NOTICE TO USERS

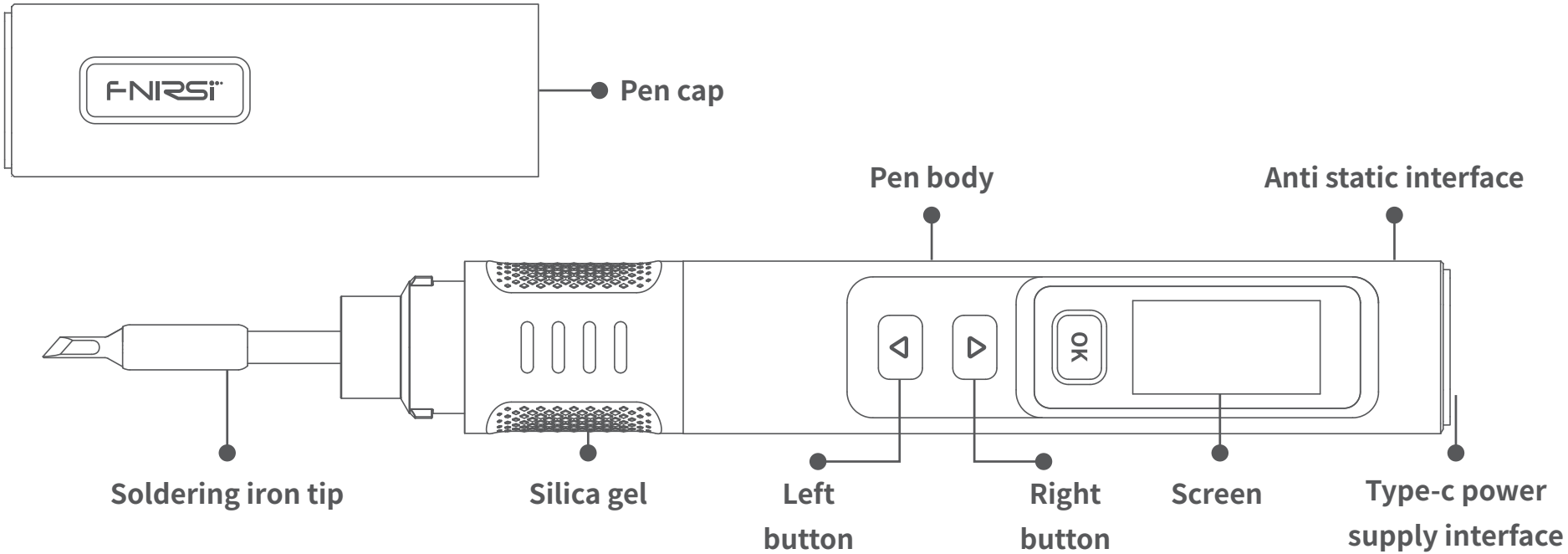
- Please read this manual carefully ensure obtain the best state of the product.
- Please keep this manual properly.
- Waste batteries and instruments cannot be disposed of together with household waste. Please dispose of them in accordance with relevant national or local laws and regulations.
- This device only supports the official soldering iron tips sold by our company (the soldering iron tips of HS-02A and HS-02B are not compatible). If don' t use the official soldering iron tips, incompatibility and inability to use may occur, which may seriously lead to short circuits, burns, and other dangers.
- If there are any quality issues with the device or if you have any questions about using the device, please contact "FNIRSI" online customer service and we will solve it for you in the first time.
- Thank you for purchasing this product. In order for you to use this device more conveniently, please follow the manual when using it.

1.PRODUCT INTRODUCTION

HS-02 is a portable screen display intelligent soldering iron launched by our company. This soldering iron has the following characteristics:

- Light weight, easy to carry
- Rapid heating up
- 0.96 HD color screen
- Ergonomic design for comfortable grip
- Power adjustable
- 9-24V Working voltage
- Temperature control
- Support PD and QC protocols

2.PRODUCT STRUCTURE



3.PRODUCT PARAMETERS

Product name	HS-02A	HS-02B	**Power supply**	Type-C	
Working voltage	9-20V		**Fast charging protocol**	PD/QC	
Temperature range	100-450°C (180-842°F)		**Power**	100W(max)	
Screen	0.96 IPS HD color screen		**soldering iron tip**	HS02A-XX	HS02B-XX
Weight	≈61g				

※HS-02A and HS-02B have the same shell, but the internal motherboard and soldering iron tips are different , cannot be compatible or interchangeable for use.

4.POWER SELECTION

Using the PD fast charging protocol power adapter, the soldering iron can be set to obtain the working voltage of any level of 9V, 12V, 15, or 20V from the adapter (default setting of 20V), if there is a restart phenomenon, you can enter the adaptive power adjustment page, or manually enter the settings to reduce voltage or power.

Attention:

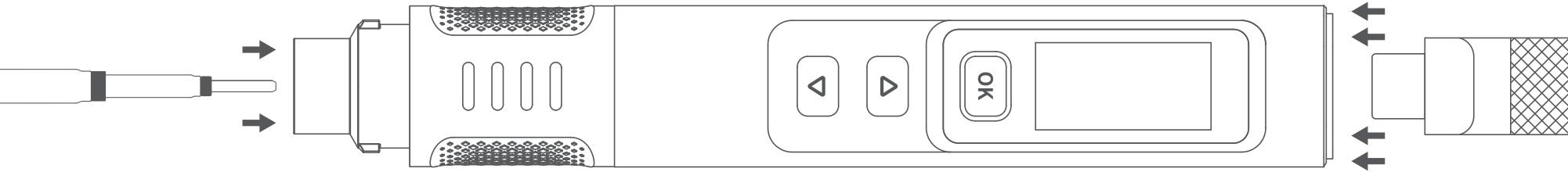
●The default working voltage obtained by the intelligent soldering iron is 20V. If the maximum output voltage of your adapter is less than 20V, then will obtain the highest output voltage. If your adapter has a maximum output of 12V, then obtain 12V.

●When using a power adapter without PD or QC fast charging protocol, the working voltage of the intelligent soldering iron is the input voltage.

●Below 9V, the screen will display a low voltage.

5.USAGE STATE

5.1 Installation instructions

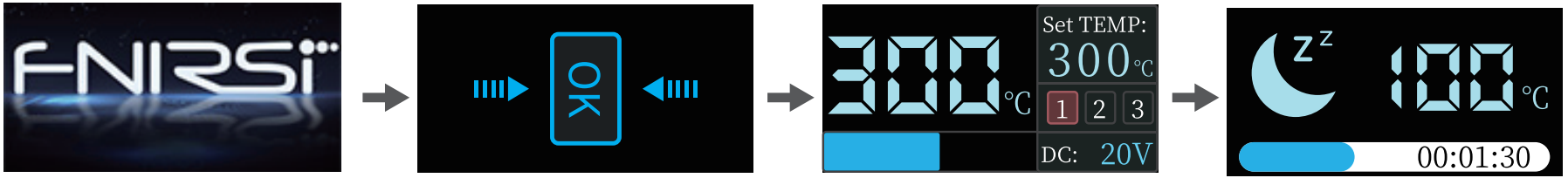


①Insert the officially compatible soldering iron tip into the corresponding model.

