UTR TXB series are available for boiler, manifold and underfloor heating system with 7-day, 6-period time program control. Models are with NTC sensor to detect ambient and floor temperature and do the control by compared with the setting one. Manual, time program and temporary mode can be switched any time by pressing the relevant keys. De-frost protection function will be active when ambient temperature below 5°C, prevent water pipe from freezing and burning.

1. 7-day, 6-period time program
2. Touch screen LCD with blue backlight
3. De-frost protection ≤ 5°C
4. Key-lock function
5. Memory function
6. Advanced setting
7. Double sensors to control and limit the temp.
8. Ingress Protection:IP20
9. Flame retardant PC
### Technical Datas

- **Consumption:** <2W
- **Power supply:** 85–265VAC 50/60Hz
- **Max. Current:** 20Amp MAX (Resistive load)
- **On/Off differential temp:** 0.5–5°C
- **Working temp. and Humidity:** 0–50°C, less than RH90% (No condensation)
- **Storage temp. and Humidity:** 20°C–30°C, RH45%–RH65%
- **Setting temp.:** 5–35°C / 0.5°C per step
- **Accuracy:** 1°C
- **Temp. limitation:** 5–60°C (external sensor)
- **Wiring port:** 2.5mm² max.

### LCD display and Functions

1. **Manual control mode**
   - LCD displays “▌”, the controller is under manual setting. In the “ON” state, press “■” to switch the manual control mode or time program control mode.

2. **Time control mode**
   - LCD displays “☑”, adjust temperature of periods automatically against time program setting. In the “ON” state, press “■” to switch the time program control mode or manual control mode.

3. **Temporary control mode**
   - LCD displays “▌” and “☑”, current period is manual control mode, but next period resume to the time program control mode. In the time program control mode, press “■” or “■” to enter into temporary control mode.

4. **De-frost function**
   - in off mode, when the current temperature is lower than the setting temperature for de-rrost, the main output will close, and will show “▌▌▌▌▌.”

![LCD display diagram](image)
General Setting

1. Power on / off: Press “①” to turn on or turn off the controller. When power is off, it displays “OFF” and current time alternately; when power is on, it displays setting temp. and current time alternately.

2. Adjust setting temp.: Press “②” or “③” to adjust temp. during manul control and temporary control mode.

3. Key-lock function: In the “ON” state, keep pressing “④” for 3s until the coin “LOC” displays, to lock or unlock the controller.

4. Time and week setting: In the “ON” state, press “⑤”, then press “⑤” or “⑥” to amend the minute; press “⑦” to amend the hour; press “⑧” to set the day of week, press “⑨” to save and exit the setting.

5. Time program: In the “ON” state, keep pressing “⑨” for 3s to start setting, press “②” or “③” to adjust the current time (15mins/steo). Press “④” again to check related temp, press “⑥” or “⑦” to adjust setting temp. Press “⑧” to adjust next period. Press “⑨” to save and exit the setting.

6. Control mode: Press “⑩” to switch manual or program control mode. In time control mode, keep pressing “②” or “③” for 3s to enter into temporary control mode.

<table>
<thead>
<tr>
<th>Periods</th>
<th>Coins</th>
<th>Default Time</th>
<th>Default Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekdays</td>
<td>1</td>
<td>06:00</td>
<td>22°C</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>08:00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>11:30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>12:30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>17:00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>22:00</td>
<td></td>
</tr>
<tr>
<td>Holiday</td>
<td>1</td>
<td>08:00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>23:00</td>
<td></td>
</tr>
</tbody>
</table>

Wake up, Period 1
Leave (am), Period 2
Return (am), Period 3
Leave (pm), Period 4
Return (pm), Period 5
Sleep, Period 6
Key-LOC
Advanced Setting

Normally set by technicians during the first installation. Press “ ” first, then press “ ” for 3s to enter into setting in the “ON” state.

Tips: (Amend the datas via advanced setting, press “ ” to save and exit the setting.)

01. Adj  Temperature compensation, press “ ” or “ ” to adjust during range -9~9°C. Press “ ” to enter into next setting.

02. Sen  Sensor selec.ion, press “ ” or “ ” to select the sensor. “IN”-internal sensor, “OU”-external sensor, “AL”-double sensors. Press “ ” to enter into next setting.

