Elitech STC-1000Pro TH Intelligent Temperature and Humidity Controller User Manual
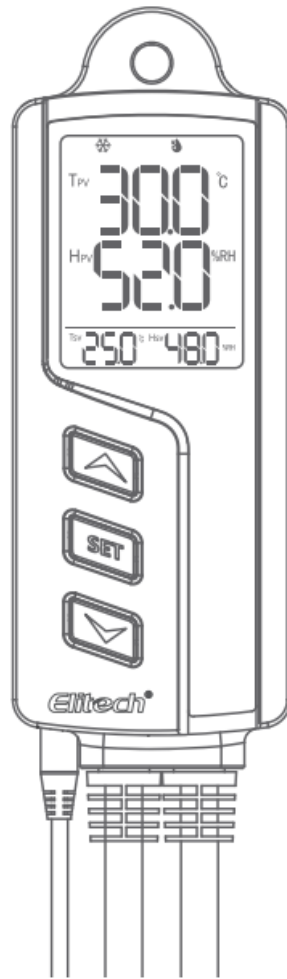
STC-1000Pro TH / STC-1000WiFi TH
Intelligent Temperature and Humidity Controller

Contents

Introduction

STC-1000Pro TH / STC-I000WIFi TH is an integrated plug-and-play temperature and humidity controller. It has temperature and humidity integrated probe and is pre-connected to two output sockets to control temperature and humidity simultaneously.
The large LCD screen intuitively displays temperature, humidity, and other parameters. With the three-key design, it enables quick parameter setting, such as alarm limit, calibration, protection time, unit switching, etc.
It is mainly used in aquarium, pet breeding, incubation, seedling mat, greenhouse, and other application scenarios.

Overview

Temperature & humidity sensor

Power Plug*

Main controller

WORK2

WORK1

outlets *
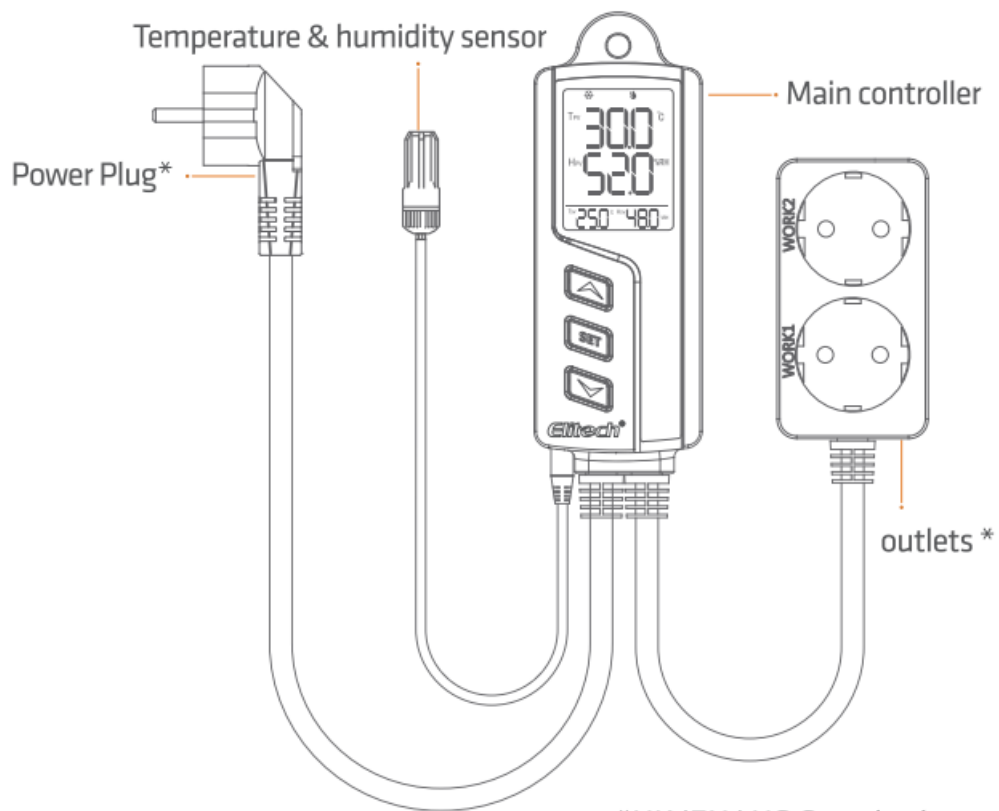
*UK/EU/ US Standards are available.

Fig. 1

2.1 Display Introduction
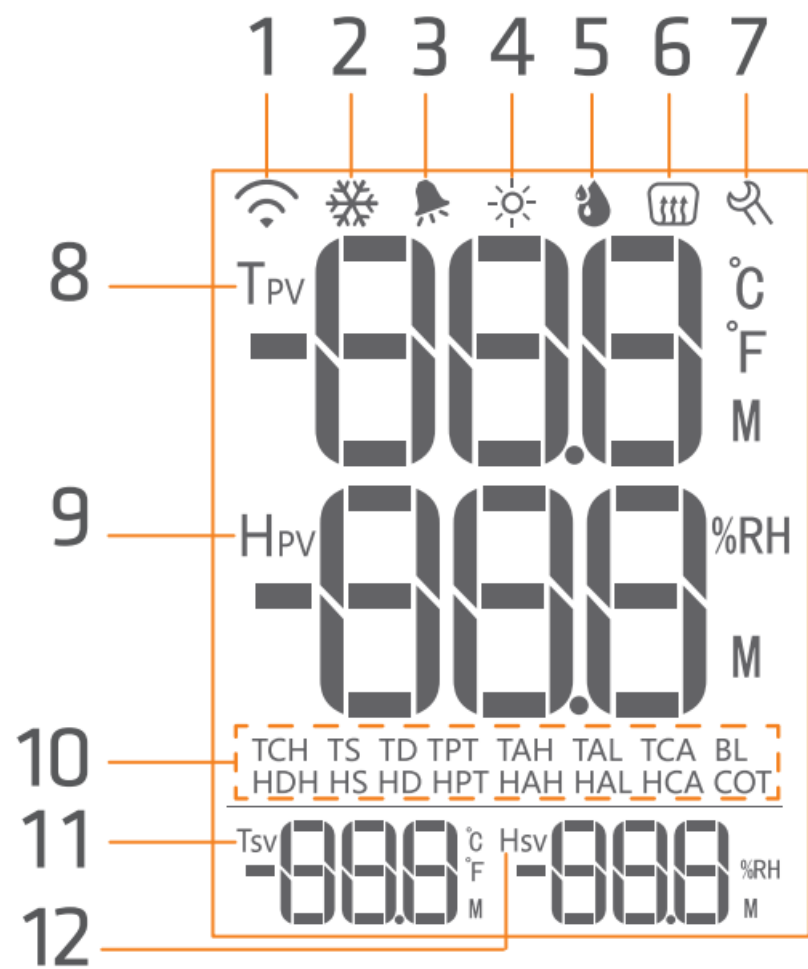Please check the instructions below before parameter configuration.

