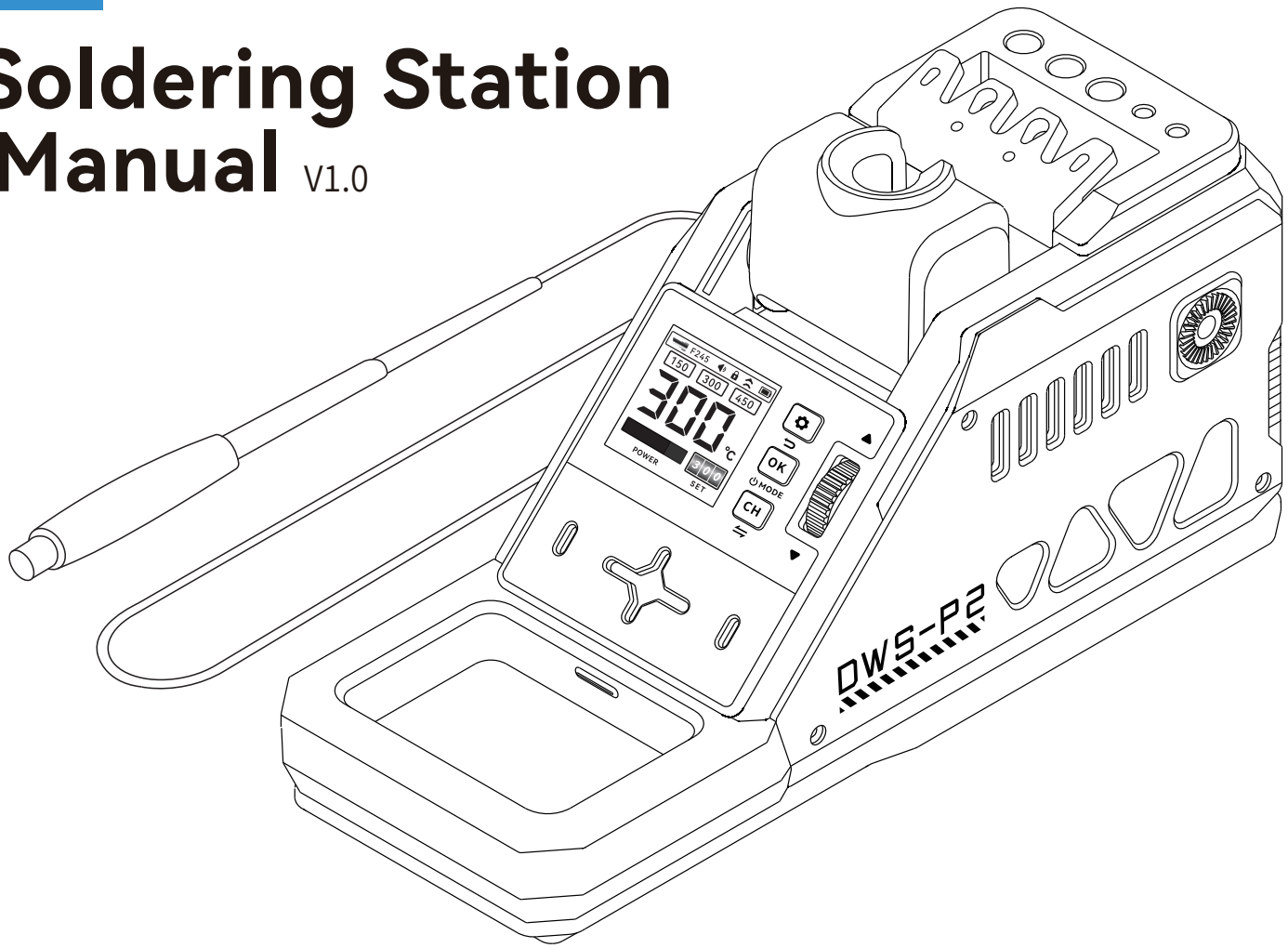
FNIRSI

Mini Soldering Station User Manual V1.0

DWS-P2



※Please read this instruction manual carefully before using the product and keep it properly.