② After connecting the Type-C power line, it can be turned on and used

※ Please note that the soldering iron tips compatible with HS-02A and HS-02B are not compatible; When inserting the soldering iron tip, if it is stuck, then try rotating it before inserting.

5.2 Workflow instructions



Boot logo **Standby** **Main menu** **Sleep**

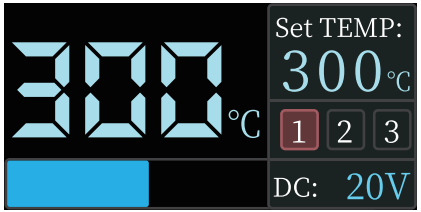
The workflow of HS-02 intelligent soldering iron is shown in the above figure. After power on, the logo is displayed and when the logo disappears, it enters standby mode, short press the OK button to enter the main menu for heating. Entering the main menu, the soldering iron is in a normal working state, divided into the following four types:

●**Working state:** In this state, the white LED light will remain on, the soldering iron is in the heating or heating completed state, and after the heating temperature reaches the set temperature, there will be a prompt sound

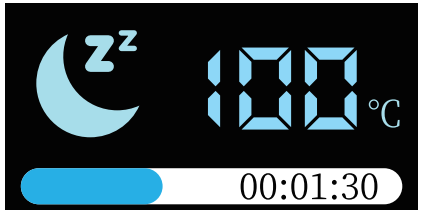
●**Sleep state:** The soldering iron is already in a heated state, and if the sleep function is turned on and the idle time exceeds the set sleep time, it will enter sleep mode, shake the handle or press any button to wake up.

●**Standby state:** When turned on, it enters standby mode or the soldering iron is in sleep mode, if the standby function is enabled and the idle time exceeds the set standby time, it will enter standby mode, short press the OK button to release standby mode and enter working mode.

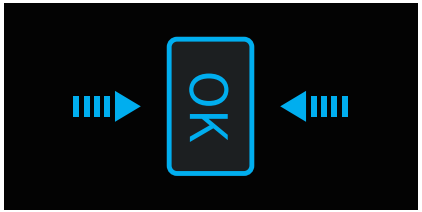
●**Shutdown state:** Power off means shutdown.



Working state



Sleep state



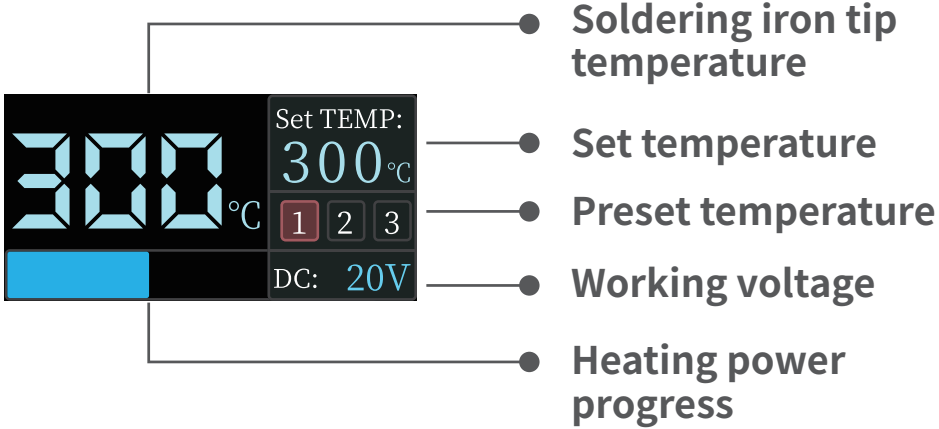
Standby state

⚠ Notice

When the soldering iron is in heating or heating completed state for use, do not touch high-temperature areas.

5.3 Main menu instructions

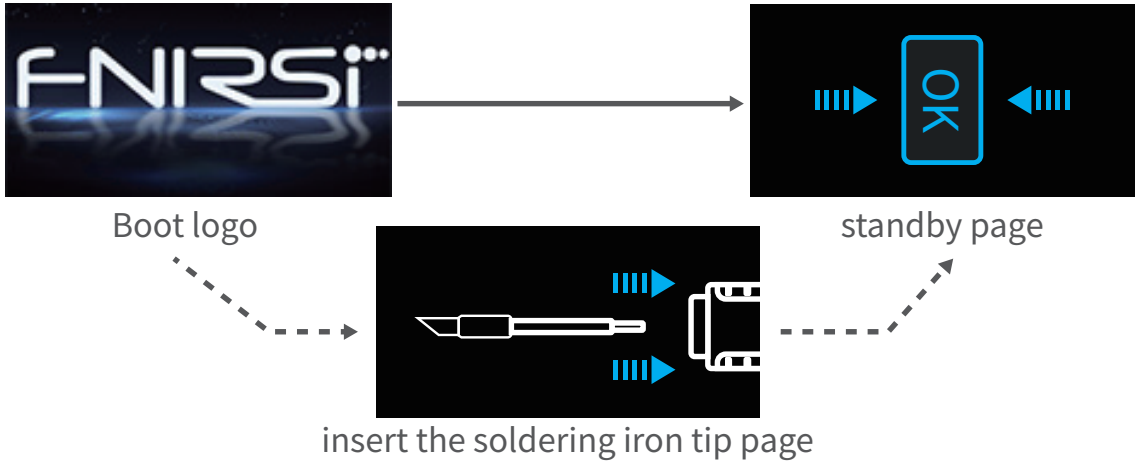
The main menu is shown in the figure, and the top right corner displays the target temperature set by the user, below are three channel labels for preset temperatures, the lower right corner displays the working voltage. The upper left displays the real-time temperature of the soldering iron, below is heating progress bar.



6.OPERATING INSTRUCTIONS

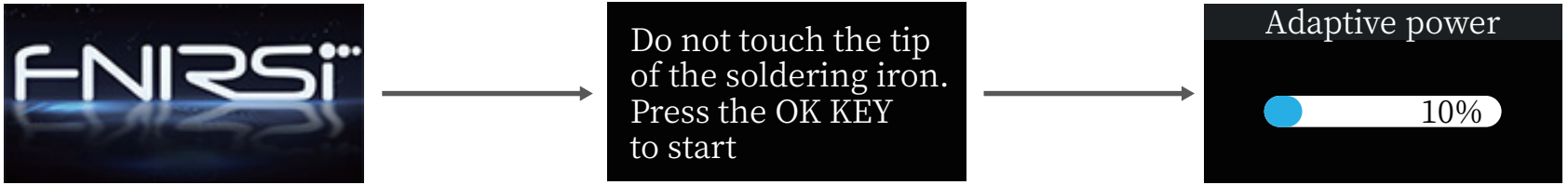
6.1 Basic Settings

●**Power on:** Power on, the screen displays the boot logo, and then automatically jump to the standby interface. If prompted to insert the soldering iron tip page, the interface will automatically jump to the standby page after inserting the soldering iron tip.