Fig. 2

S/N	Icon	Function	Status		
			OFF	Flashing	ON
1	📶	Wi-Fi connection status	Not connected	Resetting	ON
2	❄	Cooling status	OFF	Protection delay	ON
3	🔔	Alarm status	No alarm	—	Alarm
4	☀	Heating Status	OFF	Protection delay	ON
5	💧	Humidification status	OFF	Protection delay	ON
6	〰	Dehumidification status	OFF	Protection delay	ON
7	⚒	Setting status	Non-setting	—	Setting
8	T_{PV}	Temperature-present value	—	—	—
9	H_{PV}	Humidity-present value	—	—	—
10	—	Parameter code[1]	—	—	—
11	T_{SV}	Temperature-set value	—	—	—
12	H_{SV}	Humidity-set value	—	—	—

Table 1

2.2 Parameter Table

Fig. 3

S/N	Code	Function	Setting range	Default value	
1	TCH	Temperature cooling/heating mode selection	C / H	C	Temperature related parameters
2	TS	Temperature set value	-5 70°C	25	
			23 -158°F	75	
3	TD	Temperature differential	0.2 – 15°C	2	
			1- 30`F	3	
4	TPT	Temperature protection time	0-10 Min	3	
rn	TAH	Temperature alarm high limit	-5 – 70°C	35	
			23 -158LF	95	
6	TAL	Temperature alarm low limit	-5 – 70°C	0	
			23 – 158'F	32	
7	TCA	Temperature calibration	-10 – 10°C	0	
			-15 -15°F	0	
8	CF	Temperature unit	C / F		

S/N	Code	Function	Setting range	Default value	
9	HDH	Dehumidifying/ Humidifying mode selection	H / D	H	Humidity related parameters
10	HS	Humidity set value	5 – 99WoRH	50	
11	HD	Humidity differential ff	1 – 30970RH	5	
12	HPT	Humidity protection time	0 – 10 Min	3	
13	HAH	Humidity alarm high limit	5 – 99°/0172H	99	
14	HAL	Humidity alarm low limit	5 – 99%RH	S	
15	HCA	Humidity calibration	-10 -10WoRH	0	
16	COT	Continuous operating time	0 – 999 Min	30	
17	BL	Backlight time	0 – 999 Min	30	

Table 2

2 The default temperature unit for US version is °F, while the UK and European version is °C.

2.3 Button Operation

S/N	Button	Operating	Non-setting mode	Setting mode		Remarks
				Number flashing	**Number non-flashing**	
1	▲	Press	View parameter value	Previous parameter	Increases	
1	▲	Press and hold	—	—	Continuous increases	
2	SET	Press	—	Number non-flashing	Number flashing	
2	SET	Press and hold for 3 seconds	Setting mode	Non-setting mode		
3	▼	Press	View parameter value	Next parameter	Decreases	
3	▼	Press and hold	—	—	Continuous decreases	
4	SET + ▼	Press and hold for 5 seconds	Wi-Fi reset	—	—	Only for STC-1000 WiFi TH
5	▲ + SET + ▼	Press and hold for 5 seconds	Equipment reset	—	—	

Table 3

Operation

Important: Improper use of the product may cause injury or product damage. Please read, understand and follow the operating steps below.

3.1 Sensor Installation

Plug the sensor fully into the headphone jack from the button of the main controller.
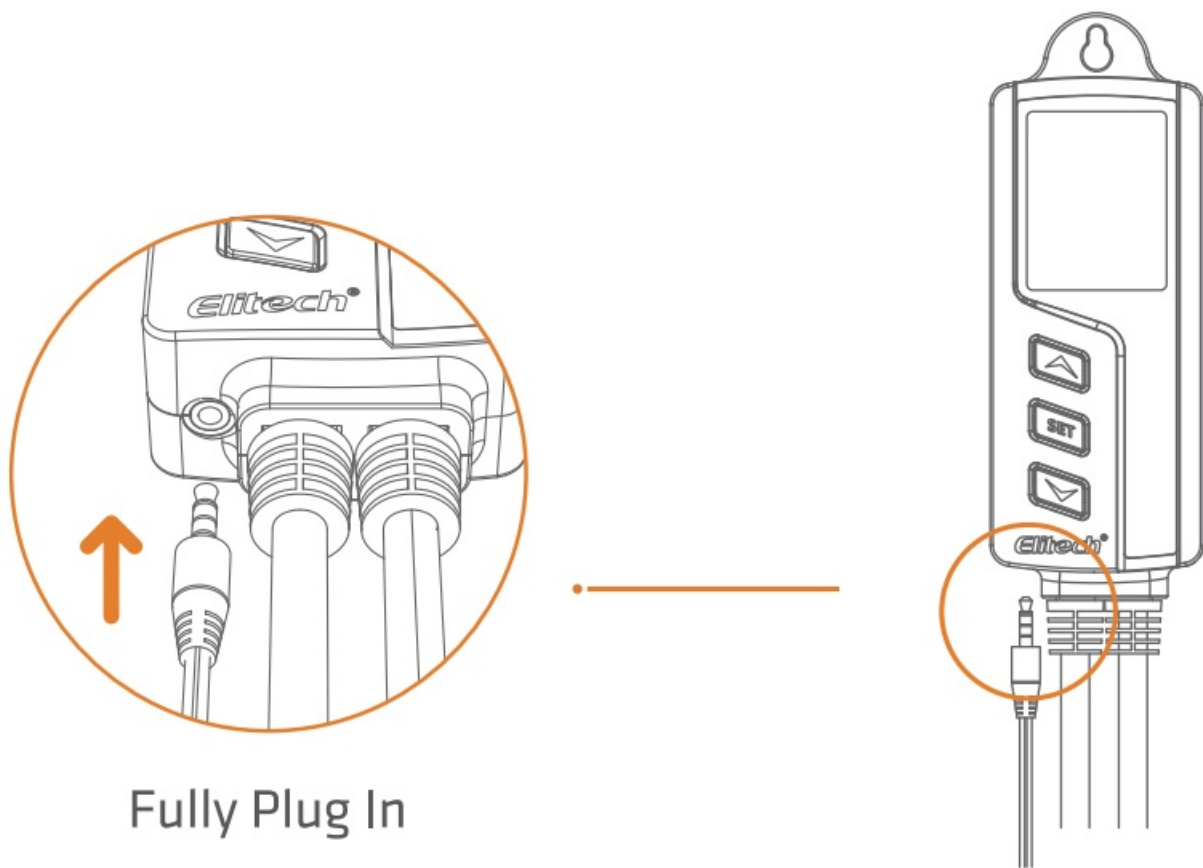
Fully Plug In