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1.Safety Statement

Please read this user manual carefully before using the product. The manual contains important safety information and should be kept properly for future reference. Users can visit our company website to check for updates to the user manual.

1.1 General Safety Precautions

- Only use the dedicated power adapter supplied with this product, or one that is certified in your country or region.
- Do not operate the device in humid or wet envtipments.
- Do not use the product in flammable or explosive atmospheres.
- Keep the surface of the product clean and dry at all times.
- Turn off the power when the device is not in use or when leaving the work area to prevent fire hazards.
- After power is turned on, the soldering tip tip can reach temperatures between 100°C and 450°C (212°F to 842°F) — burn risk.
- During initial use, slight smoke emission from the soldering tip may occur due to heating elements — this is normal.
- Do not immerse the DWS-P2 in water or operate it with wet hands — risk of electric shock.
- The DWS-P2 contains precision components. Avoid dropping or applying mechanical shock.

1.2 Disclaimer of Use

- The user is solely responsible for any special, indirect, incidental, or consequential damage or loss arising from the use or presumed use of this product. The user is also responsible for any damage or loss caused by unauthorized disassembly or modification of the product.
- Keep the device out of reach of children. Do not allow children to use the product as a toy. If the device malfunctions.
- Stop using it immediately and contact professional maintenance personnel for inspection and repair.

2.Product Overview

2.1 Product Introduction

The DWS-P2 mini soldering station is a portable, high-precision soldering tool with a built-in battery, designed for mobility and convenience. It features a compact size for easy carrying and an internal 2600mAh battery that supports outdoor work. The soldering tip heats up rapidly, recovers temperature quickly, and offers precise temperature control. It comes with a 1.54-inch color display. The station supports both F210 and F245 dual handles, which are automatically recognized for plug-and-play use. Charging is via a Type-C interface and supports PD fast charging protocol, enabling both efficient charging and heating.

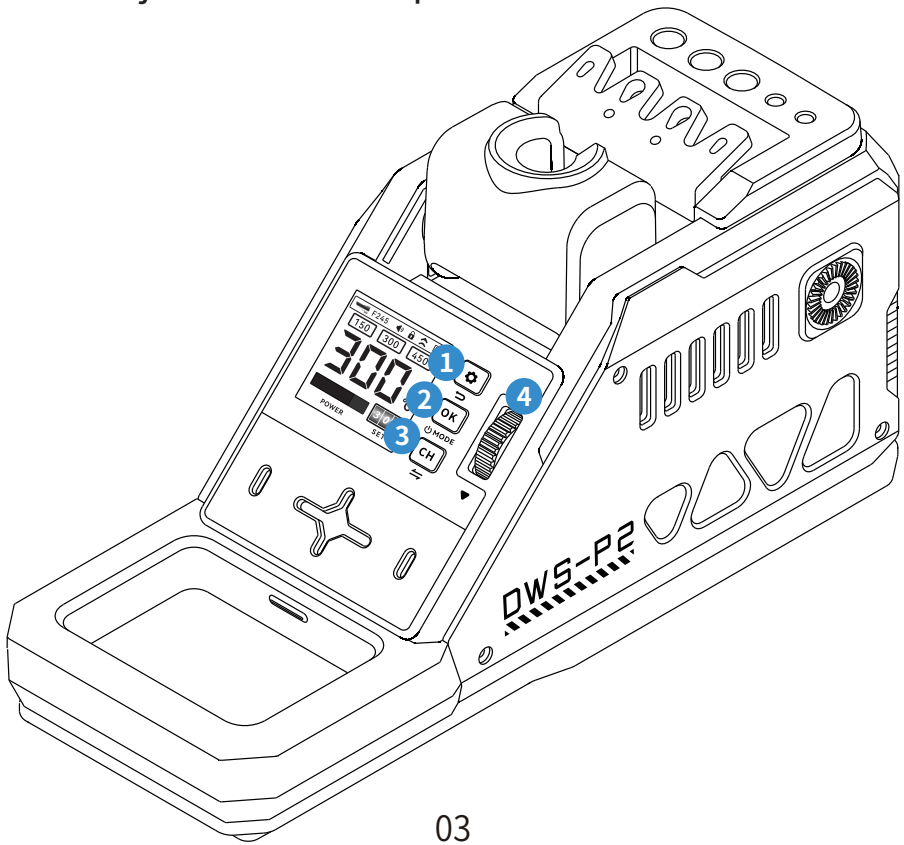
2.2 Button Definitions

①【SET】: Short press to enter settings; long press to return to the home screen.