●**Adaptive power mode:** To enter this mode, you need to long press the right button to power on until the boot logo appears and press the OK button to start, in this mode, no other operations can be performed, and the power will increase by 1% until the device restarts.

Notice: Accurate temperature control is not possible in this mode, please do not touch the soldering iron head during this period!



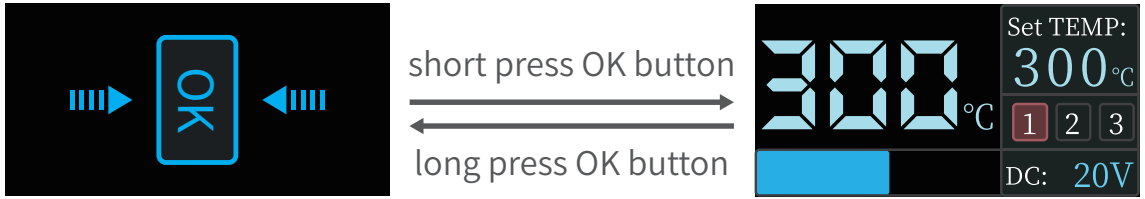
long press the right button to turn on

prompt screen appears

adaptive power mode

●**Heating:** In standby mode, the blue LED indicator lights on both ends of the OK button are remain on, at this time, short press the OK button to enter the heating page, and the soldering iron will heat up.

●**One click standby:** Press and hold the OK button in working mode to turn off heating and return to the standby page.