Fig. 4

3.2 Power-on
Please insert the power plug into the power socket to power on the controller (within the range of 100-240VAC)
The screen will light up and display the temperature, humidity, and other readings.
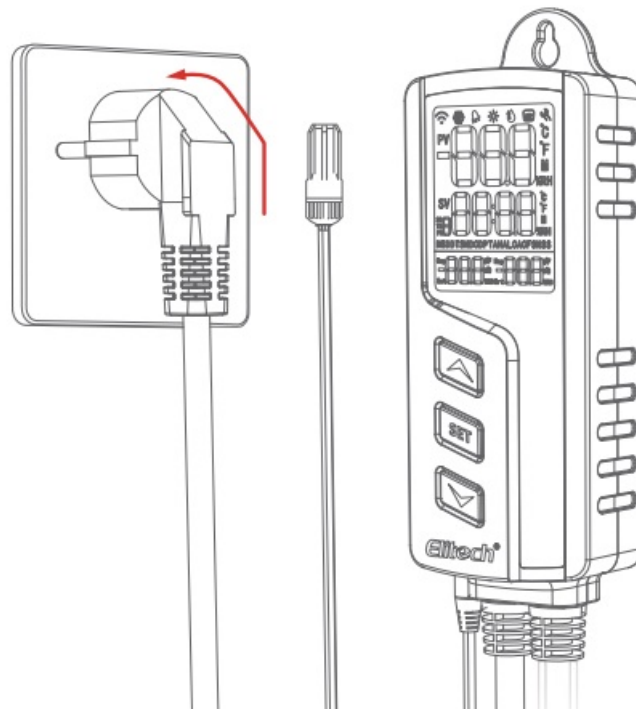

Fig. 5

3.3 Parameter Setting

Press and hold [SET] button for 3 seconds to enter the parameter setting mode, the buzzer will beep, and the LCD will display ⚲ icon.

In the menu setting, press [SET] button and the Tsv* parameter light will be on o flashes. When it is flashing, press ⟱ or ⟰ button to switch to the next parameter; when the parameter light is on, press ⟱ or ⟰ button to increase or decrease the setting value.

In the menu setting, press and hold [SET] button for 3 seconds to save settings and exit; or the controller will save and exit setting mode after 30 seconds of idle.
The Tsv displays temperature-related parameters and Hsv displays humidity- related parameters.
For example, set TS and TD parameters into TS = 20°C and TD = 5°C respectively.as shown in Fig. 6.

1. Press [SET] button and release after the buzzer beeps (about 3 seconds);

2. Press [¥) button, and the parameter code will display TS;

3. Press [SET] button, and will flash, indicates TS parameter is ready to besset;

4. Press (or press and hold) ⟰ button to change the value to 20;

5. Press [SET] button, and TPV will appear;

6. Press ⟱ button, and the parameter code will display TD;

7. Press [SET] button, and TPV will flash,indicates TD parameter is ready o be set;

8. Press (or press and hold) ⟰ button to change the value to 5;

9. Press [SET] button and release after the buzzer beeps (about 3 seconds) to exit the parameter setting.

Note: 252 Dotted-line in the figure shows the numbers are flashing (ready for setting); 50 solid-line shows the numbers stop flashing (value is set).
See the flow chart below to change other parameter values one by one. as shown in Fig. 7.
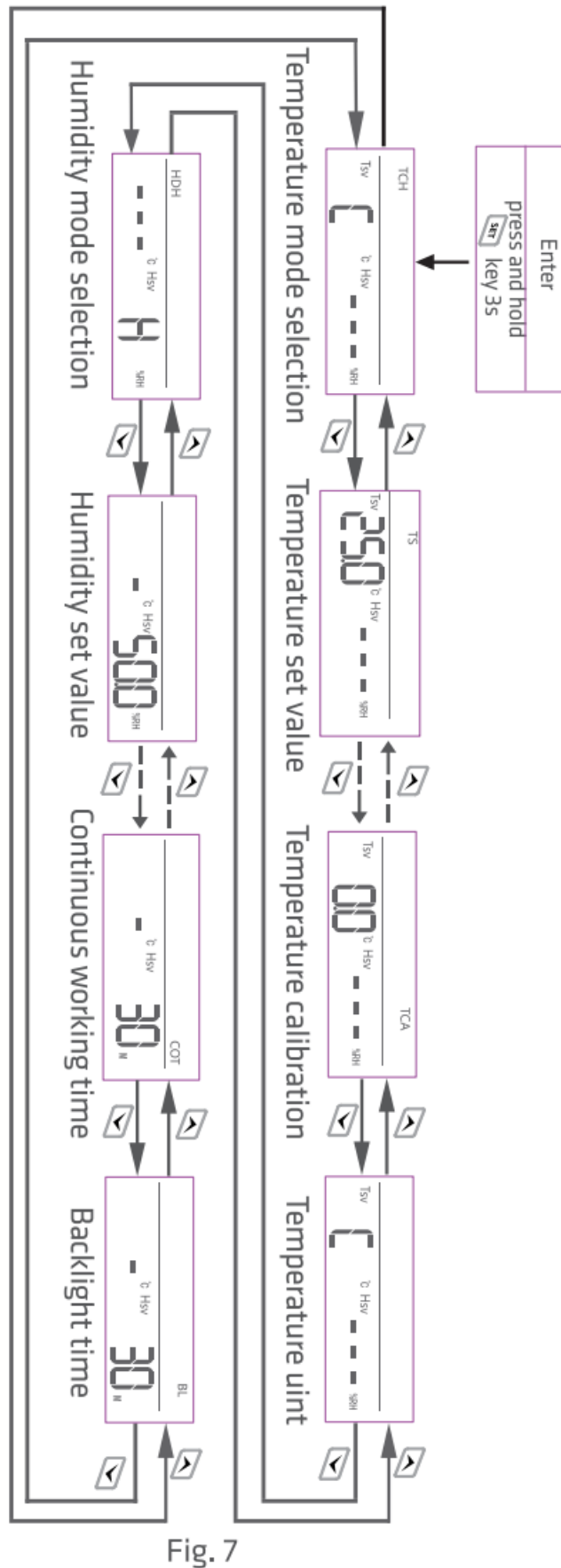
Fig. 6

