TB Future T13-T14

Controller



TB FutureR

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T13-T14 Smart Temperature Controller

User Manual|PT100 Temperature sensor



Industrial heating control

The TB Future T13 and T14 are compact digital temperature controllers for electric heating blankets and compatible resistive heating products. The controllers display the measured temperature and switch the connected heating blanket to maintain the selected target temperature.

Model identification

T13-T14: PT100 temperature sensors
Maximum connected load: 3000 W
Supply: 230 V, 50-60 Hz

Read this manual before installation and operation. Keep it with the controller for future reference.

Technical data

Model	T13-T14
Sensor input	PT100 temperature sensor
Supply	AC 230 V, 50-60 Hz
Maximum load	13 A / 3000 W maximum
Maximum set temperature	180˚C / 356˚F
Display resolution	1˚C
Power cable	2 m
Controller dimensions	112 x 90 x 62 mm
Sensor fault display	999
Operating environment	0-50˚C; less than 85% RH; non-corrosive tmosphere

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Controls and everyday operation

The display normally shows the current temperature measured at the heater sensor.

Display	Shows the current measured temperature during normal operation and shows menu codes or values during setup.
SET	Confirms a value and moves to the next setup item.
DOWN	Reduces the target temperature or the displayed parameter value.
UP	Increases the target temperature or the displayed parameter value.

QUICK TEMPERATURE ADJUSTMENT

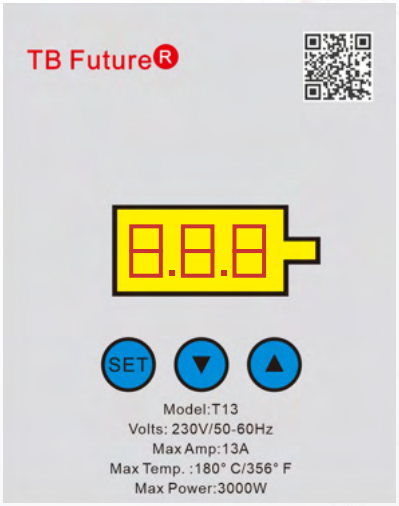
After switching on the power, press and hold UP or DOWN to adjust the target temperature directly. When the required target temperature is displayed, press SET to save it. The controller then returns to the live temperature display.

Before switching on

1. Make sure the heater voltage is 230 V and its load does not exceed 13 A or 3000 W, whichever limit is reached first.
2. Connect the heater and temperature sensor securely before connecting the controller to mains power.
3. Place the sensor in firm thermal contact with the heated surface. Do not allow the sensor to hang in air while the heater is operating.

Normal operation

After power is applied, the display shows the heater'scurrent measured temperature. Set the desired target using the quick method above. The controller automatically switches the heating output to maintain the target.



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Smart Temperature Controller