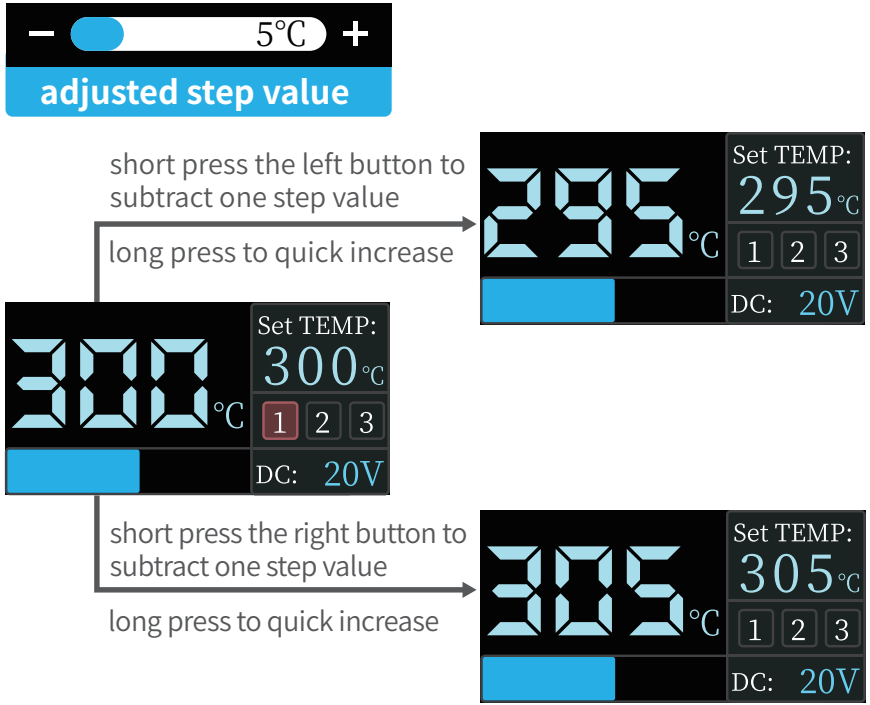


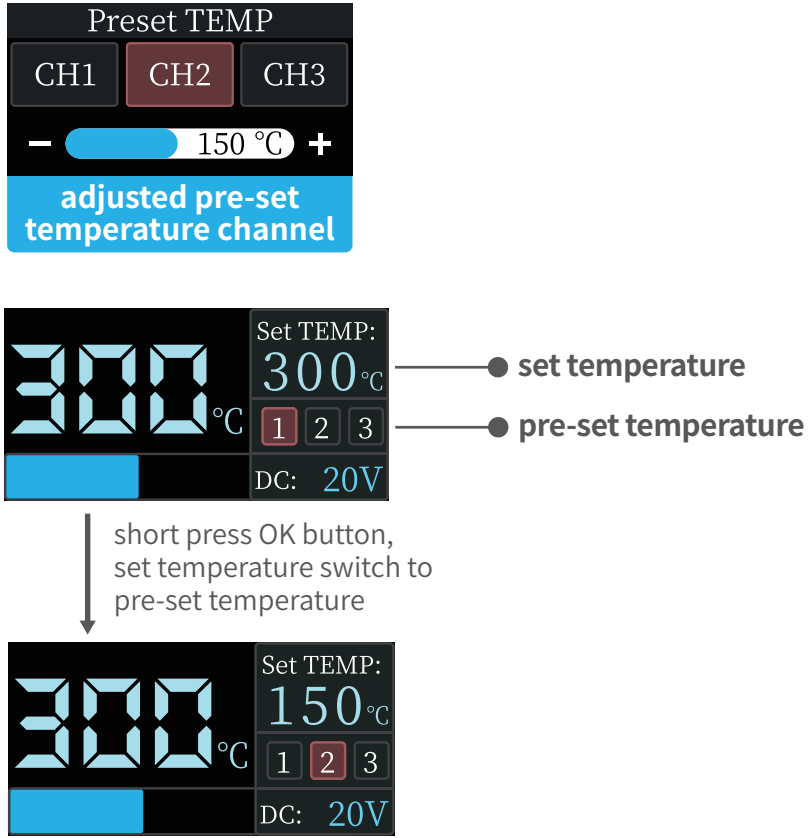
standby mode

heating state

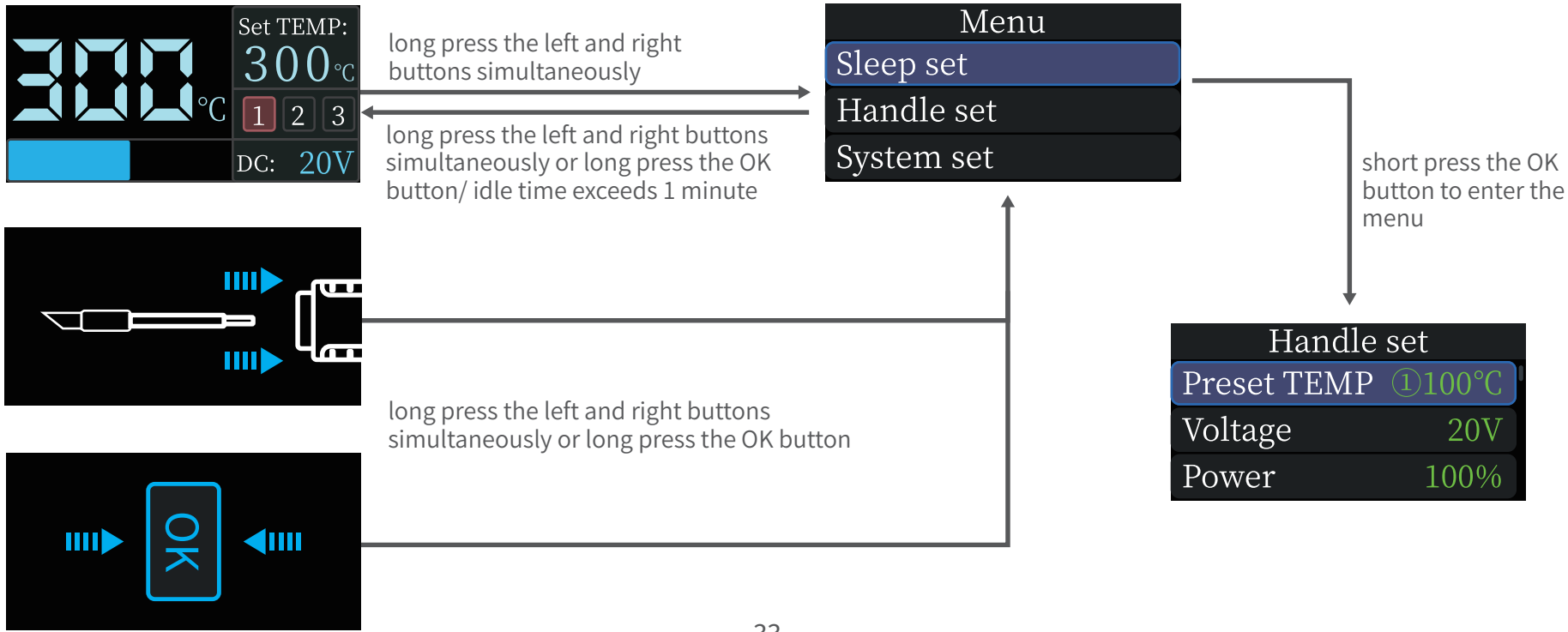
●**Temperature setting:** On working state, when the handheld mode is right, short press the left button to subtract one step value, short press the right button to add one step value (when the hand mode is left, then opposite operations), long press the left button or the right button will continue to quickly increase or decrease the step value. Short press the

OK button to switch to the preset temperature channels, and set the temperature value of this channel to the set-temperature. The temperature setting range is 100 °C -450 °C.



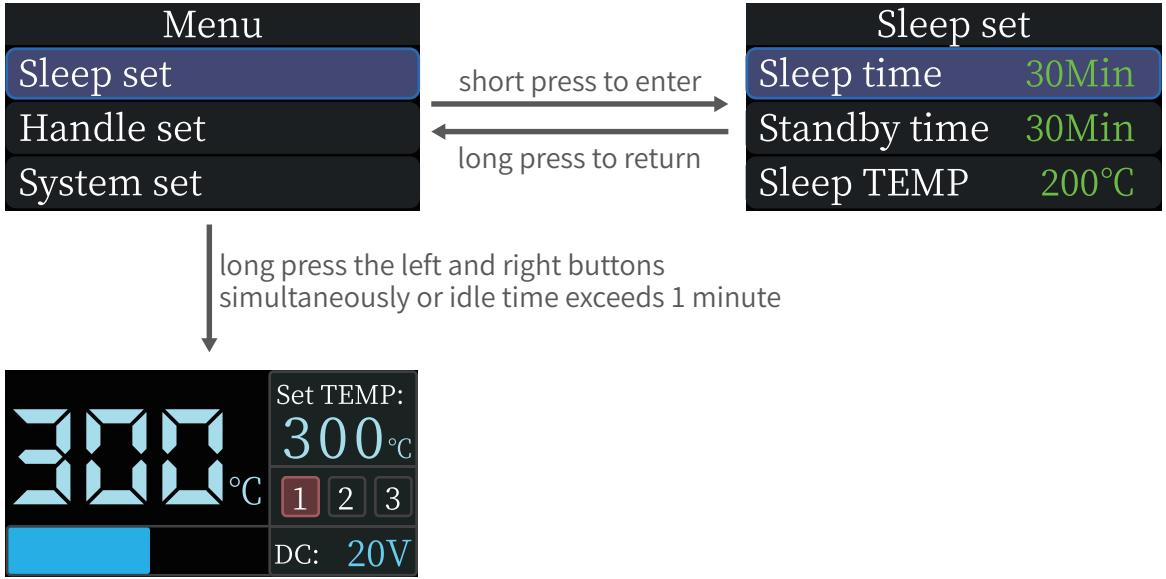


●**Setting mode:** On working state, long press the left and right buttons simultaneously to enter the setting mode; when in standby mode or the soldering iron tip is not inserted, long press the left and right buttons simultaneously, or long press the OK button to enter the setting mode. Short press the left and right buttons to select the menu to be set, and short press the OK button to enter the selected menu. Long press the left and right buttons simultaneously, or long press the OK button to exit the setting mode. If the idle time exceeds 1 minute, it will automatically exit the setting mode.



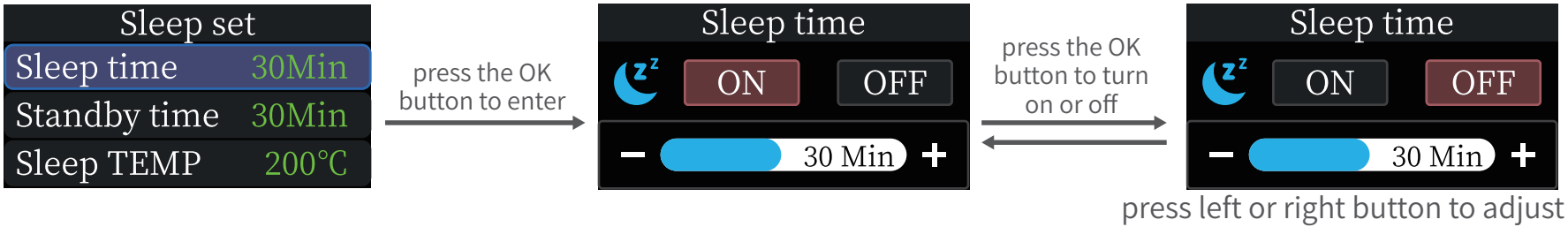
6.2 Sleep settings

On the settings menu, short press the left or right button to select the sleep settings, press the OK button to enter the sleep setting, after entering, short press the left or right button to select the sleep parameters that need to be modified, and short press the OK button to enter the parameter modification interface. Long press the OK button to return to the settings menu, long press the left and right buttons simultaneously or idle time exceeds 1 minute to exit the settings mode.