Fig. 7
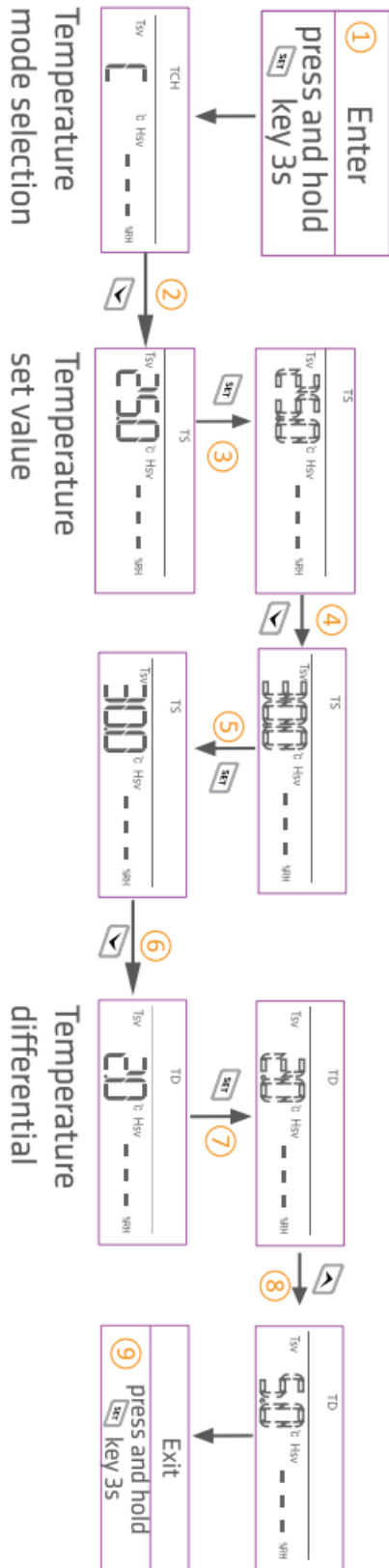
Function Description

4.1 Temperature Setting – TCH, TS, TD
Cooling mode (TCH = C)
When Tev (temperature-present value) is higher than TS + TD (temperature-set value + temperature differential),

❄ will appear, workl will be turned on, and cooling will begin;

When Tev (temperature-present value) s lower than TS (temperature set value), % willdisappear, world will be tumed off, and cooling will stop. For example: TS = 15°C, TD = 5°C, as shownin Fig.8.

Fig. 8

Heating mode (TCH = H)

When Tev (temperature-present value) is lower than TS – TD (temperature-set value – temperature differential),

will appear, workl ☼ will be turned on, and heating will begin;

When Tev (temperature – present value) is higher than TS (temperature -set value), will disappear, workl will be tumed off, and heating will stop. For example: TS = 15°C, TD = 5°C, as showniin Fig. 9.

Fig. 9

4.2 Temperature Protection Time – TPT

WORK1 is a temperature socket and the time interval from its power-off to power-on again should meet the time requirement for TPT. If not, ☼ or 5 will flash. This protection time requirement should also be satisfied when the controller s just powered on.

