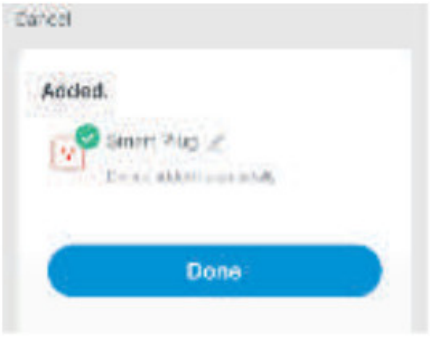

**A:** Connection via Bluetooth. Confirm that the Bluetooth on the smartphone is activated before you long press the WIF! button ( the middle button ) until the screen displays  CFG If you are using an Android device, the location permission must be allowed.
Confirm that the smart plug is plugged into a live outlet Open BN-LING Smart app
A dialogue box will pop up, indicating that the device has been discovered. Tap Go to add


Select the device you are to add.



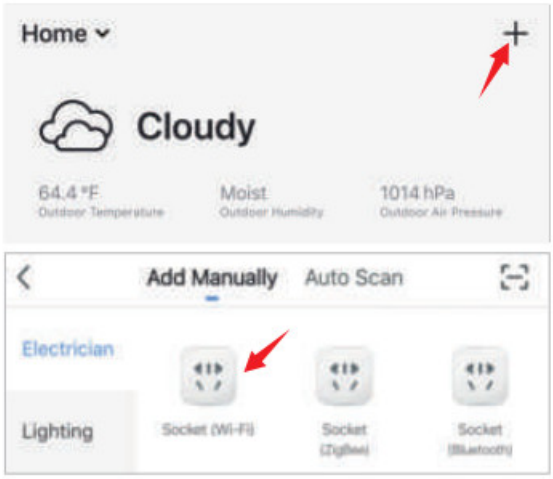

Follow the instructions on the phone to complete the connection.

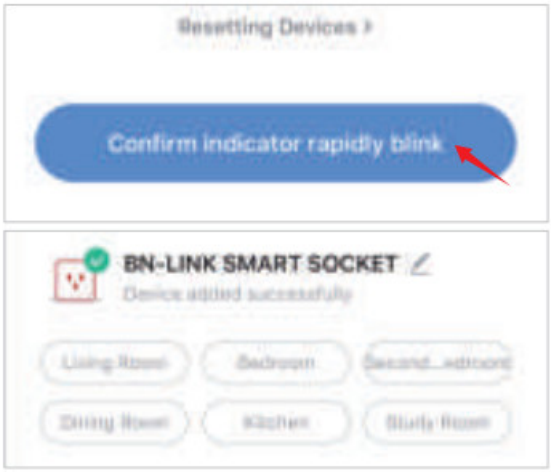

You can rename the device when it is successfully added.



B: For Easy Mode Connection. Confirm the screen displays “CFG” after you long-press the WIFI button(the middle button).

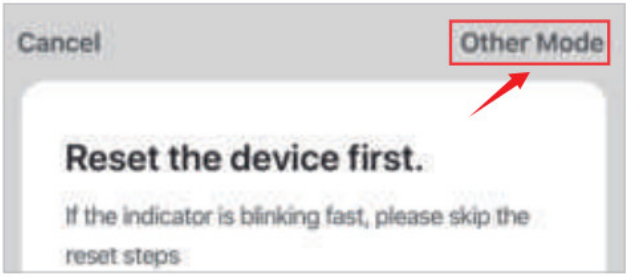
- Confirm the smart plug is plugged into a live outlet
- Open BN-LINK Smat app
- Choose the “+” symbol
- “Socket (wifi)”
- Confirm the screen displays CFG” and follow the App guide ( you need to long press the WIFI button again if you don’t see the “CFG” on the screen.)
- Set a unique name for this smart plug, and choose the room location.



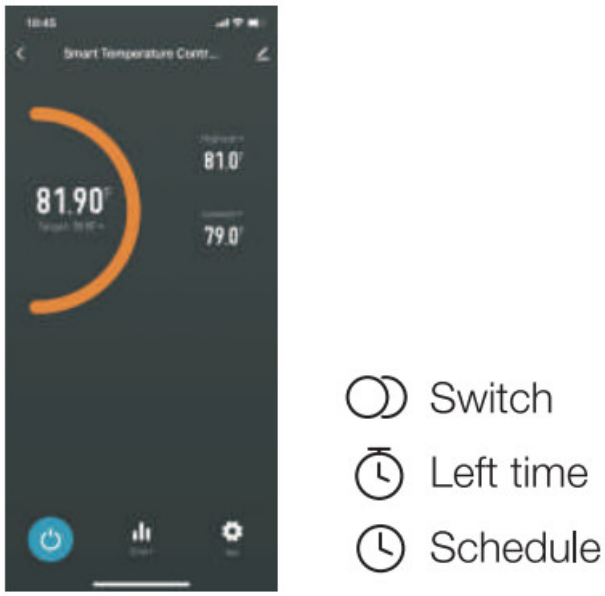

**C:** AP Mode. If the Easy mode connection failed, please remove and install the smart plug into your power outlet again. Long press the WIFI button for several seconds to enter into AP mode.
Once you see the CFG” displayed on the screen, you can start to try the AP mode connection.