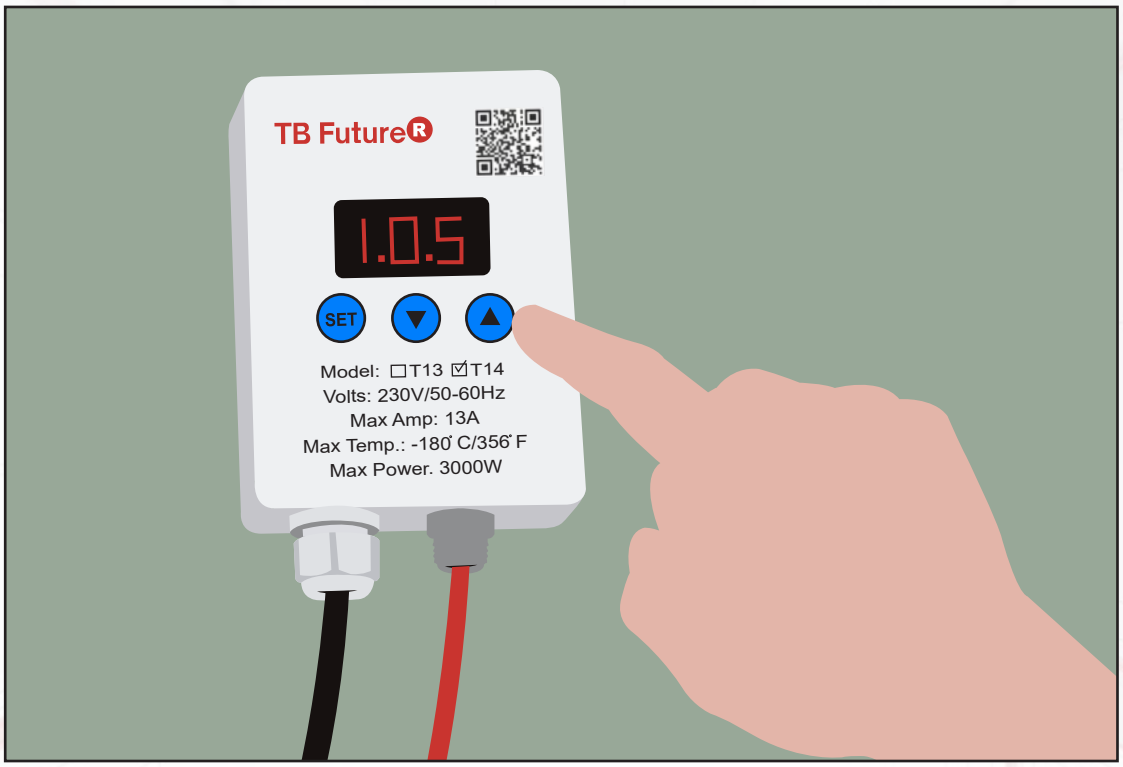
Controller Packing



T13-T14: PT100 temperature sensors Maximum connected load: 3000 W
Supply: 230 V, 50-60 Hz

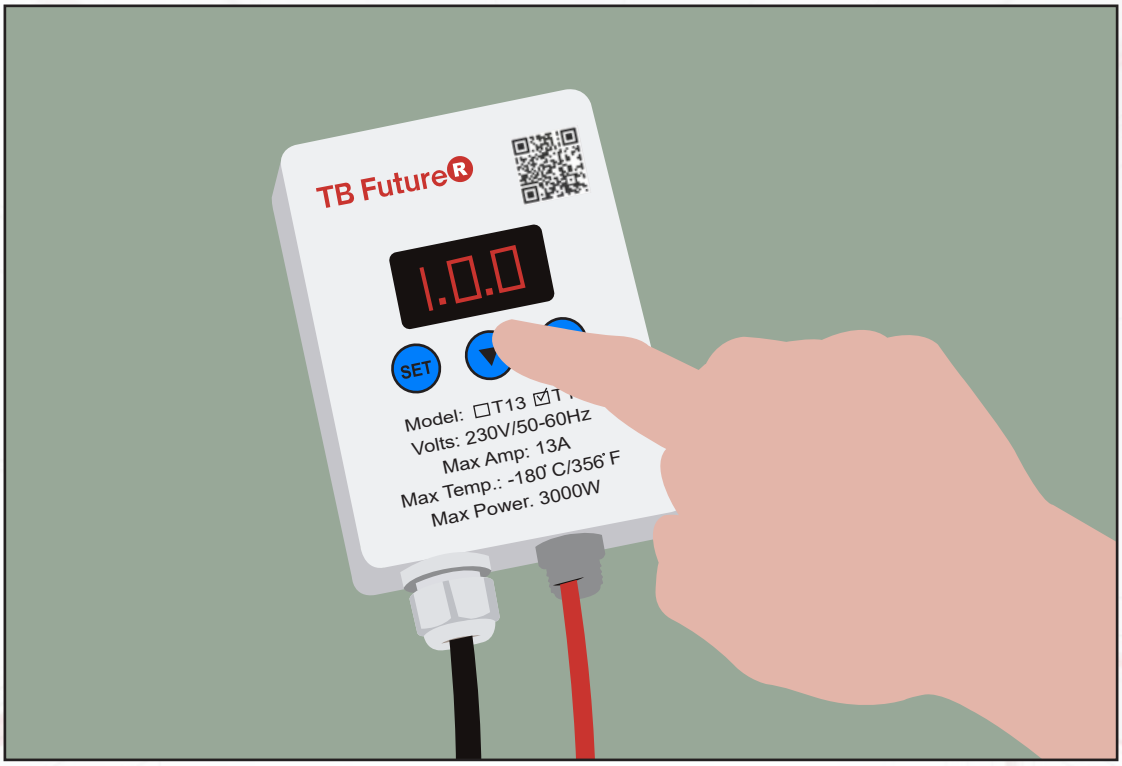
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How To Set Temperature