4.3 Temperature Alarm Limit- TAH, TAL

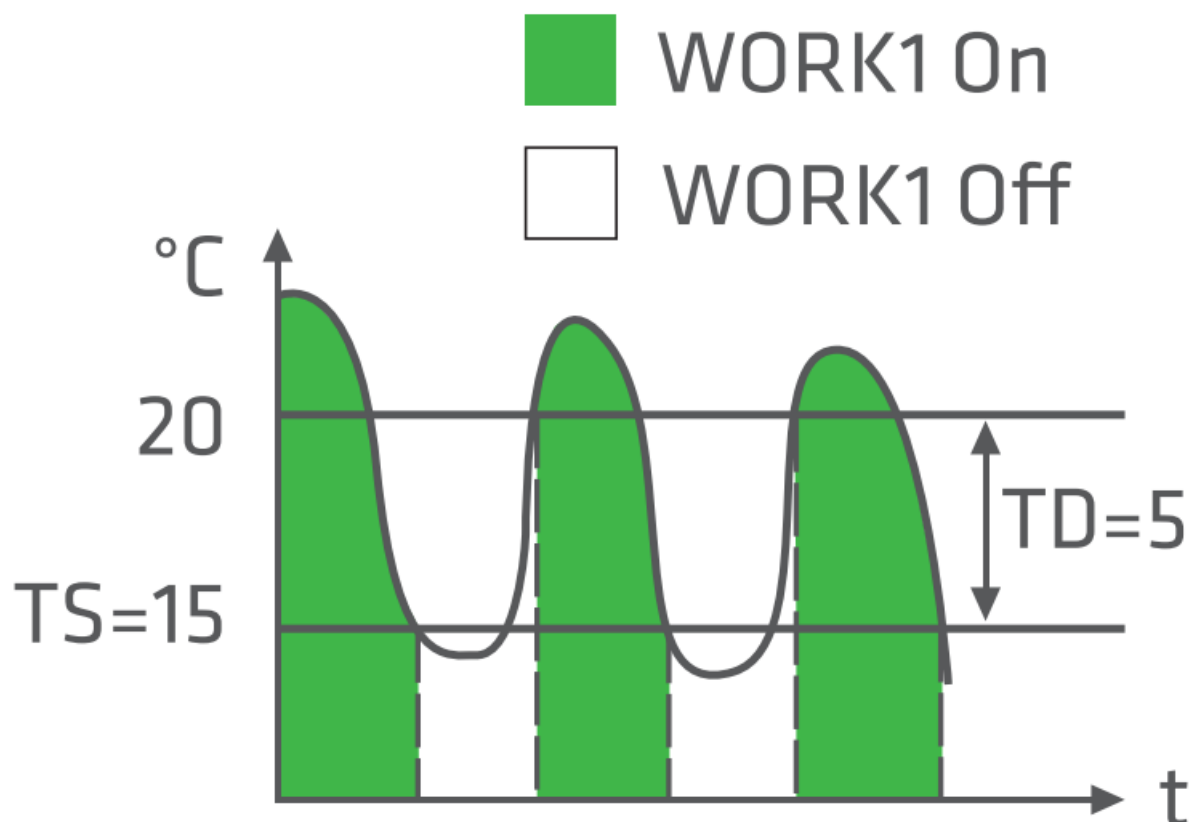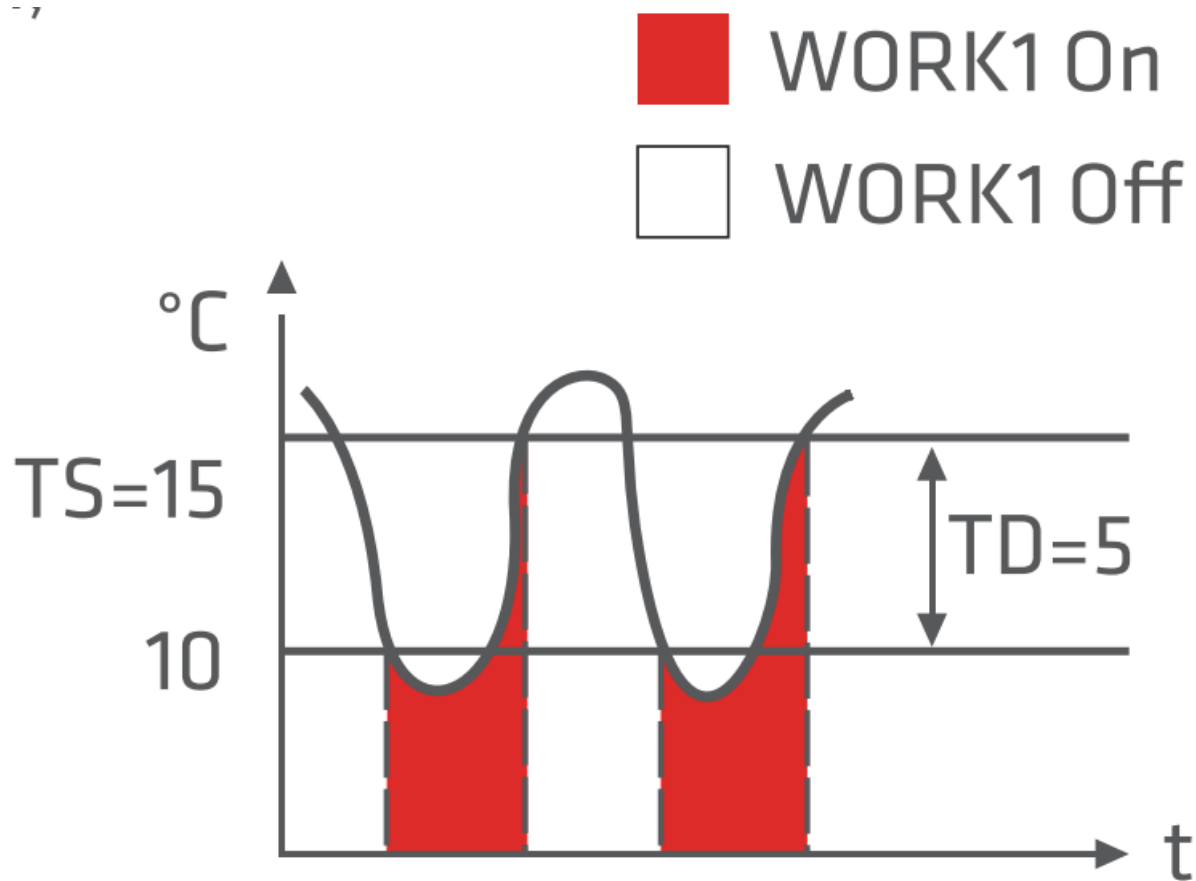When Tev (temperature-present value) is higher than TAH (temperature alarm highlimit), the temperature alarm high limit will be triggered and EtH code will be displayed;

When Tev (temperature-present value) is lower than TAL (temperature alarm low limit), the temperature alarm low limit will be triggered and ELL code will be displayed;

During the alarm, the buzzer makes a sound of "bi-bi-Biii" until the temperature is back to the normal temperature range; or press any button to mute the alarm.

During the temperature alarm limit, the output of WORK1 socket is not affected

4.3 Temperature Alarm Limit- TAH, TAL

When Tev (temperature-present value) is higher than TAH (temperature alarm highlimit), the temperature alarm high limit will be triggered and EtH code will be displayed;

When Tev (temperature-present value) is lower than TAL (temperature alarm low limit), the temperature alarm low limit will be triggered and ELL code will be displayed;

During the alarm, the buzzer makes a sound of "bi-bi-Biii" until the temperature is back to the normal temperature range; or press any button to mute the alarm.

During the temperature alarm limit, the output of WORK1 socket is not affected

4.4 Temperature Calibration – TCA

The temperature can be calibrated if the temperature-present value deviates from the actual temperature.

Tev (temperature – present value after calibration) = Tev (temperature – present value before calibration) + TCA (temperature calibrated value).

4.5 Temperature Unit – CF

The temperature unit can be switched between Celsius and Fahrenheit.

The temperature related parameter values will be restored to factory default values after the temperature unit is changed.

4.6 Humidity Settings – HDH, HS, HD
Dehumidifying mode (HDH = D)

When Hev (humidity-present value) is higher than HS + HD (humidity set value + humidity differential), ⟨image⟩will appear, work2 will be turned on, and Dehumidifying will begin;
When Hev (humidity-present value) is lower than HS (humidity set value),will disappear, work2 will be tumed off, and dehumidifying will stop. For example: HS = 50% RH, HD = 10%
RH, as shown in Fig. 10.