②【MODE】: Long press to power on/off; short press to switch between different home screens.

③【CH】: On the home screen, press to switch shortcut channels; in the settings menu, press to select options.

④【Rotary Encoder】: Rotate to adjust the set temperature or to switch between setting options.



2.3 Specifications

DWS-P2 Control Base:

Display	1.54" TFT Screen	**Max output power**	100W
Interface type	USB Type-C	**Compatible tips**	F245/F210 Soldering tips
Max input voltage	20V	**Temperature stability**	±3%
Temperature	100°C~450°C	**Safety protection**	Low Voltage Protection, Overtemperature Protection, Leakage Protection
Size	≈200.5×77.4×102.7mm	**Weight**	≈865g

2.4 Status Indicators

The DWS-P2 control base has LED indicators on both sides that show the current operating status. The indicator light behavior is described below:

LED Status	Description
Off	Control base is powered off
Green breathing light	Control base is in sleep mode
Green flashing	Control base in standby mode
Solid red light	Control base is charging

Solid green light	Control base is in working mode
Red flashing	Device error

2.5 Power Supply Selection

The DWS-P2 mini soldering station control base supports both external USB Type-C power supply and internal battery power. The USB Type-C input supports PD power delivery with 20V and 65W or higher (including chargers, power banks, etc.). When the soldering tip handle is lifted, it will automatically heat up to the preset temperature and maintain a stable temperature.

3.Operating Instructions

Operation Overview:

On the sleep interface, press the【SET】button briefly to enter the menu settings. Use the【rotary knob】to scroll through the menu items. Press the【OK】button to enter a submenu. Press the【CH】button again to switch between parameters, and use the【rotary knob】to adjust the values. Press【SET】to return to the menu interface, and press【SET】again to return to the home interface.

3.1 Power On and Off

Power On:

Connect the DWS-P2 control base to a PD power supply, then long press the【MODE】button to turn the

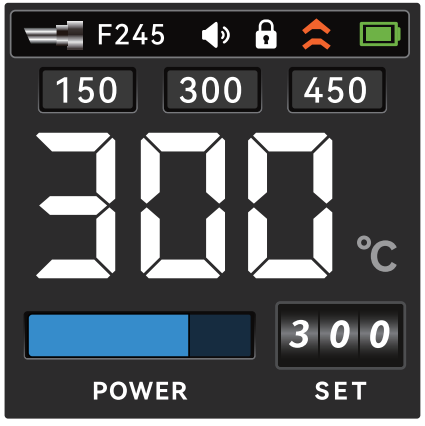
device on. The screen will first display the brand logo, then enter the standby interface.



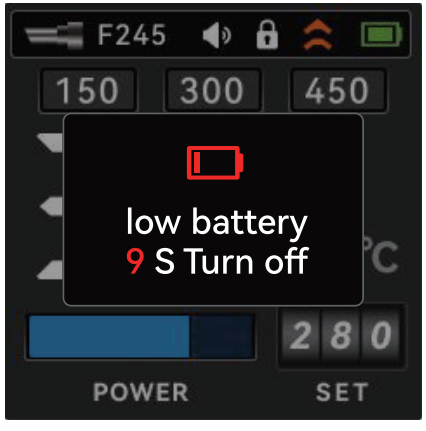
① **Power-on Icon:** When powered on, the device displays the brand logo.