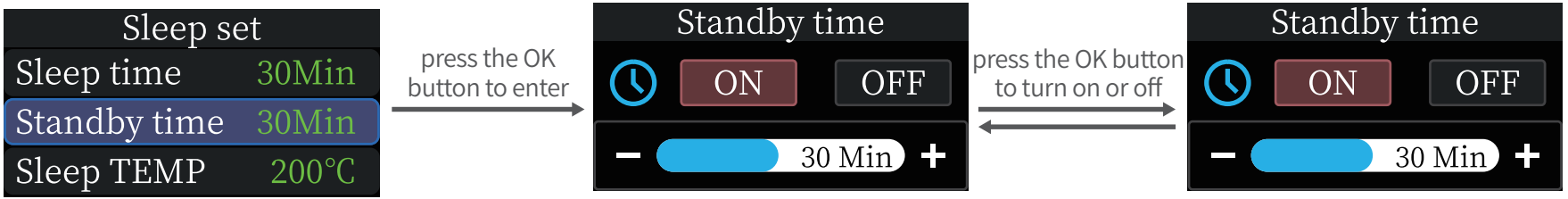


working page

●**Sleep time:** On the sleep setting page, short press the left or right button to select the sleep time, and press the OK button to enter the sleep time. Short press the OK button to select whether to turn on or off the sleep function, long press or short press the left or right button to adjust the sleep time, long press the OK button to return to the sleep setting, long press the left and right buttons simultaneously or idle time exceeds 1 minute to exit the setting mode. The default sleep time is 30 minutes, setting range of 1-60 minutes, when set it to the minimum and then press the left button (when the handheld mode is left, press the right button) to turn off the sleep function.

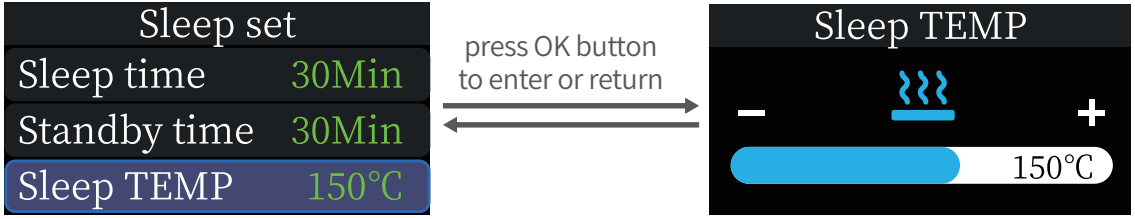


●**Standby time:** On the sleep setting page, short press the left or right button to select standby time, and short press the OK button to enter standby time. Short press the OK button to select whether to turn on or off the standby function, long press or short press the left or right buttons to adjust the sleep time, long press the OK button to return to the sleep setting menu, long press the left and right buttons simultaneously or idle time exceeds 1 minute to exit the setting mode .The default sleep time is 30 minutes, with a setting range of 1-60 minutes. Set it to the minimum and then press the left button (when the handle mode is left, press the right button) to turn off the standby function.



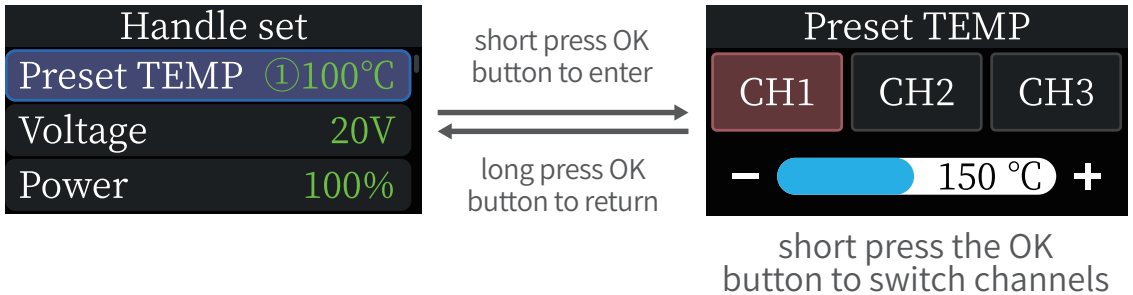
press left or right button adjust

●**Sleep temperature:** On the sleep setting page, short press the left or right button to select the sleep temperature, and short press the OK button to enter the sleep temperature. Long press or short press the left or right button to adjust the sleep temperature, short press the OK button or long press the OK button to return to the sleep setting, long press the left and right buttons simultaneously or idle time exceeds 1 minute to exit the setting mode. Set range to 100-200 degrees. When the working temperature is lower than the sleep temperature, the temperature rises to the sleep temperature in the sleep state; when the working temperature is higher than the sleep temperature, the temperature will drop to the sleep temperature in the sleep state.



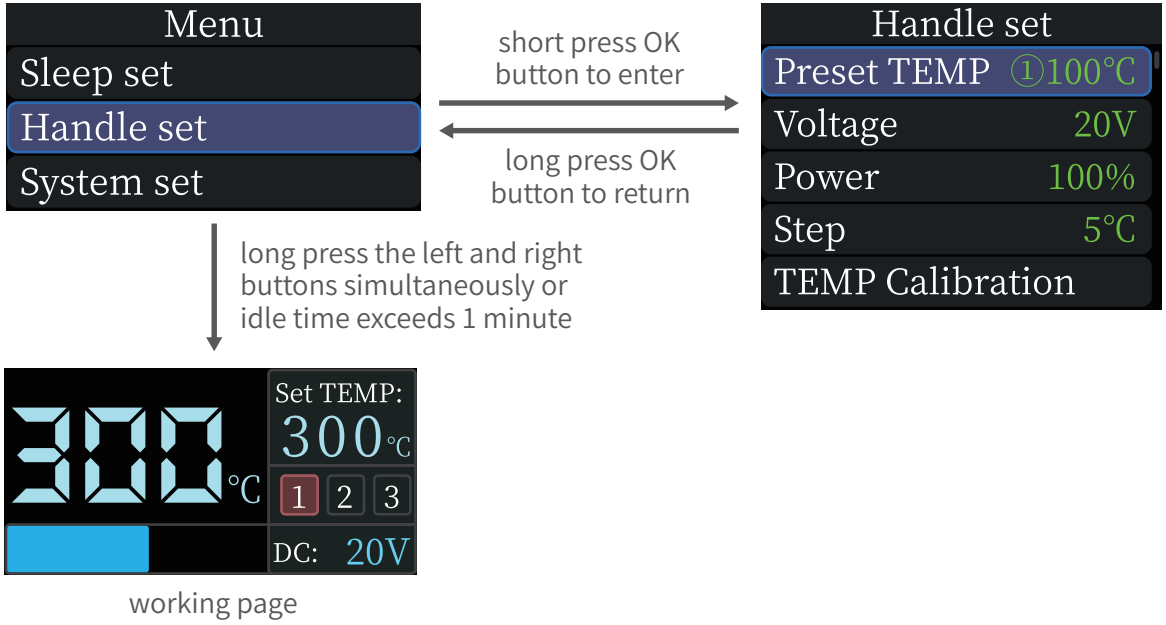
press left or right button adjust

●**Pre- set temperature:** On the handle setting page, short press the left or right button to select the preset temperature, and short press the OK button to enter the preset temperature. Short press the OK button to switch between three preset temperature channels, long press or short press the left or right button to adjust the preset channel temperature, long press the OK button to return to the handle settings, long press the left and right buttons simultaneously or idle time exceeds 1 minute to exit the setting mode. The default temperature values for the three preset temperature channels are 300 °C, 330 °C, and 360 °C, with a setting range of 100 °C -450 °C.