Fig. 10
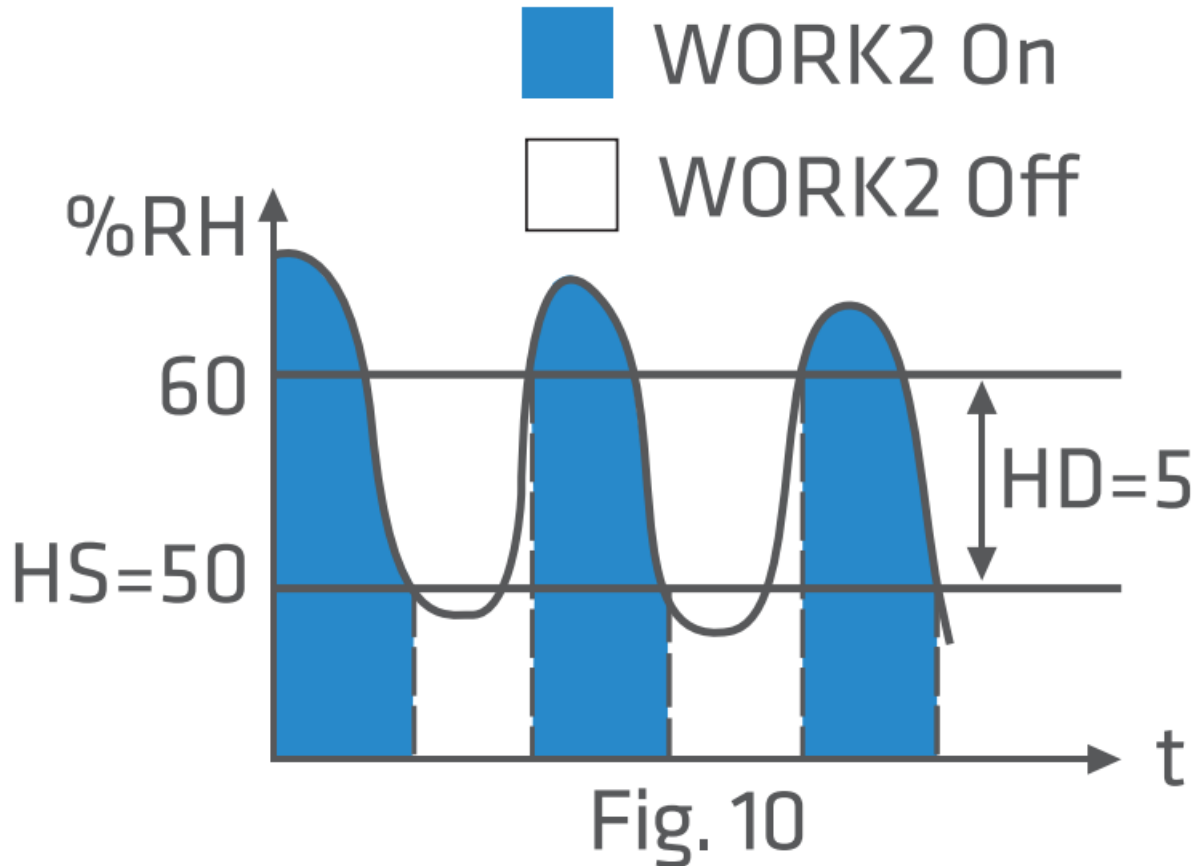
Humidifying Mode (TCH = H)

When Hey (humidity-present value) is lower than HS-HD (humidity set value – humidity differential), ⟨image⟩ will appear, work2 will be turned on, and Humidifying will begin;

When Hev (humidity-present value) is higher than HS (humidity set value), ⟨image⟩will appear, work2 will be turned off, and humidifying will stop. Forexample: HS = 50%RH, HD = 109%RH, as shown in Fig. T

Fig. 11

4.7 Humidity Protection Delay – HPT

WORK2 is a humidity socket and the time interval from its power-off to power-on again should meet the time

requirement for HPT. If not, ⎛↟↟↟⎞ or 🌢 light will flash

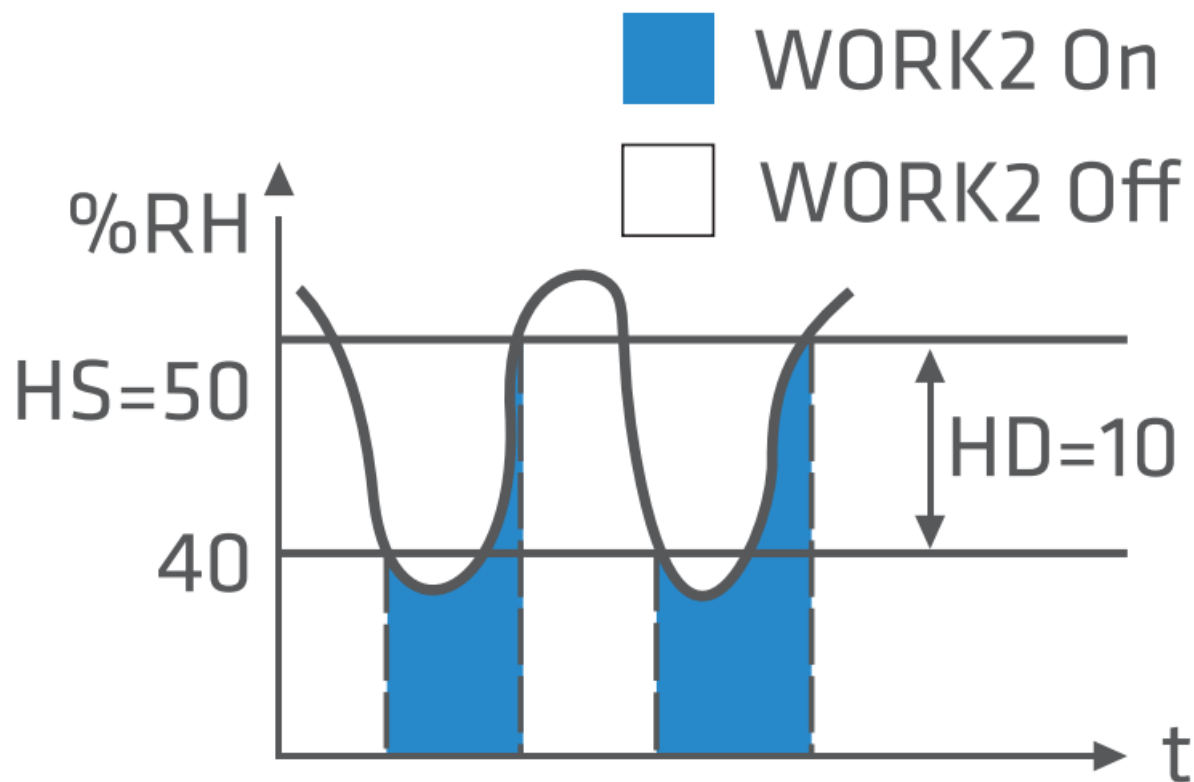This protection time requirement should also be satisfied when the controller s just powered on.

4.8 Humidity Alarm High Limit – HAH, HAL

When Hev (humidity-present value) is higher than HAH (humidity alarm high limit), the humidity alarm high limit will be triggered and EHH code will be displayed;

When Hev (humidity-present value) is lower than HAL (humidity alarm lower limit), the humidity alarm lower limit will be triggered and EHL code will be displayed;

During the alarm, the buzzer makes a sound of "bi-bi-Biii" until the hurmidity is back to the normal humidity range; or press any button to mute the alarm. During the humidity alarm high limit, the output of WORK2 socket is not affected.

