

Wall-mounted Electric Boiler

Product General Instructions

Callone

Dear users:

Hello! Thank you for choosing our product. In order to install and use this product correctly, please read the instructions carefully before installing and using it. Please keep the manual in a safe place for future reference. In the event of a transfer of the product, please deliver the manual with the product.

I. Safety precautions:

1. The power cable must be connected using an earth leakage circuit breaker and no plug connections are allowed instead.

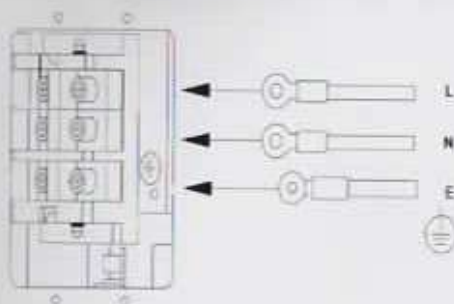
Please select a power cord, meter and earth leakage protector that is greater than or equal to this value in strict accordance with the data in the table.

Rated voltage (V)	220	220	220	220	380	380	380	380
Rated power (KW)	6	8	10	12	12	16	20	24
Power cord cross-sectional area	4	6	10	10	4	4	6	6
Electricity meters (A)	40	40	60	60	20	40	40	40
Earth leakage circuit breaker (A)	40	63	63	63	25	32	63	63

Note: Please use a national standard full size power cord or a larger size power cord.

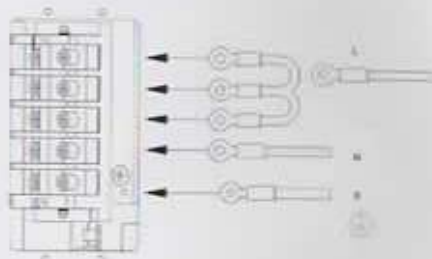
2. Correct connection of the power cable: For products with a power cable terminal block, it is up to the user to connect the power cable, please strictly follow the markings on the terminal block and the earth wire should be well grounded (For more information, see Figure 1, 2, 3).

Power supply connection scheme models 220 V (4 kW-10 kW)



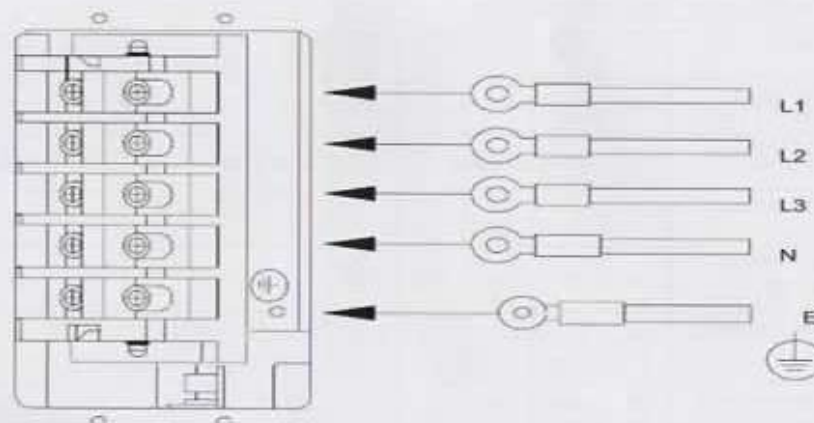
(Picture 1)

380V model connection scheme for connection to power supply 220 V (12 kW)



(Picture 2)

Power supply connection scheme 380V (≥12 kW)



(Picture 3)

1. Never allow damage or modification to the power cable, if any damage to the power cable, the power cable must be replaced by a professional technician;
2. The power cable should be firmly connected to avoid loose ends causing faults and damage to the cable and the earth leakage switch;
3. Ensure good earthing and do not allow earth wires to be connected to objects such as water pipes, gas pipes, etc.;
4. Prohibit installation in environments prone to moisture, accumulated water, rain and enclosures;
5. No acidic or alkaline substances is added to the pipes;
6. Do not step on the product, do not place or cover any objects on the product.
7. For the installation and removal of products, please call a professional technician to conduct works on spot.
8. Contact your local dealer to send a technician to repair any faults in the use of the product;
9. High voltage and high temperature is inside the product, no non-technical personnel are allowed to carry out operations such as dismantling the machine;
10. Products are not permitted to be installed in environments where volatile, flammable or explosive substances are present;
11. Do not scrub the product with water;
12. The elderly and children must be instructed in the use of the product by someone familiar with its operation.

