Please check the controller label to know if it should be powered up with a 110V or 220V (EU) or 12VDC (12VDC controller does not need ground wire) power supply.

1. **Dimensions:**
   - Product size: 75L x 34.5W x 85D (mm)
   - Mounting size: 71L x 29W (mm)

2. **wiring diagram:**
   - Terminals 1 & 2: Heating or Cooling output:
     - Contact relay switch (normally open).
   - Terminals 3 & 4: Power supply connection
   - Lock switch: Locking Parameter Settings
   - Terminals 5 & 6: Temperature sensor connection

3. **Technical information:**
   - Temperature range: -30°C~300°C (-22°F ~ 572°F) with NTC100K or -50°C~110°C (-58°F ~ 230°F) with NTC10K
   - Control accuracy: ±1°C
   - Maximum power consumption: 2W
   - Resolution: ±0.1°C
   - Temperature measurement error: ±1°C
   - Contact Relay (Output 1,2–Heating or Cooling): (10A/110V or 12V), 5A/220V
   - Temperature sensor: work with both NTC 10K or NTC 100K

4. **Primary Parameter Setting (Level 1):**
   - Press and hold the SET key and ▲ key at the same time for more than 3 seconds and the controller will go to “Primary Parameter Setting” menu. By pressing ▲ or ▼ keys you can select the required parameter from the menu. When the needed parameter is found, press Set key again and then by pressing ▲ or ▼ keys, you can change the parameter value. When the Parameter is set, you can exit “parameter setting mode” by pressing RST key. Please consider every time you go to primary parameter setting (Level 1), the Parameter setting (Level 2) goes back to factory setting values. So, it is recommended to set up Level 1 Parameters before Level 2.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Details</th>
<th>Setting range</th>
<th>Factory settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF</td>
<td>Fahrenheit/Celsius</td>
<td>F / C</td>
<td>C</td>
</tr>
<tr>
<td>HL</td>
<td>HL=H: Sensor NTC100K (572°F) or HL=L: Sensor NTC10K (230°F)</td>
<td>H / L</td>
<td>H</td>
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<tr>
<td>ST</td>
<td>Temperature measuring with or without decimal point (1 or 0.1)</td>
<td>10 / 01</td>
<td>10</td>
</tr>
<tr>
<td>dL</td>
<td>Count Down Timer ON/OFF</td>
<td>ON / OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>U</td>
<td>Configuring timer setup</td>
<td>ON / OFF</td>
<td>OFF</td>
</tr>
</tbody>
</table>

   *U=OFF: timer starts as soon as thermostat turns ON. U=ON: timer starts when temperature reaches to the set point.

5. **Operating Instructions:**

   **LED Status (light display):**
   - When red “WORKING” light is ON, it shows the output (heating or cooling) is working.
   - If “WORKING” light flashes, it shows that the controller is on delay.
   - If “SET” light is ON, it shows that the controller is on setting mode.

   **Turning controller ON/OFF:**
   - To turn the controller ON press RST key once. To turn the controller OFF press and hold RST key for 3 seconds.

   **Define the set point:**
   - Press the SET key once & by pressing ▲ or ▼ keys you can adjust the set point. You can exit the setting mode by pressing SET key or by waiting 5 seconds.

   **Parameter Setting (level 2):**
   - Press and hold SET key for 3 seconds to enter “parameter setting menu”. By pressing ▲ or ▼ keys you can select the required parameter from the menu. When the needed parameter is found, press SET key again and then by pressing ▲ or ▼ keys, you can change the parameter value. When the parameter is set, you can exit the “parameter setting mode” by pressing RST key or waiting 5 Sec.
Caution:
2) When the controller displays LLL it shows that the measured temperature by sensor is lower than LS value. Output relay will be closed (so the heater is off for safety).

1) When the controller displays --- "it shows that the sensor is disconnected. Controller will make beeping sound and the heating output relay will be off but if you need to use the timer, "AT" should be set at a number between 0-999 minutes.

Error messages and troubleshooting:
1) When the controller displays "--- "it shows that the sensor is disconnected. Controller will make beeping sound and the heating output relay will be closed (so the heater is off for safety).
2) When the controller displays LLL it shows that the measured temperature by sensor is lower than LS value.
3) When the controller displays HHHH it shows that the measured temperature by sensor is higher than HS value.

Caution:
◆ The maximum current load of the heating or cooling source must not exceed the output relay contact capacity. It will damage the unit and may cause fire.
◆ Check the wiring diagram before wiring the unit. Wrong wiring will damage the controller and may cause fire.
◆ Applying extra force on the screws of controller terminals will break the base. Please tighten the screws gently.
◆ For your safety, turn the power supply off when you are wiring the controller.