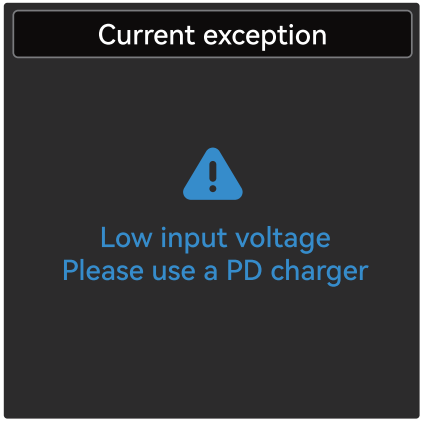
② **Standby Icon:** The device enters standby mode. Press any button to switch to the sleep interface.



③ **Main Interface:** When the soldering tip is lifted, the interface automatically switches to the main interface. When the tip is placed back, it returns to the sleep interface.



④ **Low Battery Warning:** When the battery level is too low, a popup will display "Low battery – shutting down in 9 seconds." This reminds the user of insufficient battery. The device will power off automatically after 9 seconds.



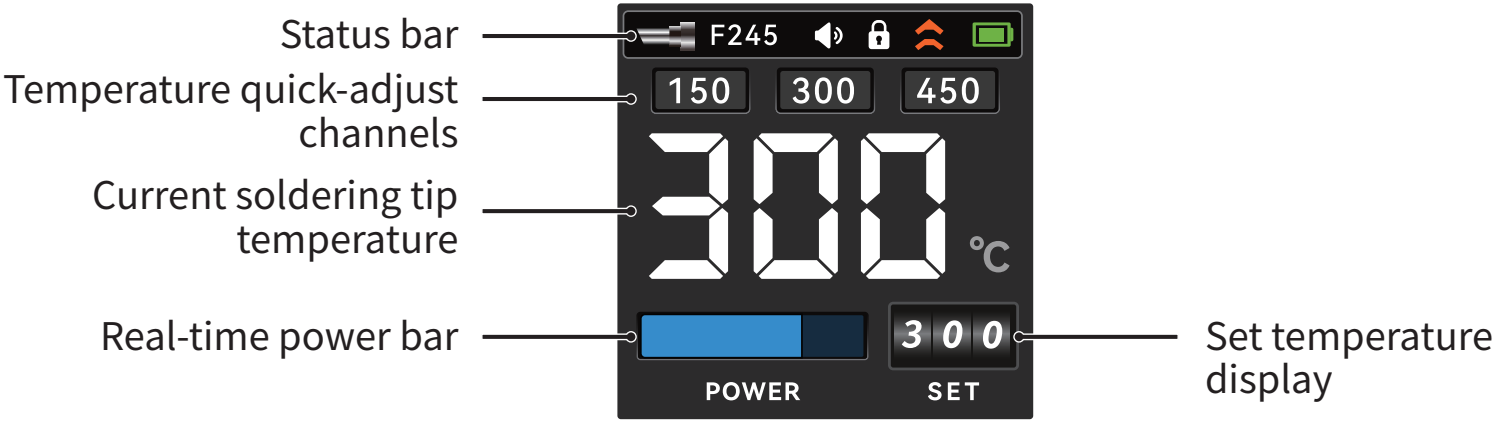
⑤ **Low Voltage Warning:** If the input voltage is too low, a popup message will display "Low input voltage. Please use a PD charger." This indicates that the current input is insufficient and recommends using a PD-compliant charger.



⑥ **Trigger Voltage:** If the charger cannot trigger a 20V output, the device may not be able to operate functions requiring that voltage. Please use a charger capable of triggering a 20V output.