13. To avoid clogging of the filtering screen, after a long period of use, regular descaling and drainage is required.

II. Technical Specifications

Model	EB4 4"	EB6 6"	EB8 8"	EB10 10"	EB12 12"	EB14 14"	EB16 16"	EB18 18"	EB20 20"	EB24 24"
Rated power (kW)	4	6	8	10	12	14	16	18	20	24
Rated Voltage (V)	220 / 380					380	380	380	380	380
Rated current (A)	18.2	27.3	36.3	45.5	54.5	21.3	24.3	27.3	30.4	36.4
Max heating area(m ²)	60	80	80	120	150	175	200	225	250	280
Water pressure (Mpa)	0.1-0.3	0.1-0.3	0.1-0.3	0.1-0.3	0.1-0.3	0.1-0.3	0.1-0.3	0.1-0.3	0.1-0.3	0.1-0.3
Temperature of the radiator (°C)	30-80	30-80	30-80	30-80	30-80	30-80	30-80	30-80	30-80	30-80
Temperature of the ground (°C)	30-60	30-60	30-60	30-60	30-60	30-60	30-60	30-60	30-60	30-60
Waterproof grade	IPX1	IPX1	IPX1	IPX1	IPX1	IPX1	IPX1	IPX1	IPX1	IPX1
DW inlet&outlet(inch)	G1/2	G1/2	G1/2	G1/2	G1/2	G1/2	G1/2	G1/2	G1/2	G1/2
CH inlet&outlet(inch)	G3/4	G3/4	G3/4	G3/4	G3/4	G3/4	G3/4	G3/4	G3/4	G3/4
Water-Cycling Type	Closed-type forced circulating									
Domestic water pressure(Mpa)	0.02-0.6	0.02-0.6	0.02-0.6	0.02-0.6	0.02-0.6	0.02-0.6	0.02-0.6	0.02-0.6	0.02-0.6	0.02-0.6

Parameters of plate exchange dual-purpose electric wall-hung boiler

Model name	EB-16B	EB-18B	EB-20B	EB-22B	EB-24B
Nominal Voltage	380V	380V	380V	380V	380V
Nominal Input Power	16kW	18kW	20kW	22kW	24kW
Nominal Output Power	16kW	18kW	20kW	22kW	24kW
Nominal Frequency	50Hz	50Hz	50Hz	50Hz	50Hz
Heating temperature setting range	30-80°C	30-80°C	30-80°C	30-80°C	30-80°C
Bathroom temperature setting range	30-60°C	30-60°C	30-60°C	30-60°C	30-60°C
Water pressure of	0.1-0.3	0.1-0.3M	0.1-0.3M	0.1-0.3M	0.1-0.3M

heating system	MPa	Pa	Pa	Pa	Pa
Water pressure of bathroom system	0.02-0.6MPa	0.02-0.6M Pa	0.02-0.6M Pa	0.02-0.6M Pa	0.02-0.6MPa
RCCB (A)	32	40	63	63	63
Water Circulation Mode	closed forced circulation				
Waterproof Level	IPX4	IPX4	IPX4	IPX4	IPX4

