

KI&BNT® ATC-800+ Operation Instruction

Main Functions

Switch the modes between cool and heat; Control temperature by setting the temperature setting value and the difference value; Temperature calibration; Refrigerating control output delay protection; Alarm when temperature exceeds temperature limit or when sensor error.

Specification and Size

- ◆ Front panel size: 180(L)×100(W)(mm) ◆ Mounting size: 170(L)×90(W)(mm)
- ◆ Product size: 180(L)×100(W)×57(D)(mm) ◆ sensor length: 2m(include the probe)

Technical Parameters

- ◆ Temperature measuring range: -50 ~99 ◆ Resolution: 0.1 (-19.9~99)
- ◆ Accuracy: ±1 (-50 ~70) ◆ sensor error delay: 1 minute
- ◆ Power supply: 220VAC±10%, 50/60Hz ◆ Power consumption: <3W
- ◆ Sensor: NTC sensor (1PC) ◆ Relay contact capacity: Cool(20A/250VAC);Heat(10A/250VAC)
- ◆ Ambient temperature: 0 ~60 ◆ Storage temperature: -30 ~75
- ◆ Relative humidity: 20~85%(No condensate)

Panel instruction



Display instruction:

Three-digit LED +Minus digit + Status indicator light (Cool, Heat) + running status indicator light (on/off) + temperature set indicator light (temp.)+temp difference set indicator light (tem-dif).

Key instruction:

"set" key: the key to set; "▲" key: Up key; "▼" key: Down key; "temp" key: to set temperature; "tem-dif" key: to set temperature difference; "on/off" key: to turn on or turn off the temperature.

Indicator light status instruction

Indicator light	Function	Note
on/off light	on: represents cool/heat equipment is under permissible-operating status off: represents cool/heat equipment is under forbidden-operating status	Controlled by on/off key
cool light	on: refrigerating is running; off: refrigerating is off; light flashes: compressor delay	The 2 indicator light of cool, heat can not be on simultaneously
heat light	on: heat starts; off: heat off	
temp light	The light is on under the temperature set and check status	The tem-dif indicator light is off when the controller is under normal working status
tem-dif light	The light is on under the temp. difference set and check status	

Key operation instruction

1.The way to check parameter:

Under normal working status, press and release "temp" key once instantly, it displays temperature setting value, and back to normal running status in 2s; Press and release "tem-dif" key once instantly, it displays the difference value, then back to normal running status in 2s.

2.The way to set parameter:

Under controller normal working status, press "set" key for 6s until the "temp" indicator light on, system enters temperature set status. Under set status, press and release the "temp"key or "tem-dif" key once to enter the temp. set and temp. difference set status, the accordingly "temp"key and "tem-dif"indicator light on. Under set status, Press and release "▲" key or "▼" key once instantly to increase or decrease the parameter value 1 every once. Press and hold "▲" key or "▼" key for 3s or more to adjust the parameter quickly, and the set range is between -50~99 . After finishing the set, press and hold "set" key for 3s, system will save parameter and exit. If no key operation within 10 seconds, system won't save modified parameter, and back to normal display status.

Screen display "Er" if error appears during parameter saving, and back to normal working status in 3s.

3. Restore system data

When electrified, system will check itself, screen will display "Er" if error exit, please press any key at this time to restore default value and enter into normal working mode. it is advised to reset the parameter value under this condition.

Operation instruction

Under controller normal working status, press and hold on/off key for 3s can control and choose the running status of the cool/heat equipments. If "on/off"indicator light on, it represents cool/heat equipment is under permissible-operating status; If "on/off"indicator light off, it represents cool/heat equipment is under forbidden-operating status; Under the controller normal working status, screen displays the current measuring temperature value; also the controller can also switch and control the working modes between heating and cooling automatically.

Controller starts refrigerating with cool indicator light on when the measuring temperature ≥ temperature set value + difference value, and the refrigerating relay is connected; The "cool" indicator light flashes, it indicates the refrigerating equipment is under compressor delay protect status; when the measuring temperature ≤ temperature set value, the cool indicator light off, and refrigerating relay disconnects.

System starts heating when the measuring temperature value ≤ the temperature set value-difference value, the 'heat' indicator light on, and the heat relay connects; When the measuring temperature ≥ temperature set value, the "heat" indicator light is off, and the heat relay disconnects.

Error description

Alarm when sensor error: Controller activate the sensor error alarm mode when sensor open circuit or short circuit, all the running status is closed off with the buzzer alarms, and the nixie tube displays "EE". Press any key can cancel alarm sound, system back to display the normal temperature when the error and the fault is cleared.

Alarm when the measuring temperature exceeds temperature measuring range: Controller activates the error alarm function when the measuring temperature exceeds the temperature measuring range. all the running status is closed off with the buzzer alarms, and the nixie tube displays "HH", press any key can cancel alarm sound, system back to normal working status when the temperature measuring range back to restore within normal display range.

Safety Regulations

★Danger:

- 1.Strictly distinguish the sensor down-lead, power wire and output relay interface from one another, and prohibit wrong connections or overloading the relay.
- 2.Prohibit connecting the wire terminals without electricity cut-off

★Warning:

Prohibit using the machine under the environment of over damp, high temp., strong electromagnetism interference or strong corrosion.

★Notice:

- 1.The power supply should conform to the voltage value indicated in the instruction.
- 2.To avoid the interference, the sensor down-lead and power wire should be kept a distance.

Wiring diagram