4.9 Humidity Calibration – HCA

The humidity can be calibrated if the humidity-present value deviates from the actual humidity.

Hev (humidity-present value after calibration) = Hev (humidity-present value before calibration) + HCA (humidity calibrated value).

4.10 Continuous Operating Time – COT

During humidity control, when COT+0 and output conditions are met, WORK2 socket will work in on-off-on-off…. mode. COT is time on as well as time off. eg, if COT=10, the WORK2 output socket will turn on for 10 minutes and off for 10 minutes, then repeat.

When COT = 0 and output conditions are met, WORK2 output socket will not be affected by COT.

4.11 Backlight Time – BL

BLis the screen display time. When BL=0 indicates display is always on.

Equipment Installation

⚠ As a safety precaution, it is recommended to power on the equipment after the installation is completed. The only installation method is by hanging the equipment. Please check the installation distance and screw size according to its application scenario before installation.

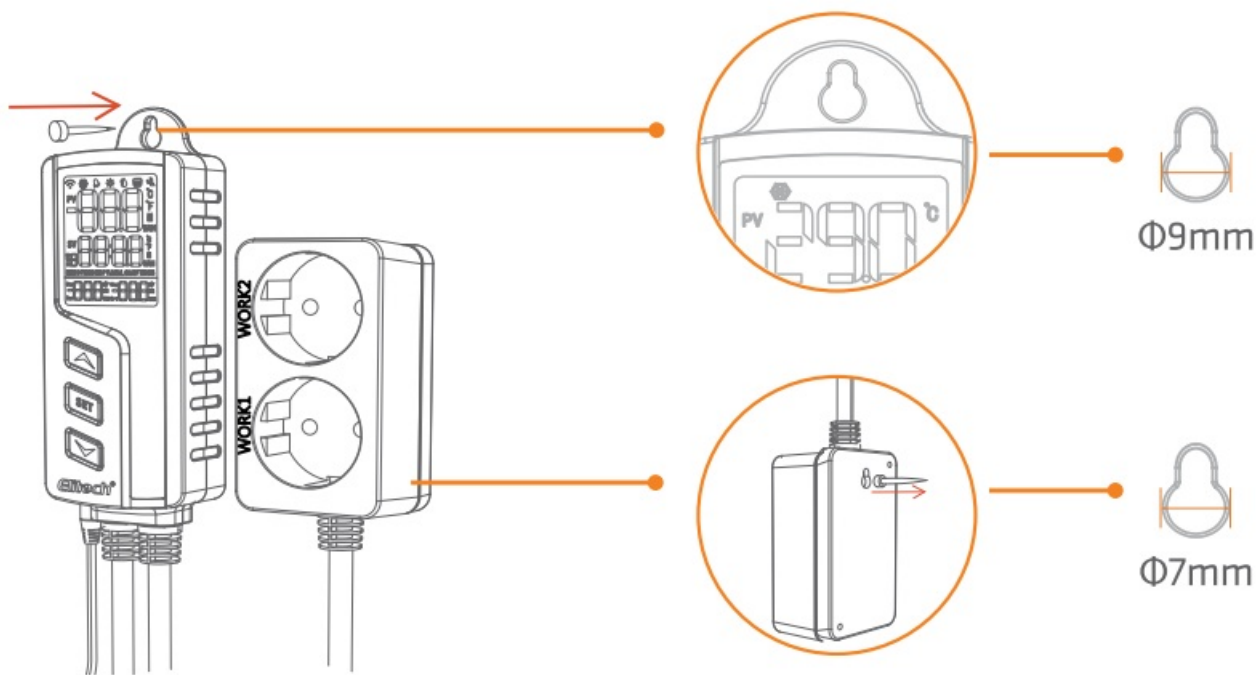The schematic diagram of equipment installation is shown below:

Fig. 12

Alarm

In the following circumstances during operation, the buzzer will give a "bi-bi-Biii" alarm, and at the same time, the alarm symbol # on the screen will appear. Press any button to mute the alarm.

S/N	Code	Function	Socket output status
1	Erp	Sensorfailure	Outputs terminated
2	EEH	Temperature alarm high	Outputs unchanged
3	FLL	Temperature alarmlowlimit	Outputs unchanged
4	EHH	Humidityalarm high limit	Outputs unchanged
5	EHL	Humidity alarm low limit	Outputs unchanged

Restore Operation Function

7.1 Restore Factory Settings

When the controller is powered on and in non-setting parameter status, please press ⬆ + SET + ⬇ buttons simultaneously on the main controller and release until the screen tums off automatically. Wait for the equipment to restart automatically and restore to factory settings.

7.2 Restore Wiletworlk Settings (for STC-1000WiFi TH)

If you would like to reconfigure to a new Wi-Fi network, please keep the equipment in power-on status, press SET + ⬇ buttons and release when the symbol on the screen flashes. The icon will disappear after the network restoration is completed Please do not power off the equipment during the restoration process.

Access to Network (for STC-1000WiFi TH)

STC-1000WiFi TH features a built-in Wi-Fi module that allows you to remotely view and configure it on the app.
8.1Before you begin, please make sure:
The device supports 2.4G Wi-Fi.(5G Wi-Fi is not compatible.)
The device is in a good and stable Wi-Fi network environment.
Search Elitech in the App Store, download and install the app.
8.2 Connect the device to Elitech app

1. Find the QR code label on the device. (It shows QR code and 20 numbers)

2. Power on the device.

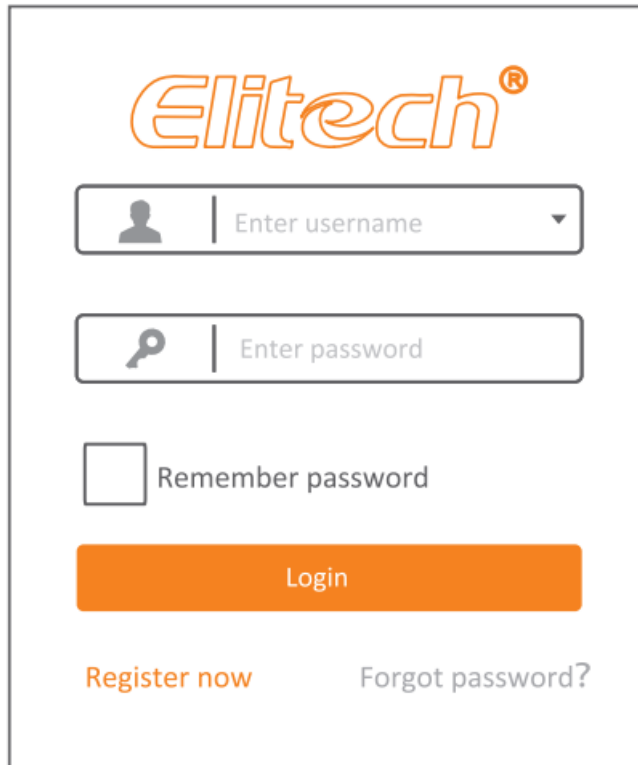3. Log in your Elitech account (Register an Elitech account)