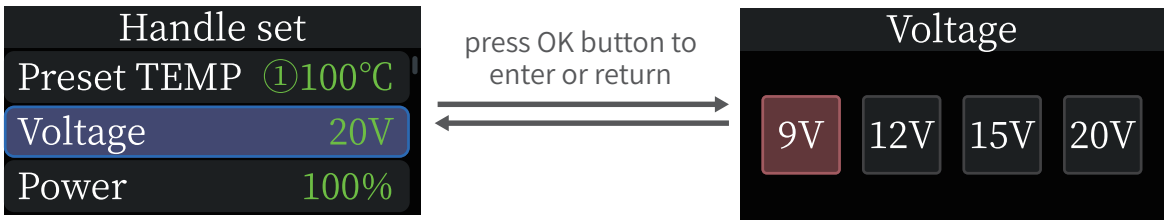
6.3 Handle setting

On the settings menu page, short press the left or right button to select the handle settings, press the OK button to enter the handle settings menu. After entering, short press the left or right button to select the handle parameters that need to be modified, and short press the OK button to enter the parameter modification interface. Long press the OK button to return to the settings menu page, long press the left and right buttons simultaneously or idle time exceeds 1 minute to exit the setting mode.



working page

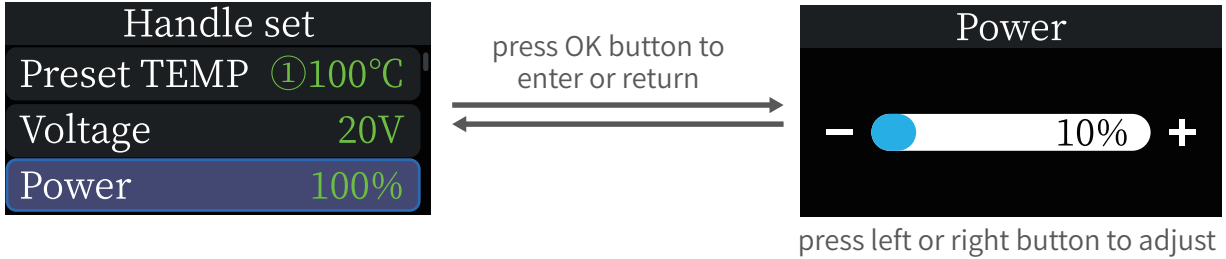
●**Voltage adjustment:** On the handle setting page, short press the left or right button to select voltage adjustment, and press the OK button to enter voltage adjustment. Short press the left or right button to switch between the four voltage levels of 9V/12V/15V/20V, short press the OK button or long press the OK button to return to the handle settings menu, long press the left and right buttons simultaneously or idle time exceeds 1 minute to exit the setting mode. The default is 20V, and you can set it according to your own charger power parameters to avoid the phenomenon of insufficient power causing the charger to start overcurrent protection and the device to be forced to shut down and black screen. When this phenomenon occurs, wait for the charger to recover and enter the settings menu to select the appropriate gear again when there is no heating or no soldering iron tip.



press left or right button to switch gears

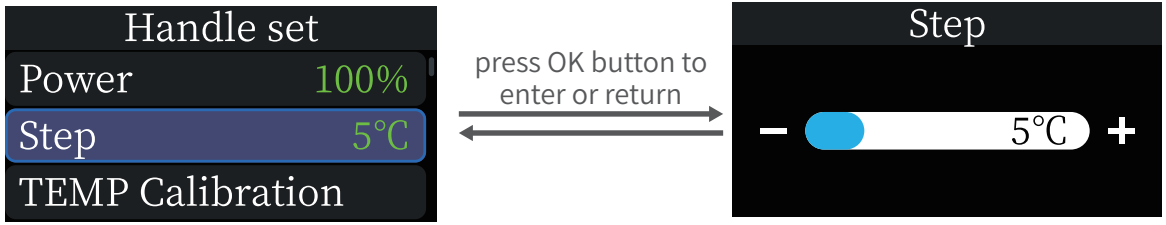
●**Power adjustment:** On the handle setting page, short press the left or right button to select power adjustment, and press the OK button to enter power adjustment. Press the left or right button to adjust the power level (increasing or decreasing by a value of 1 each time), short press the OK button or long press the OK button to return to the handle settings menu, long press the left and right buttons simultaneously or idle time exceeds 1 minute to exit the setting mode. Set power is the maximum power for heating the soldering iron, the power for heating the soldering iron cannot exceed the set power, when setting, the power will change by 1%, with a default value of 65% and a setting range of 10%

-100%, you can set it according to your own charger power parameters to avoid the phenomenon of insufficient power causing the charger to start overcurrent protection and force the device to shut down and black screen. When this phenomenon occurs, simply wait for the charger to recover and enter the settings page to select the appropriate gear again when there is no heating or no soldering iron tip.



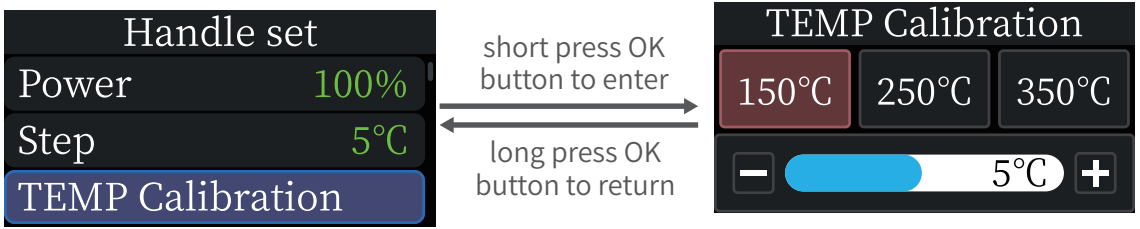
press left or right button to adjust

●**Step adjustment:** On the handle setting page, short press the left or right button to select step adjustment, and press the OK button to enter step adjustment. Short press or long press the left or right button to step in the temperature, short press the OK button or long press the OK button to return to the handle settings menu, long press the left and right buttons simultaneously or idle time exceeds 1 minute to exit the setting mode. The default step temperature is 5 °C, and the setting range is 1 °C -50 °C.