03. Lit  Limitation temperature of external sensor, press “ ” or “ ” to change the exact limited temperature of external sensor during 5~60°C, press “ ” to enter into next setting.

04. Di witch deviation (bandwidth), press “ ” or “ ” to adjust the differential temp. during range 0.5~5°C, press “ ” to enter into next setting.

Main output from “OFF” to “ON”: Room temp. ≤setting temp. - differential temp.

Main output from “ON” to “OFF”: Room temp. ≥setting temp. + differential temp.

05. Pr 5+2/6+1/7 or off, press “ ” or “ ” to switch workdays, 5/6/7 workdays, or turn off the time program. Press “ ” to enter into next setting.

Tips: workdays divided into 6 periods, and holidays divided into 2 periods only.

06. Rle  Setting of passive linkage and main output, press “ ” or “ ” to change the condition of linkage; “00” means correspond with main loop output, “01” means opposite. Press “ ” to enter into next setting. (water floor system ONLY)

07. Dly  Dry contact function output delay: Press “ ” or “ ” to amend from 0-5 minutes, press “ ” to enter into next setting.

When the output from “ON” to “OFF”, dry contact will be “OFF” at the same time. (water floor system ONLY)

08. Hit  Press “ ” or “ ” to adjust the max.temp. from 35~60°C. Press “ ” to enter into next setting.

09. LiB  Backlight setting, press “ ” or “ ” to adjust the setting value, “ON” means open, “OFF” means close. Then press “ ”, enter into next setting.

10. Lt  The time for backlight: Press “ ” and “ ” to set the time for backlight, it can be set between 10 s and 30 s. The default is 15 seconds.

11. PEM  Sound setting, Press “ ” or “ ” to select the setting parameter, “ON” means enable, “OFF” means disable, press “ ” to enter into next setting.

12. LpD  De-frost function setting, press “ ” or “ ” to adjust the setting value, “On” means enable, “OFF” means disable. Then press “ ” to enter into next setting.

13. TP  De-frost temperature setting, press “ ” or “ ” to adjust the de-frost value, at the range of 5°C to 12°C. Then press “ ” to enter next setting.

14. SF  ON/OFF state of thermostat, Press “ ” and “ ” to change the state of thermostat, the default is OF.
Advanced Setting

ON: When power on, the thermostat is in on state,
OF: When power on, the thermostat is in off state,
SF: TO memorize the on/off state before power off.

15. CF Setting of temperature unit: Press “°C” and “°F” to switch the temperature unit.
   C: Display in Celsius degree°C
   F: Display in Fahrenheint degree°F

16. Fac Recover factory setting, press and hold “△”, then the symbol “-” appears on the screen, and till it changes to “-” to recover the factory setting. Press “△” to enter next setting; or press “△” to save and exit this setting.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Adi</th>
<th>Sen</th>
<th>Lit</th>
<th>dif</th>
<th>prg</th>
<th>Rle</th>
<th>Hit</th>
<th>LIG</th>
<th>PE</th>
<th>LP</th>
<th>TP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>0</td>
<td>In</td>
<td>35°C</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>35°C</td>
<td>on</td>
<td>on</td>
<td>on</td>
<td>5°C</td>
</tr>
</tbody>
</table>

Wiring Diagrams

The highest elevation for the controller working under full load situation is 2500m; or if higher than 2500m, the rated power of external loads should be ≤80% rated power of the thermostat.

Installation Diagrams

1. To take the front panel and back plate apart by screwdriver
2. Wiring on the terminals of back plate according to the diagram, then to fix the back plate on the junction box by screwdriver
3. Recombine the front panel and back plate by contact pins

Trouble Shooting

<table>
<thead>
<tr>
<th>Fault phenomenon</th>
<th>Reasons</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>No display</td>
<td>Power line input errors or withoutInput</td>
<td>Check the power line connection and the power supply</td>
</tr>
<tr>
<td>Display Er1</td>
<td>Internal sensor errors</td>
<td>Check the pin of internal sensor if there is a short circuit</td>
</tr>
<tr>
<td>Display Er2</td>
<td>External sensor errors</td>
<td>Check the pin of external sensor if there is a short circuit. Choose internal sensor via advanced setting</td>
</tr>
</tbody>
</table>