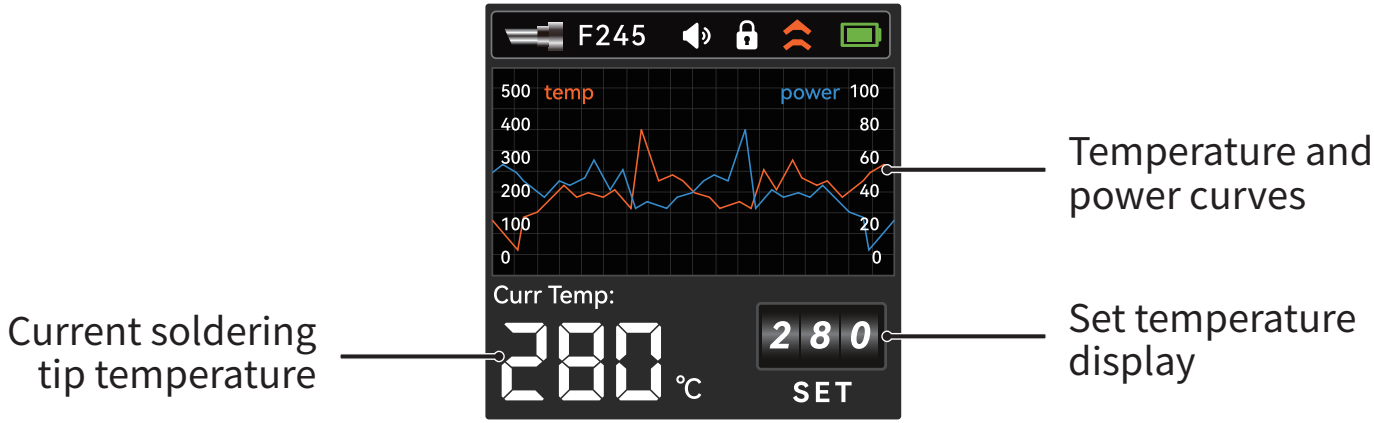
3.2 Screen Display

▶3.2.1 Main Interface



▶3.2.2 Display Pages

On the home screen, short press the【MODE】button to switch between the following pages:



▶3.2.3 Sleep Interface

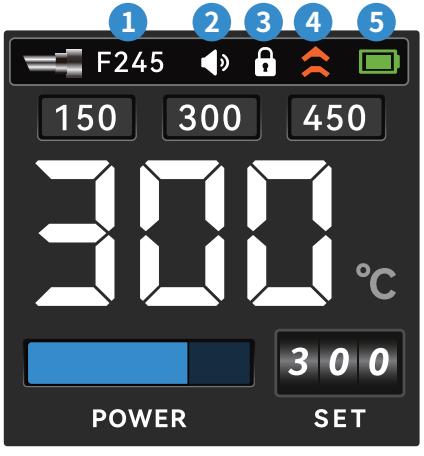


When the device enters the sleep interface, a countdown begins. The pointer rotates counter-clockwise, and the progress bar gradually disappears, leaving only the scale marks.



When the countdown enters the final minute, the interface switches to a final countdown mode to remind the user that the sleep period is about to end and the device status will soon change, allowing the user to prepare in advance.

▶3.2.4 Status Bar



When the DWS-P2 soldering handle is lifted, the status bar on the control base’ s main interface will display icons corresponding to its current state.

Section	Icon	Name	Description
①	F245	Soldering tip model	Displays the model of the soldering tip
②		Sound status	Indicates whether sound is turned on or off
③		Temperature Lock Status	If the icon is lit, the soldering tip temperature is locked at the set value. Any attempt to change the temperature will trigger a pop-up message: "Please unlock in settings",preventing accidental adjustments. If the icon not lit, the temperature can be adjusted freely.
④		Soldering status	Shows the current status of the soldering tip: heating, cooling, or holding temperature
⑤		Battery level	Displays current battery status: full / low power

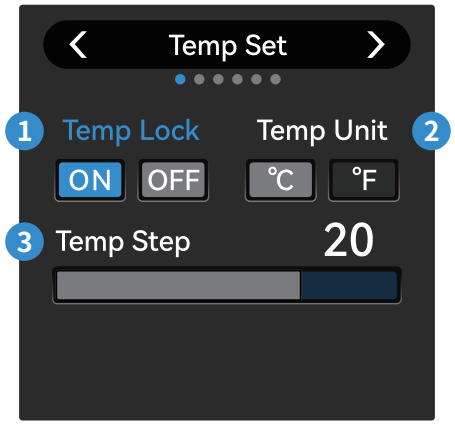
When the device enters sleep mode, the soldering tip automatically drops to the preset sleep temperature and maintains it. Lifting the soldering tip will wake the device from sleep.