Parameters of double heating element dual-purpose electric wall-hung boiler

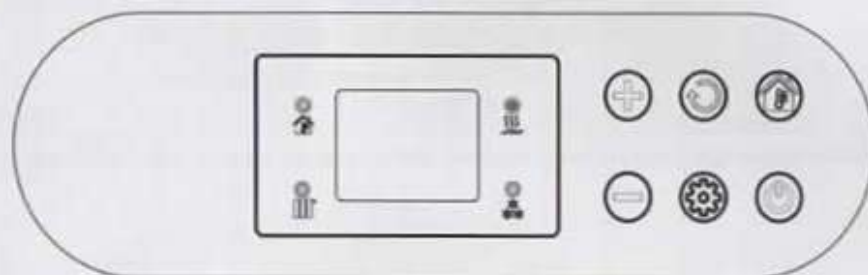
Model name	EB-16S	EB-18S	EB-20S	EB-22S	EB-24S
Nominal Voltage	380V	380V	380V	380V	380V
Nominal Input Power	8kW	9kW	10kW	11kW	12kW
Nominal Output Power	8kW	9kW	10kW	11kW	12kW
Nominal Frequency	50Hz	50Hz	50Hz	50Hz	50Hz
Heating temperature setting range	30-80°C	30-80°C	30-80°C	30-80°C	30-80°C
Bathroom temperature setting range	30-60°C	30-60°C	30-60°C	30-60°C	30-60°C
Water pressure of heating system	0.1-0.3 MPa	0.1-0.3M Pa	0.1-0.3M Pa	0.1-0.3M Pa	0.1-0.3M Pa
*Water pressure of bathroom system	0.02-0.6 MPa	0.02-0.6 MPa	0.02-0.6 MPa	0.02-0.6 MPa	0.02-0.6 MPa
RCCB (A)	32	40	63	63	63
Water Circulation Mode	closed forced circulation				
Waterproof Level	IPX4	IPX4	IPX4	IPX4	IPX4

Dual heater models can use bathroom and heating functions at the same time

III. Description of the operation

Model A

3.1panel



Model with single heating



Plate Heat Exchanger Model Electric kettle with two heat exchangers

Icon	name	Description	Note
	Display of indoor temperature function icon	Current room temperature display	Model with single heating
	Heating status indicator	The machine works in heating mode	Model with single heating
	Sign of the function "antifreeze"	Anti-freeze function is activated	Model with single heating

	Winter mode	The diode lights up when operating in winter mode flashes when heating	
	Summer Mode	The diode lights up when working in summer mode flashes when heating	
	Temperature Indication	When operating, the current temperature will be shown in the installation mode, the current parameter is indicated when the indication "off" is turned off.	
	Mode technicians	When operating in plumbing mode flashes when setting temperature	
	Flame Icon	In the presence of a flame, power and operating status are indicated	

3.2 description of the adjustment button

3.2.1 Description of the button

Buttons	name	Description	Note
	Room temperature query key	1. Short press to switch between winter/summer mode 3. When turned off, press and hold for 5 seconds to configure WIFI	Model with single heating
	Button Winter and		

	Settings buttons	1. Press and hold for 5 seconds in the shutdown state to enter the I parameter setting. 2. Press and hold for 5 seconds in the startup state to enter the II parameter setting. 3. When setting parameters, switch between parameter items and numerical values.	
	When installing manometers are used	1. Press and hold for 1 second to turn on, off, or save data. The confirmation exit key can be used in the parameter setting state to clear the fault state.	
	Up button	The temperature adjustment of heating and bathroom settings can be used as a numerical and menu selection addition or subtraction in parameter settings.	
	Down button		
	Button RESET	1. In case of a fault, a short press can be used to eliminate the fault code. 2. In the setting state, short press to exit the setting state. When shut down, press and hold the 5S reset key to restore the factory settings	
Quick Test Mode		In the power on state: Press the power on/off button and reset button simultaneously for 5 seconds to enter the fast test mode. After entering the rapid testing mode, the temperature 88 display alternates with the temperature display.	