- First go back to the Add Device +” interface. Socket (Wifi). Then choose the “Other Model” in the top right comer and choose AP Mode.
- You need to long press the WIFI button (the middle button). Make sure the “CFG” is displayed on the screen.
- Choose your 2.4G Wi-Fi and enter the password and confirm it in App;
- Tap Connect now “and choose Wi-Fi hotspot named “BN-LINK Smart-xx”, then go back to the BN-LINK Smart application;
- Wait till successful configuration and then tap Completed”





## GETTING TO KNOW THE BN-LINK SMART APP




**Note:** edit the default names In this Interface, for better management.

## RATINGS

125VAC, 60HZ
154/1875W Resistive and general purpose
10A/1250W Tungsten and Electronic Ballast
1/2 HP, IV-5
Temperature Accuracy: 0.1
Probe measurement range: -58F-230F/-50€-110C
Working temperature for the controller: -40F-176F/-40€-80C
The sensor probe is waterproof, but the controller is not. Don't get water into the outlet.
The controller is overload protected. In case an overload occurs, the power output and screen display will be cut off. Please push the overload reset button located on the top of the controller.

## WARNING

| | | |
|---|---|---|
| • Electrical shock hazard | • Do not use in wet locations | • For indoor use only |
| • Follow local electrical codes | • Do not exceed electrical ratings | • Keep children away |
| • Unplug the timer before cleaning | • Use a grounded outlet | • Fully insert the plug |

## OPERATING INSTRUCTIONS

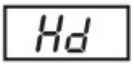
In the interface provided by the SET key switch settings shown below SU → Hd → Cd → CA → P7 → AH → AL → CF → SU, without a valid key press released after 8 seconds automatically return to the main screen, or any screen press is provided SET to return the main interface button for 2 seconds. All setting items have been saved after returning. The saved settings will not be lost due to power failure.

**SV: refers to the temperature value at which heating or cooling equipment will stop working**

In the main interface press SET the enter button for 2 seconds, the first interface is arranged SV SU, and the

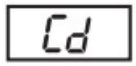
display shows the set value SV interface. Press the or key to ad Just the desired temperature. Change 1ºF or 1ºC for each lime.
SV default setting temperature is: when the unit is Fahrenheit: 100.ºF when the unit is Celsius: 35.ºC.
SVdisplay range: Fahrenheit -58.ºF-230.ºF or Celsius -50.ºC-110.ºC.

**Hd: It is the deviation value of heating working temperature.**
**SVHd=The temperature value at which the heating equipment starts to work**

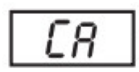
In the main interface press button for 2 seconds to enter the setting, then press the button to switch to the lower  row that shows the setting value Hd. Press the or key to adjust the Hd vale. Each change is 1 ºF or1 ºC.

The temperature at which HEATING is turned on refers to the set temperature SV minus the temperature set by Hd.
Example: The current setting temperature is 90.ºF and the Hd temperature is set to 1.0F, then the HEATING output temperature is 90.ºF-1.0F=89.ºF, and the HEATING output will be stopped when the temperature reaches 90.0F, During output, the HEATING indicator lights up.
The default value of the Hd value in both units is 1.0.
Hd display interval: 0.5~25.0

**Cd: It is the deviation value of the cooling working temperature.**
**SV+Cd=The temperature value at which the refrigeration equipment starts to work**

In the main interface press button for 2 seconds to enter the setting, then press the button to switch to  the lower row of the display setting values Cd, press or key to adjust the value Cd. Each change is 1°F or 1°C.
The temperature at which COOLING is turned on is the set temperature SV plus the temperature set by Cd.
Example: The current set temperature is 90.0°F, and the Cd temperature is set to 1.0°F, then the temperature at which COOLING turns on output is 90.0°F+1.0°F=91.0°F. When the temperature reaches 90.0°F, the COOLING output is turned off. During the output, the COOLING indicator is on.
If the PT compressor delay protection is set, the COOLING indicator will flash first. After the delay time expires, the COOLING indicator will be on and the COOLING output will be turned on at the same time. See PT function for details.
The default value of Cd value in both units is 1.0.
Cd display interval: 0.5-25.0.