3.3 Menu Settings

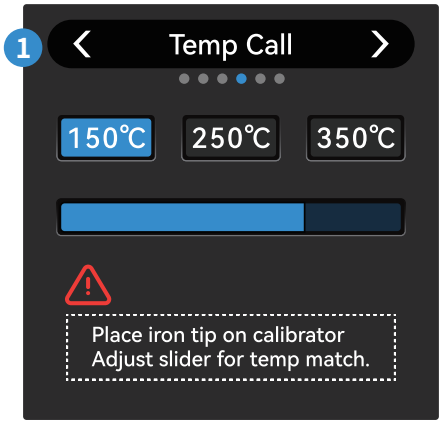
Press the【SET】button to enter the menu settings. Use the【rotary encoder】to scroll through the menu options. Press the【OK】button to enter a submenu, press【CH】again to cycle through options within the submenu, and use the [rotary encoder] to adjust parameters. After the settings are complete, press【SET】to return to the main menu. Press【SET】again to return to the home interface.

▶ 3.3.1 Temperature Settings



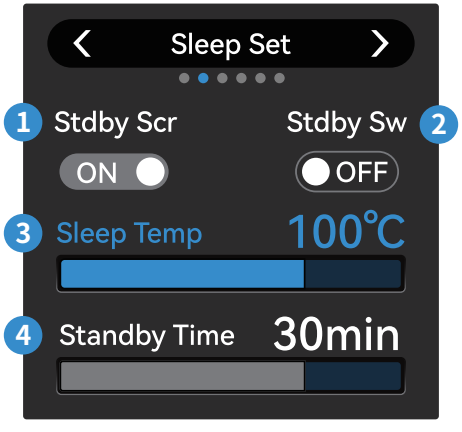
No.	Menu Name	Description	Setting Range	Default
①	Temperature lock	When enabled, locks the soldering temperature to the set value to prevent accidental changes. When disabled, temperature can be adjusted freely.	On / Off	Off
②	Temperature unit	Display unit for temperature.	℃/℉	℃
③	Temperature step	Step interval when adjusting temperature using the control base.	1~50	5

▶3.3.2 Temperature Calibration



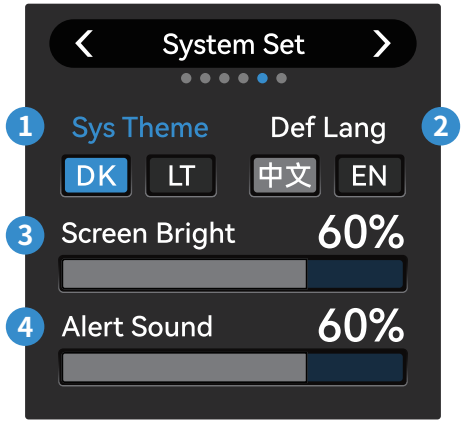
No.	Menu Name	Description	Setting Range	Default
①	Temperature calibration	Perform temperature calibration at 150°C / 250°C / 350°C	/	/

▶3.3.3 Sleep Settings



No.	Menu Name	Description	Setting Range	Default
①	Display off in standby	Turns off the screen when entering standby mode	ON/OFF	OFF
②	Standby mode	Whether to enter standby mode after sleep duration ends	ON/OFF	OFF
③	Sleep temperature	Soldering tip temperature maintained during sleep mode	100°C~200°C	100°C
④	Sleep duration	Duration before entering standby after sleep	1min~60min	5min

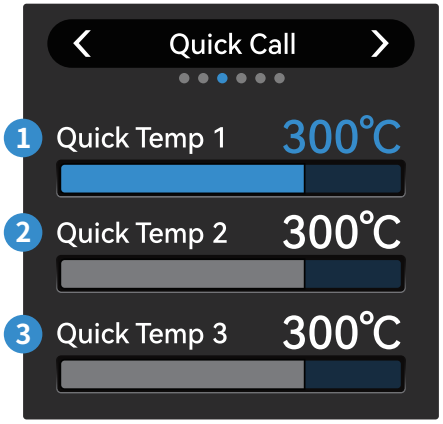
▶3.3.4 Status Bar



No.	Menu Name	Description	Setting Range	Default
①	System theme	Switches the theme style of the device interface	Dark/Light	Dark
②	Default language	Language displayed on the soldering station	Chinese/English	Chinese