3.3 Explanation of System Operating Parameters

Main parameter description			
The interval time between the opening of each relay group	5S	Each time entering the heating system, the circulation time before the water pump	20s
Cycle time after shutting down the water pump	3min	Heating off state	Heating water outlet temperature=set temperature +5℃
The water pump is running in insulation state	Turn 3 and stop for 7 minutes	Prevent too fast start time	3min
Heating return temperature (HC parameter adjustable)	15℃	Heating maximum temperature setting PH	70℃ (adjustable parameters 60-80)
Enter the first level of antifreeze (water pump running for a long time without heating)	Heating water outlet temperature (X) $6\text{℃} \leq X \leq 10\text{℃}$	Exit the first level antifreeze	When the temperature of the heating water outlet is $\geq 11\text{℃}$, the water pump will continue to run for 1 minute before exiting the first stage antifreeze
Enter the second level antifreeze (heating)	Heating water outlet temperature (X) $2\text{℃} \leq X \leq 5\text{℃}$	Exit the secondary antifreeze system	When the temperature of the heating water outlet is $\geq 15\text{℃}$, the heating element will continue to heat for 1 minute before exiting the secondary antifreeze system

3.4 Use of Winter Mode

3.4.1 Winter Heating Mode

Determine whether to turn on the heater based on the difference between the set temperature and the actual heating water temperature;

When the outlet temperature is greater than or equal to the set value, turn off the heater group and enter the insulation state;

Insulation state: The water pump runs intermittently (running for 3 minutes, stopping for 7 minutes, and so on);

Receive shutdown button - enter shutdown state;

Related signal detection - enter fault state.

Receive timing conversion button - switch to other working modes (timing mode);

Related signal detection - enter fault state.



In winter snowflake mode, press the up and down buttons to set the heating water outlet temperature. When the actual heating water outlet temperature + return temperature of 15°C ($\text{HC}=15$) $\leq$ the heating water outlet set temperature, the heating conditions are met. The water pump runs for 20 seconds before entering the heating mode (1. Pure relay type: turn on one set of heating wires every 10 seconds for heating, and turn on three sets of heating wires after 60 seconds. When the water outlet temperature is $\geq$ the set water outlet temperature of -5°C , the system power is halved, and half of the relays are turned off. If the set temperature is not reached within BN time, then turn on one set of relays every BN time; 2. Relay+thyristor type: Open the response quantity relay according to the power demand and adjust the thyristor. When the set temperature + 5°C is reached, the system will turn off all heating wires and enter the insulation state (the water pump will start and stop for 7 minutes to intermittently release heat). (The water pump starts running and stops for 7 minutes with intermittent heat release ($\text{CC}=00$)). When the intermittent heat release reduces the temperature of the heating water outlet to meet the heating conditions (actual heating water outlet temperature + return temperature of $15^{\circ}\text{C} \leq$ heating water outlet set temperature, and the time since the last system heating is more than 3 minutes), the heating wire is turned on to maintain a constant temperature until the set temperature is reached, and this cycle is repeated. When the power button is pressed to shut down, the water pump will run for 3 minutes before stopping.

IV. Anti freezing function

4.1 First level antifreeze

In the shutdown state, if the heating water outlet temperature (X) is detected to be $6^{\circ}\text{C} \leq X \leq 10^{\circ}\text{C}$, the machine will enter the first level antifreeze state,

and the water pump will run for a long time. When the heating water outlet temperature is $\geq 11^{\circ}\text{C}$, the water pump will continue to run for 3 minutes and then exit the first level antifreeze state.

4.2 Secondary antifreeze

In the shutdown state, if the heating water outlet temperature (X) is detected to be $2^{\circ}\text{C} \leq X \leq 5^{\circ}\text{C}$, the machine enters the secondary antifreeze state.

When there is no fault, the system opens the relay to control the heating wire to work. When the heating water outlet temperature is $\geq 15^{\circ}\text{C}$, the heating element continues to heat for 1 minute and then exits the secondary antifreeze state.