## Temperature correction CA

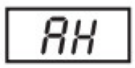
In the main interface press button for 2 seconds to enter the setting, then press the button to switch to  the lower row of the display setting values Cd, press or key to adjust the value Cd. Each change is 1°F or 1°C.
After the setting is completed, the actual temperature displayed in the upper row of the main interface refers to the value of the detected temperature plus CA.
Example: The original PV temperature is 90.0°F, if the CA value is set to 1.0°F, after pressing POWER to exit the setting, the temperature displayed by the PV will become 90.0°F+1.0°F=91.0°F.
The default value of CAis 0.0.
CAdisplay interval: -9.0~9.0.
This value means that when the current temperature displayed by the product deviates from the actual temperature, it can be corrected by CA. For example, if the current temperature displayed by the product is 3

degrees higher than the actual temperature, you can set CA=-3.0.

In the main interface press SET button for 2 seconds to enter the setting, then press SET the button to switch to 

the lower row of the display setting values Cd, press ▲ or ▼ key to adjust the value Pt. Each change is 1.
For example, when PT is set to 01, ii means that the delay time is 1 minute.
The default value of PT is 00.
PT display interval: 00-10.
Further explanation about the compressor delay (PT):
The priority of the delay protection is higher than that of the temperature sensor.
Regardless of the temperature measured by the sensor, the thermostat will only start the refrigeration equipment after the delay time has passed. In the cooling mode, if the temperature measured by the sensor is higher than SV+Cd, the thermostat will not start the cooling device immediately, but will start after the delay time has elapsed. The delay time starts to be calculated immediately after the refrigeration equipment stops working.
If the interval between the two refrigeration cycles is greater than the preset delay protection time, the refrigeration equipment will start immediately. (Example: PT=2 and the interval between two normal refrigeration cycles ( from when the device stops working to when the sensor detects the temperature of the device that can be started) are 3 minutes, the device will start immediately.)
If the interval between the two refrigeration cycles is less than the preset delay protection time, the refrigeration equipment will start after the delay time. (Example: pTe5 and the interval between two normal refrigeration cycles ( from when the device stops working to when the sensor detects the temperature of the device that can be started) is 3 minutes, the device will wait two more minutes before starting.)

### High-temperature alarm value AH

In the main interface press SET button for 2 seconds to enter the setting, then press SET the button to switch to 

the lower row of the display setting values Cd, press ▲ or ▼ key to adjust the value Ah. Each change is 1°F or 1°C.

AH is the high-temperature alarm temperature. When the temperature displayed by the PVCs is higher than the AH value you set, the device will start the alarm. The upper display will jump back and forth between the current temperature and “H”, make a beeping sound, and so on.
When the actual temperature is lower than the AH value, the alarm will be canceled automatically Or press any button, the alarm will be canceled.

The default value of AH: is 230.0°F or 110.0°C. When it is at the default value, it is considered that the AH alarm function is closed.
AH display interval: -58.0°F~230.0°F or -50.0°C~110.0°C

### Low-temperature alarm value AL

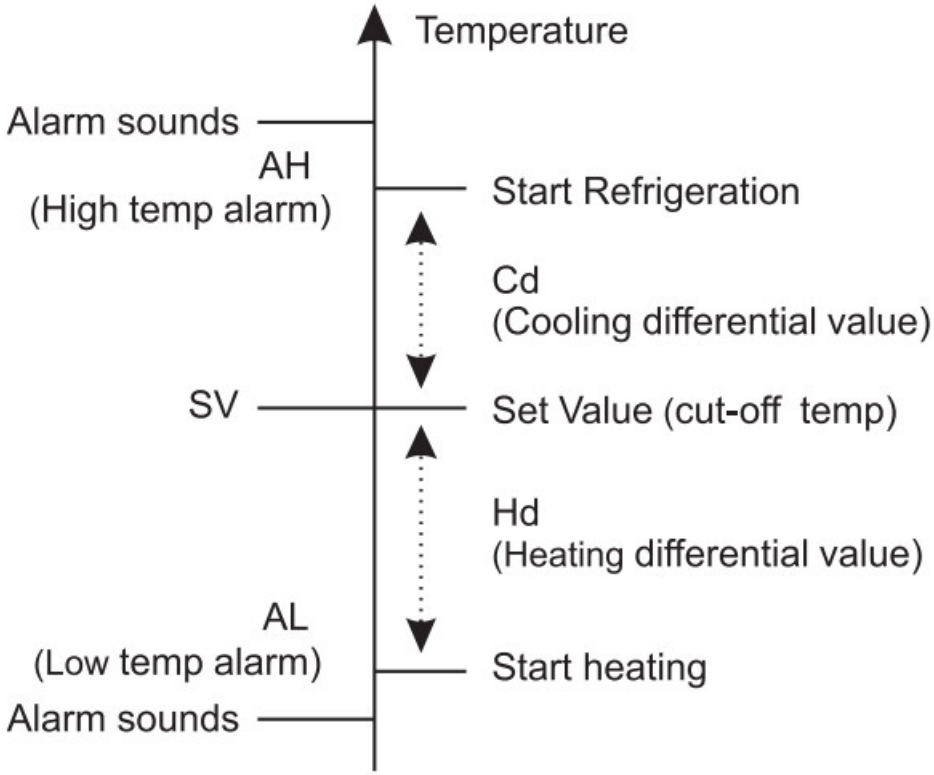
In the main interface press SET button for 2 seconds to enter the setting, then press SET the button to switch to 