③	Screen brightness	Adjusts the screen brightness of the soldering station	10%-100%	100%
④	Beep volume	Adjusts the beep volume of the soldering station	0%-100%	50%

▶ 3.3.5 Quick Access



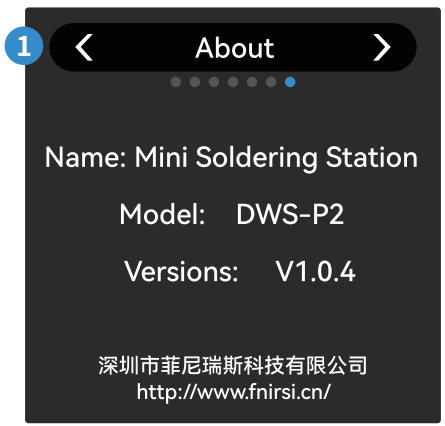
No.	Menu Name	Description	Setting Range	Default
①	Quick Temperature 1	Allows quick adjustment of the soldering tip temperature to preset values for easy access during specific soldering tasks.	100°C~450°C	300°C
②	Quick Temperature 2			
③	Quick Temperature 3			

▶3.3.6 Restore Factory Settings



No.	Menu Name	Description	Setting Range	Default
①	Restore factory settings	Resets device information and parameters to factory defaults	Confirm / Cancel	/

▶3.3.7 About



No.	Menu Name	Description	Setting Range	Default
①	About	Displays basic device information and manufacturer	/	/

3.4 Menu Settings

▶ 3.4.1 Normal Heating and Temperature Adjustment Operation

- In working mode, rotate the【rotary encoder】on the main interface to adjust the operating temperature.
- When ready to solder, simply lift the soldering tip handle from the soldering station; the handle will automatically heat up to the preset working temperature.

※**Note:** When the soldering tip handle is placed back into the soldering station, it will enter sleep mode. The temperature will drop to the sleep temperature and be maintained there. After the sleep duration ends, the device will enter standby mode, and the handle will stop heating.

3.5 Firmware Upgrade

①While powered off, press and hold the【SET】button, then connect the power to enter the firmware upgrade page.

②Use a USB Type-C cable to connect the device to a computer.

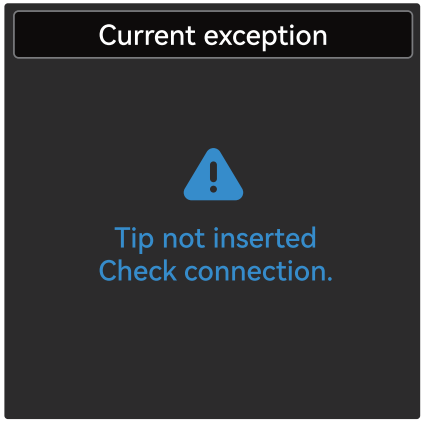
③The computer will automatically recognize a drive named “DWS-P2.” Drag the firmware file into the USB drive.

④The device will automatically restart upon completion of the firmware upgrade.

4. Soldering Tips

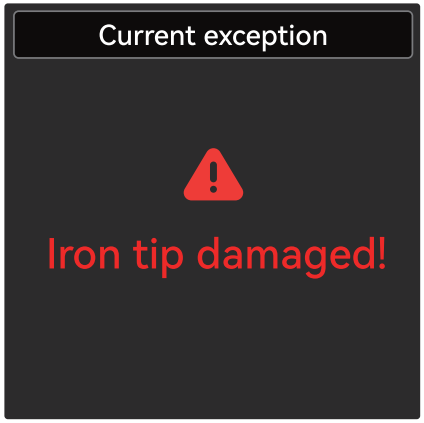
4.1 Errors

▶ 4.1.1 Soldering Iron Not Recognized



If the soldering iron is not recognized, a blue warning triangle will appear on the screen along with the message: “Unrecognized soldering tip. Please check if it is properly connected.” This may be caused by a loose connection between the soldering tip and the station, poor contact, or dirt or foreign objects at the connection point. Please power off the device, carefully unplug and reinsert the soldering tip to ensure a firm connection, and clean the contact area thoroughly. Then restart the device to check again.