V. Curing parameter setting (this setting should be operated by professionals)

5.1 Parameter Setting for Option I: In the shutdown state, long press the 5S setting button to enter the parameter setting. Select the parameter menu item through the heating temperature adjustment knob code, press the setting button to switch to the parameter item, adjust the parameter value through the heating temperature adjustment knob code, press the on/off key and reset button to exit and save (or if there is no operation for a long time). The system will automatically exit.

code	Set Project	Parameter range	default	notes
UH	Heating gear adjustment	1-6	06	Adjust the heating gear power
Hd	Bathroom power selection	1-99	16	16:16KW
FA	Single heating option	0-2	01	00: System furnace (heating+water tank) 01: Single heating 02: Dual purpose furnace (heating+bathroom)

5.1 II Parameter Setting: In the power on state, long press the 5S setting button to enter the II parameter setting. Select the parameter menu item through the heating temperature adjustment knob code, press the setting button to switch to the parameter item, adjust the parameter value through the heating temperature adjustment knob code, press the on/off button and reset button to exit and save (or if there is no operation for a long time). The system will automatically exit.

code	Set Project	Parameter range	default	notes
CS	Maximum heating temperature	0-1	0	0: Heat sink 80 °C 1: Floor heating 60 °C
HC	Heating return temperature	5-30	15 °C	Heating return temperature setting
PH	Heating power	60-80	80 °C	Maximum set temperature for heating
BH	Heating forced stop time	1-3	2	Start calculating time when operating at full power. If the temperature still does not reach the stop temperature after BH hours, the system will stop heating
SL	Pipeline inspection method	0-3	03	0: Pressure switch 1: Maquate pressure sensor 2: Flip switch 3: Simultaneous detection of pressure and flip
FB	Shielding flap switch and pressure switch detection	0-3	00	0: Neither of them is shielded 1: Shielding water pressure switch detection 2: Shielding flap switch detection 3: Both are shielded
CC	Operation mode of water pump	0-1	00	0: Turn 3, stop 7 1: Keep turning
BN	Heating control type	0-60	05min	When the power is halved, restart a set of relays every BN time to operate
DU	Determine the temperature rise during dry burning	2-20	15 °C	If the temperature rise is greater than or equal to DU every 3 seconds, it is judged as a dry burning fault
DR	Operation mode of water pump during non timed periods in timed mode	0-2	1	0: Run according to CC 1: Run for 3 minutes and stop for 2 hours 2: Run for 3 minutes and stop for 1 hour
LS	Bathroom startup selection	15-80	30	Minimum water flow when the bathroom is in working condition
PP	Power down memory allowance bit	0-2	1	0 non power down memory, 1 power down memory
RS	Restore factory settings	0-1	0	When RS=1, restore the factory default parameters
PC	Thermal storage hysteresis temperature	2-20	5	Return differential temperature of hot water storage tank

HH	Heating allowed at 0 degrees (heating time of 10 minutes)	0-1	0	0: Invalid 1: Shielding 0 degree fault, allowing heating
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VI. Fault description

When the system is powered on and any of the following faults occur, the system enters a fault state. When the system is locked, turn off all voltage outputs.

The corresponding fault codes are shown in the table below:

Fault code	Types and definitions of faults	describe
E1	The thermostat is disconnected	
E4	Water pressure malfunction	Low or no water pressure in the system, or malfunction of the water pressure switch
E5	Bathroom NTC	Bathroom NTC probe malfunction or bathroom water outlet overheating (90 °C set temperature exceeding 5 °C)
E7	Heating NTC	Heating NTC probe malfunction or heating water outlet overheating (92 °C set temperature exceeding 5 °C)
Eb	Heating without flow	The heating water flow switch is damaged or there is a water circuit malfunction in the system
EH	Voltage higher than AC260V	The power supply voltage is higher than AC260V
EL	Voltage below AC170V	The power supply voltage is lower than AC170V
EC	Fault of rapid temperature rise	Insufficient flow leads to rapid temperature rise
Ed	Leakage fault	Machine leakage
EU	Communication Failure	Lock, manually release by pressing the power button