the lower row of the display setting values Cd, press ▲ or ▼ key to adjust the value, Al. Each change is 1°F or 1°C.

AL is the low-temperature alarm temperature. When the temperature displayed by the PV is lower than the AL value you set, the device will start the alarm. The upper display will jump back and forth between the current temperature and “L”, with a beeping sound, and so on.
When the actual temperature is higher than the AL value, the alarm will be canceled automatically. Or press any

button, and the alarm will be canceled.
The default value of AL: is -58.0°F or -50.0°C. When it is at the default value, it is considered that the AL alarm function is closed.
AL display interval: -58.0°F~230.0°F or -60.0°C~110.0°C

| Code | Default | Range | Definition | Explanation |
|---|---|---|---|---|
| **Basic Setting** | | | | |
| SV | 100 | -58°F-230°F | Set Value | Cut-off temp. When the temp rises and r eaches SV, the heating device will be tur ned off. When the temp drops and reach es SV, the cooling device will be turned o ff. |
| Hd | 1 | 0.1-25°F | Heating Differential Value | When measured temp PV<SV – Hd, the controller turns on heating equipment. |
| Cd | 1 | 0.1-25°F | Cooling Differential Value | When measured temp PV>SV + Cd, the controller turns on cooling equipment. |
| CA | 0 | -9-9°F | Calibrate the reading | Optional. If the measured temperature is 3 degrees higher than the real temperature set CM-3. |
| PT*** | 0 | 0-30 | Compressor Time Delay unit: minute) | Optional. It defines the time interval of 2 compressor cycles (On-Off) |
| AH | 0 | -58°F-230°F | High-temperature alarm | Optional. It will beep once temp exceeds AH. Press any key to stop the alarm. |
| AL | 0 | -58°F-230°F | Low-temperature alarm | Optional. It will beep once temp exceeds AL. Press any key to stop the alarm. |
| **Advanced Setting**<br>**NOTE:** Once you enter the advanced setting, all of your former basic settings will be restored. | | | | |
| **CF** | **F or C** | **F or C** | **Temperature unit** | **The default unit is F** |
| ST | 1 | 01 or 10 | Number increment for ea ch click on the UP/DOW N button | Optional. If you choose 10, the number j umps like 2,3,4…<br>If you choose 01, it jumps like 2.1, 2.2, 2 .3… |




## TROUBLESHOOTING

**A. heating or cooling device does not turn on when a specified temperature is reached.**
First please understand that the controller turns off the device when the target temperature is reached. It turns on the device only when the specified temperature is exceeded. The device will be turned on only when the temperature is below (SV- Hd) or over (SV + Cd).
Then, check if a PT value is specified. If you've specified a PT value, during the delay time, the COOLING indicator on the screen will flash. Your device will be turned on after the specified time delay.
**B. The controller displays EEE while beeping.**
Please check if the 3.5mm plug of the sensor probe is inserted completely into the jack on side of the controller. If it is plugged in correctly, the probe is likely defective. Please email us at **support@bn-link.com** for a free probe replacement.
**C. The screen displays LLL.**
This means the temperature is below the minimum value that this controller can measure.
**D. The screen displays HHH.**
This means the temperature is over the maximum value that this controller can measure.
**E. It keeps beeping when the temperature reaches a certain level.**
This is usually because the alarm has been set. When the alarm sounds press any button to disable it.
**F. No power output and screen display.**
Please check if the load exceeds the rating of the controller. Remove the load from the controller and push the overload reset button on top of the controller.

## Documents / Resources

| | |
|---|---|
|  | **BN-LINK BNQ-T10WT Smart Temperature Controller** [pdf] Instruction Manual<br>BNQ-T10WT, Smart Temperature Controller, BNQ-T10WT Smart Temperature Controller |

Manuals+,