▶ 4.1.2 Soldering Tip Damaged



If a red warning triangle appears on the screen with the message: “Soldering tip damaged!”, it indicates the soldering tip may have been damaged due to prolonged high-temperature use, improper handling (e.g., excessive force or impact), or natural wear from reaching the end of its service life. In this case, please replace the tip with a compatible new one in time.

4.2 Replacing the Soldering Tip

- Replace the soldering tip after powering off the device.
- Pull out the existing tip directly and insert a new one.
- Confirm whether the tip is properly installed through the status bar and on-screen prompts. If the DWS-P2 screen shows: “Unrecognized soldering tip. Please check if it is properly connected.”, it means the tip is not securely seated — please remove and reinsert the tip.

4.3 Tip Compatibility

- The DWS-P2 mini soldering station is compatible with soldering tips of the same brand. Choosing the appropriate tip improves efficiency and soldering performance.

5.Maintenance

- When not in use for an extended period, it is recommended to apply a small amount of solder to the tip to prevent oxidation.
- Do not leave the soldering tip at high temperatures for long periods to avoid dry heating.
- Do not apply excessive pressure on the soldering tip during soldering to prevent damage.
- Never use abrasive materials or files to clean the soldering tip.

- If the soldering tip surface is oxidized and fails to tin properly, the user may carefully rub it with 600–800 grit emery cloth and clean it with isopropanol or an equivalent solvent. After heating the tip to 200°C, immediately tin it to prevent further oxidation.
- Avoid using fluxes that contain chlorine or are highly acidic. Only use synthetic or activated rosin flux.

6.Troubleshooting

Device unresponsive after connecting to power

①The power source does not support the PD (Power Delivery) protocol. Please replace it or use the original adapter provided.

②The USB cable does not support PD protocol. Please use the original cable or a certified PD-compatible one.

③Poor contact at the connector.

Soldering tip not tinning

①Whether the tip temperature exceeds 400°C.

②Whether the soldering tip has not been properly tinned.

③Whether there is insufficient flux, or low-purity / low-tin-content solder is being used.

④Whether the tip was wiped with a sulfur-rich or dry sponge.

⑤Whether the tip came into contact with organic substances such as plastic, silicone grease, or other chemicals.

7.Contact Us

Product Name: Mini Soldering Station

Model: DWS-P2

Manufacturer: Shenzhen FNIRSI Technology Co., Ltd.

Address：8th Floor, West Side, Building C, Weihua Da Industrial Park, Dalang Street, Longhua District, Shenzhen, Guangdong, China

Tel: 0755-28020752

Service Email: support@fnirsi.com

Business Email: business@fnirsi.com

Website: www.fnirsi.com

Standard Implemented: GB/T 7157-2019

http://www.fnirsi.com/

8. Warranty Information

※This page is the basic warranty card. Please keep it.

Thank you for choosing our company's products. The warranty period of this product starts from the date of sale. During the product warranty period, if the product is installed and used in accordance with the product manual and used in normal environment and conditions, and the fault is caused by defects in the original materials and processing, you can enjoy free repair services according to the content of this warranty clause. Please keep this warranty card properly as a warranty certificate. No reissue will be issued if it is lost.

The following situations will incur paid repair services:

- Failure to present a valid original warranty card;
- Damage caused by improper installation not complying with product requirements, standards, or related regulations;
- Damage caused by accessories in the installation environment that do not meet product requirements, standards, or related regulations;
- Damage caused by improper use, poor maintenance, unauthorized disassembly, or unauthorized repairs;
- Warranty period has expired.

Warranty Card

Product Model	DWS-P2	**Qty.**	
Distributor Name (where to buy)		**Contact**	
Address		**Invoice Number** (Order Number)	
Purchase Date (as per invoice)	**Year** **Month** **Day**		
User Name:		**Address:**	
Contact:		**Fault Description:**	



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