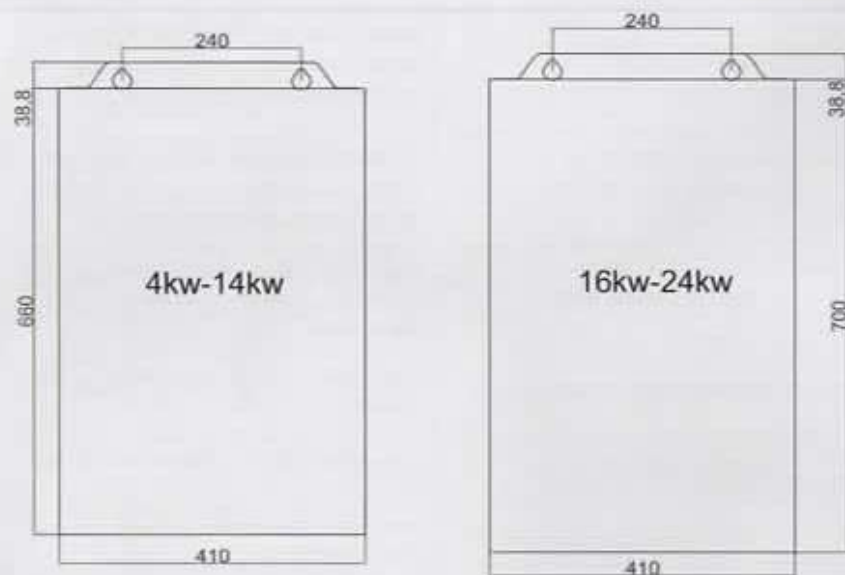
VII. WiFi connection (optional)

Search for the "TUYA" or "Smart life" app in the mobile app store or scan the QR code to download it

Turn on your phone's Bluetooth and connect it to the router's WIFI. Press and hold the 'Mode' button for 5 seconds while the device is turned off. The buzzer beeps and the wifi button flashes continuously, indicating that WiFi pairing has been entered. When the wifi icon flashes slowly, it indicates that the device is in communication with the phone. When the wifi icon remains on, it indicates successful communication.



VIII. Installation diagram size



IX. Product operating instructions

1. Installation position: ensure that the wall can withstand twice the weight of the product filled with water, that the fixings are securely

installed and that there is space for access to the product;

2. Plumbing connection: Connect the pipes and fill with water, the system pressure should be in the range of 1-1.5 bar range;
3. Power supply: the machine enters the off and standby state when powered on;
4. Air evacuation: open the pump and valve and leave the machine running at minimum power for 10 minutes to remove air and pay attention to water replenishment (operated by professionals);
5. Commissioning: no water leakage and seepage at the joints, no change in water pressure for more than 15 minutes of normal operation of the machine (operated by professionals);
6. Temperature setting: Press the up and down arrows to adjust the temperature when the power is on.
7. Description of buttons on the display panel

On/off button: Press the on/off button, switches the wall-mounted heater between on and off. In the off state, only the anti-freezing protection and the water pump anti-blocking remain active.

Room temperature query button: query the current room temperature, long press for 10s to enter the system configuration setting mode.

Setting button: Set the clock function and the timer function on and off, and set the timer period.

+/- button: Adjust the heating temperature and other parameter settings.

X. Circuit protection

When the air switch in the machine operates during use, it should not be reset immediately, it shall notify the after-sales department to sent to a professional for repair before resetting.

XI. Temperature protection

Locking: When the water temperature in the system exceeds 95℃, the automatic temperature limiter will operate, at this time, you need to wait for the temperature to return to normal before switching on.

When the system temperature exceeds the maximum limit, the manual temperature limiter will operate, at this time, you need to notify the after-sales personnel, the professional personnel will make repair.