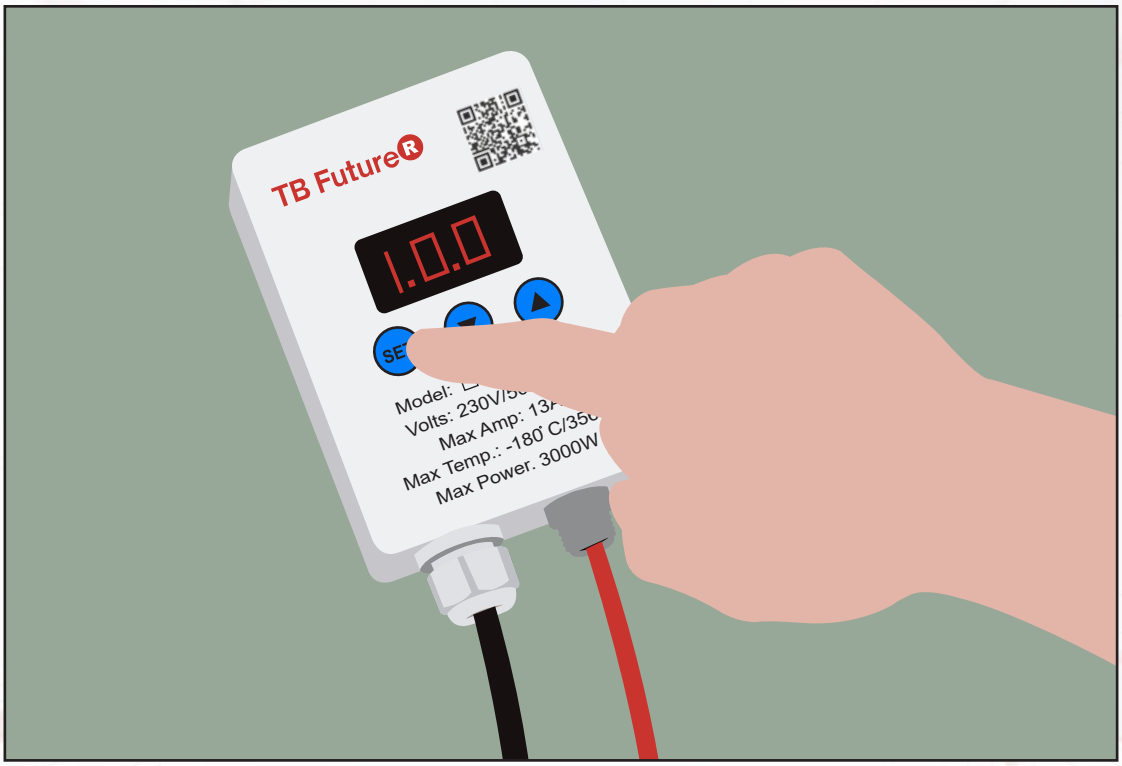
1. Press Hold UP

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Or
Press Hold DOWN

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2. Press SET

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Advanced parameter setting And Factory Defaults

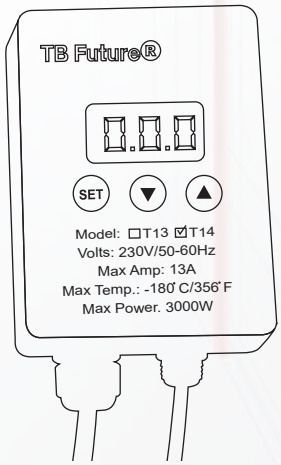
Use this menu only when the timer or permitted temperature range needs to be changed.

IMPORTANT
Warning: Do not change the sensor or control parameters LOC, E, HP, HI or Hd inless instructed by the manufacturer. Incorrect values can cause inaccurate control or unsafe heating.

1	**Enter the menu**	Press and hold **SET** to enter parameter setup.
2	**LOC password**	When LOC appears, the password value **is 18 (Default). Do not alter it**. Press **SET** to continue.
3	**Hb timer**	Use **UP or DOWN** to set the required time. Press **SET** to save and continue. Use **0 (Default)** when timer control is not required.
4	**SPL lower limit**	Set the minimum permitted target temperature with **UP or Down**, then press **SET.**
5	**SPH upper limit**	Set the maximum permitted target temperature with **UP or Down**, then press **SET.**
6	**Skip control parameters**	Continue pressing **SET** through E, HP, HI and Hd. **Do not change these values.**
7	**Exit the Menu**	Click **SET** to exit the parameters menu.

Recommended limit setting

Set SPL and SPH around the intended target temperature, typically 5°C to 10°C below and above it. SPL and SPH must not be set to the same value.
Example: for an 80°C target, SPL is recommended at 70°C and SPH at 90°C.



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Safety and troubleshooting

Disconnect the controller from the mains supply before inspection, cleaning, connection changes or storage.

Safety precautions

- Use only in a non-hazardous, dry environment. Keep the controller away from water, steam, corrosive gas and explosive atmospheres.
- **Do not exceed 230 V, 13 A or 3000 W.** Do not connect the controller to a 380 V supply.
- **Do not operate a damaged controller,** plug, cable, connector, sensor or heater.
- **Do not open, modify or repair the controller.** Servicing must be carried out by qualified personnel.
- **Do not change the permitted temperature range** or control parameters without approval from **manufacturer.**
- The heater blanket surface may remain hot after power is switched off. Allow it to cool before handling.

Troubleshooting

Display is off	Check if the mains supply, plug and cable are connected. Disconnect immediately if any part is damaged.
Heater does not warm	Confirm the target temperature is above the current temperature and all connections are secure. Check that the heater is compatible and within the load limit.
Temperature is unstable	Check sensor contact and location. Make sure the sensor is secured to the heated surface and protected from drafts or external heat sources.
Controller overheats or smells	Turn off and unplug immediately. And contact manufacturer.

MODEL CHECK

This manual is for the TB Future T14 controller. Do not interchange the T14 with other controllers from TB Future or other manufacturers.



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BY

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