press left and right buttons to adjust

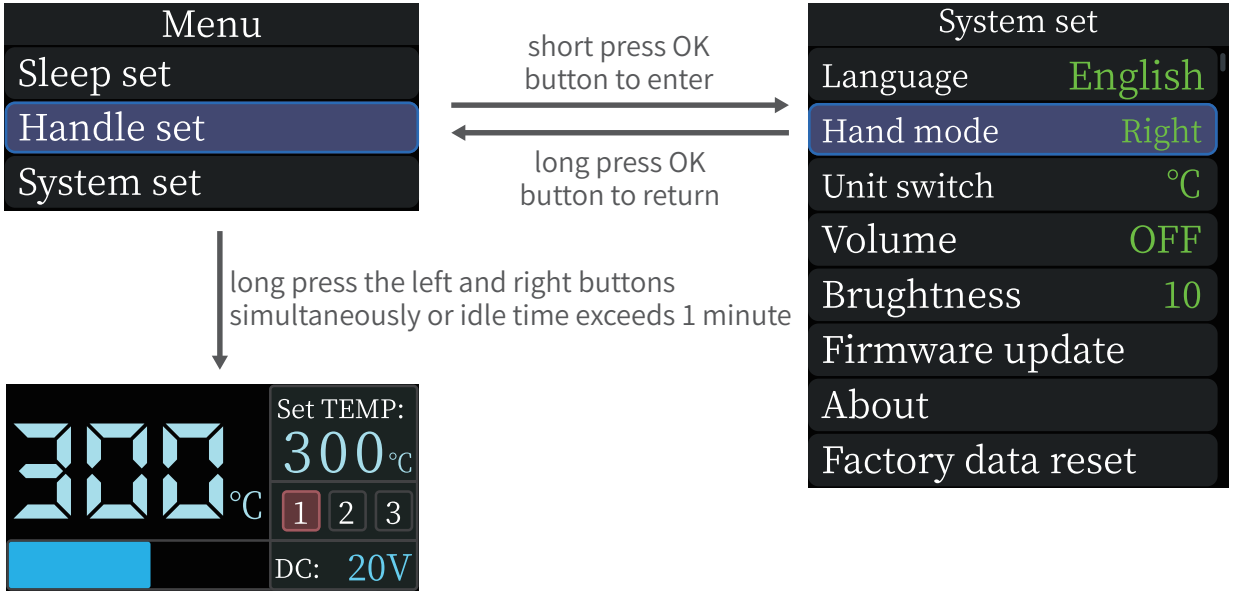
●**Temperature calibration:** On the handle setting page, short press the left or right button to select temperature calibration, and press the OK button to enter temperature calibration, short press the OK button to switch to the temperature point to be calibrated. Short press the left or right button to adjust the calibration value (positive or negative), after the temperature measured by the soldering iron thermometer stabilizes, when the temperature on the thermometer is greater than the temperature to be calibrated, short press the left button (when the handheld mode is left, then opposite operations) to reduce the calibration value, when it lower than the calibration temperature, short press the right button (when the handheld mode is left, then opposite operations) to increase the calibration value and when the temperature matches the calibrated temperature point, the calibration is completed, then switch to the next temperature point to continue calibration. After the three temperature calibration completed, the system automatically saves the calibration values, long press the OK button to return to the handle setting, long press the left and right buttons simultaneously or idle time exceeds 1 minute to exit the setting mode.



short press the OK button to switch channels

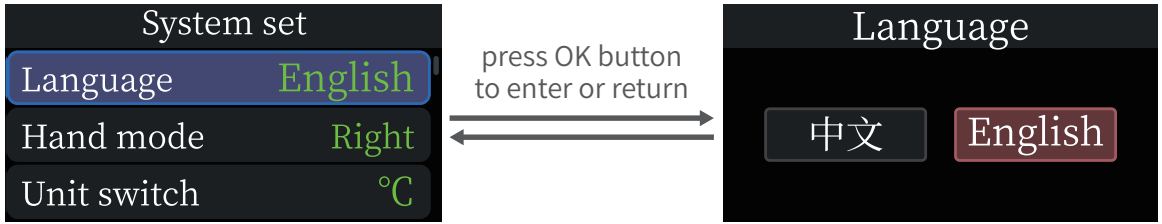
6.4 System settings

On the setting menu, short press the left or right button to select system settings, press the OK button to enter the system settings menu. After entering, short press the left or right button to select the system parameters that need to be modified, and short press the OK button to enter the parameter modification interface. Long press the OK button to return to the settings menu, long press the left and right buttons simultaneously or idle time exceeds 1 minute to exit the setting mode.



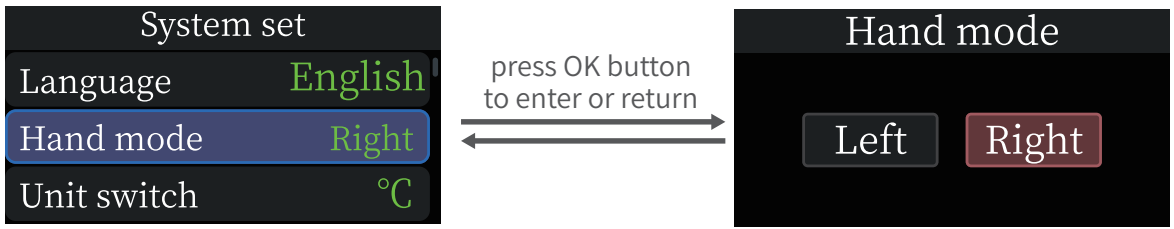
working page

●**Language setting:** On the system settings menu, short press the left or right button to select language setting, and press the OK button to enter the language setting. Short press the left or right button to switch languages, short press the OK button or long press the OK button to return to the system settings menu, long press the left and right buttons simultaneously or idle time exceeds 1 minute to exit the setting mode.



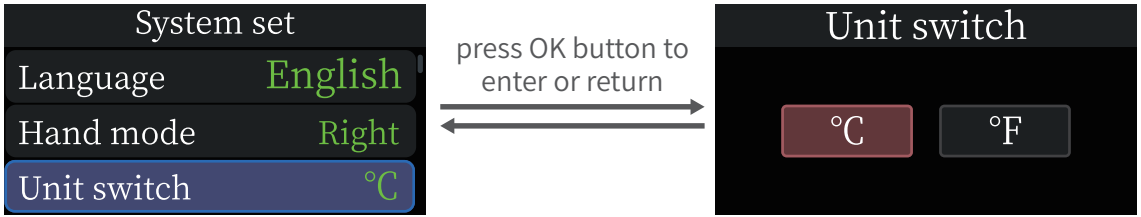
press left or right button to switch languages

●**Handheld mode:** On the system settings menu, short press the left or right button to select the handheld mode, and press the OK button to enter the handheld mode. Short press the left or right buttons to switch between left and right modes, short press the OK button or long press the OK button to return to the system settings menu, long press the left and right buttons simultaneously or idle time exceeds 1 minute to exit the setting mode. After switching the handheld mode, the addition and subtraction definitions of the left and right buttons will also switch.