Fig. 13

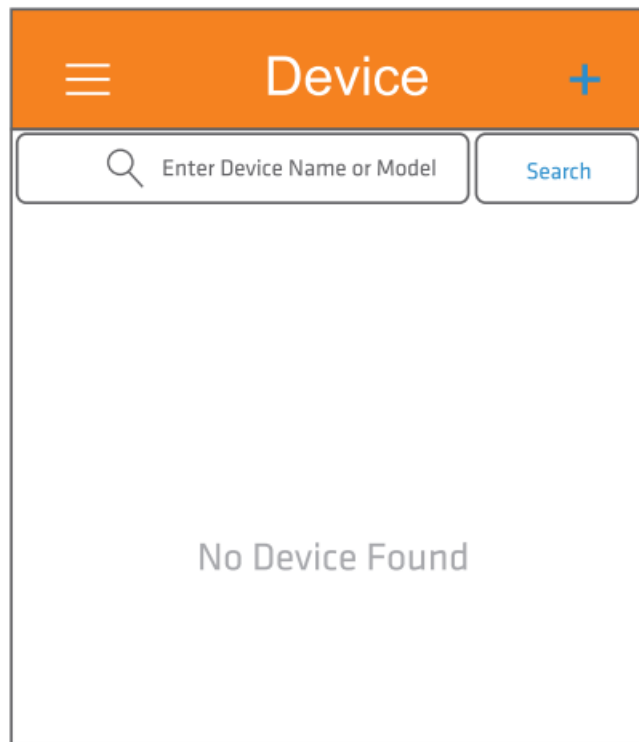4. Click the sign + on top right and add device.

Fig. 14

5. Click the sign on top right / Scan the OR code on the label,or manually type in 20 GUID numbers. Enter the device name that your prefer, and click Add.
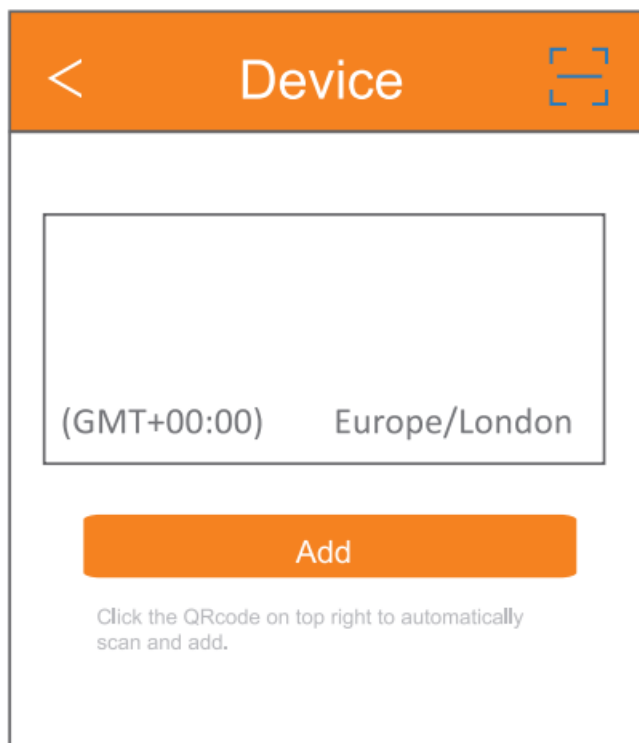

Fig. 15

6. A window will pop up "The device scanned is a Wi-Fi device. Would you like to set Wi-Fi?"Click OK.

Fig. 16

7. Enter Wi-Fi password, click OK, and wait until the operation finishes. The whole process takes about 10 seconds. It exits configuration interface after the network is connected successfuly.

The main interface displays the device is online. Meanwhile, the sign shows on top of the screen.
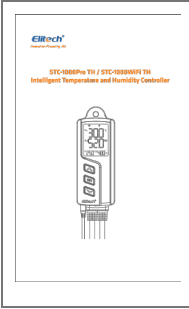

Fig. 17

Note: The device allows Wi-Fi to be configured within 30 minutes after power on. After 30 minutes, it needs to be powered off for a restart. Or you may refer to 7.2 Restore Wi-Fi Network Settings.

Technical Parameters

Working voltage: 100~240VAC, 50/60Hz
Temperature measurement range: -5~70°C / 23~158°F
Temperature control range: -5~70°C / 23~158°F
Temperature measurement accuracy: £0.5°C /+1°F
Temperature resolution: 0.1°C /0.1°F
Humidity measurement range: 5~99%RH
Humidity control range: 5~99%RH
Humidity measurement accuracy: +5%RH
Humidity resolution: 0.1%RH
Relay contact output capacity: 10A (resistive) / 100 ~ 240VAC
Output power: 2200W (resistive) in total/
200W (inductive) per channel @220VAC,
T100W (resistive) in total/
100W (inductive) per channel @110VAC
Total power consumption: <5W
Working environment temperature: 0°C~60°C / 32-140°F
Storage temperature: -10°C~70°C / 14~140°F
Length of power probe: 1.5m
Length of output power probe: 0.3m
Enclosure size: 165 x 60 x 32 mm
Length of sensor cable: 2m (including probe length)
Best viewing angle of LCD screen: 6 O'clock direction
'Wi-Fi type*: 2.4G (not support 5G)
*Only for STC-1000WiFi TH

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Innovation Preceding All

CE   RoHS   FC

ISO 9001   ISO 14001   OHSAS 18001
V1.0

MADE
IN CHINA

Documents / Resources

Elitech STC-1000Pro TH Intelligent Temperature and Humidity Controller [pdf] User Manual
STC-1000Pro TH, stc-1000Wifi TH, STC-1000Pro TH Intelligent Temperature and Humidity Controller, STC-1000Pro TH, Intelligent Temperature and Humidity Controller, Temperature and Humidity Controller, Humidity Controller, Controller