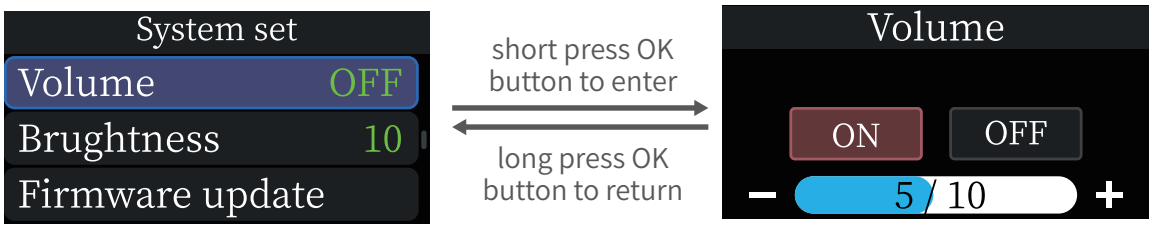
press left or right button to switch modes

●**Unit Settings:** On the system settings menu, short press the left or right button to select unit settings, and press the OK button to enter unit setting. Short press the left or right buttons to switch between °C and °F, short press the OK button or long press the OK button to return to the system settings menu, long press the left and right buttons simultaneously or idle time exceeds 1 minute to exit the setting mode.



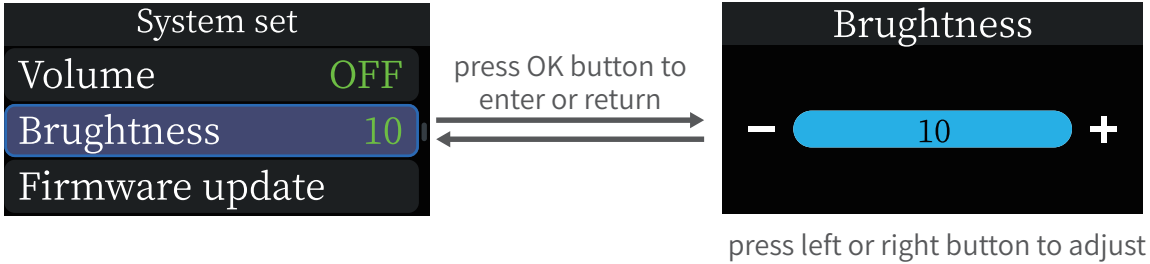
press left or right button to switch

●**Sound Settings:** On the system settings menu, short press the left or right button to select sound settings, and press the OK button to enter sound setting. Short press the OK button to switch the sound on and off. Short press the left or right button to adjust the volume, with a range of 1-10. When it decreases to the minimum, short press the left button again to turn off the sound, long press the OK key to return to the system settings menu , long press the left and right buttons simultaneously or idle time exceeds 1 minute to exit the setting mode.

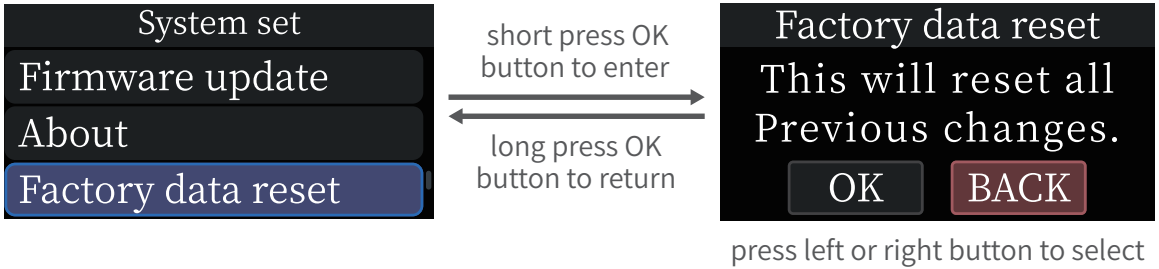


short press OK button to control switch

●**Screen brightness:** On the system settings menu, short press the left or right button to select screen brightness, and press the OK button to enter screen brightness. Short press the left or right button to adjust the brightness level of the screen, short press the OK button or long press the OK button to return to the system settings menu, long press the left and right buttons simultaneously or idle time exceeds 1 minute to exit the setting mode. The default screen brightness is 10, and the adjustment range is 1-10.



●**Restore factory settings:** On the system settings menu, short press the left or right button to select restore factory settings, and press the OK button to enter the restore factory settings. Short press the left or right button to switch between confirm and return, short press the OK button to confirm the selection. When OK is selected, all modified parameters in the system will be restored to their factory values and returned to the main interface (language needs to be re selected); When selecting return, directly return to the system settings menu, long press the OK button to return to the system settings menu, long press the left and right buttons simultaneously or idle time exceeds 1 minute to exit the setting mode.



7.FIRMWARE UPDATE

Power off the device, press and hold the OK button, then connect the USB Type-c data cable to the computer to power on the device, and enter the Bootloader interface for firmware upgrade. After entering the Bootloader, the computer recognizes the USB drive and copies the firmware file directly to the USB drive. After one minute of inactivity in the Bootloader interface, the existing firmware will automatically run.

8.MAINTENANCE

●When using the new soldering iron tip for the first time, it needs to be heated to 250 °C and tin coated to prevent dry burning and oxidation.

●After using the soldering iron, please apply an appropriate amount of tin to the soldering iron tip to prevent oxidation.

●The normal working temperature of the soldering iron tip is about 300-380 °C, and it is not advisable to use it for a long time at a high temperature to affect the lifespan .

●Avoid violent tapping of the soldering iron tip during welding.

● When using a wet sponge, do not use open water. A semi dry state is optimal.

●Do not use flux containing chlorine or high acid to avoid corrosion of the surface.

●If the surface of the soldering iron tip is oxidized and does not adhere to tin, the surface layer can be carefully wiped off with gauze or other tools, and then heated to 250 °C by electricity, immediately apply tin to stick to the surface to prevent further oxidation

9.SAFETY INSTRUCTIONS

●When the soldering iron tip is working, the temperature can reach 100-450 °C. Do not touch the soldering iron head.

●Please keep out of reach of children.

●Do not wet this product or use it in damp environments.

●When not in use for a long time, please disconnect the power.

●When working normally, there will be a certain temperature at the handle, which is a normal phenomenon. Please use it with confidence!

10.WARRANTY TERMS

● Service period

Shenzhen Finis Technology Co., Ltd. promises good product quality. If the product malfunctions during normal use within 7 days from the date of sale, customers can choose to return it

Goods or warranty (can only be returned if it does not affect secondary sales), and free warranty is available if there is a malfunction within one year of normal use.

●The purchase date is based on the purchase invoice or receipt issued by the seller, and online shopping can be based on transaction screenshots.

● Free warranty service is not provided for the following situations

(1) Any intentional damage, unauthorized modification, or repair that causes machine damage.

(2) The soldering iron head is a consumable item and does not support warranty.