

# HAKKO Software FX-973 Operation manual

- See "1. Menu"
- See "2. Screen Description"
- See "3. Operation Buttons"
- Temperature Change
- Tip Temperature Correction (offset)
- Parameter Setting
- Automatic Calibration and Recorder

## 1. Menu

### File

- Port selection**  
Used to manually select Port Number.
- Exit**  
Used when exiting software.

### Setting

- Language:** Japanese/English/Chinese  
Select one of these languages.
- Display temperature unit:** °C/°F  
Select the unit for temperature.
- Select application**  
Select the unit.

### Help

- Connection unit version information**  
Shows the connection unit firmware version.
- Version information**

### Management

- File storage location:** Parameter setting file/ Automatic calibration result file/ Tip sensor temperature monitor file  
Select where files are saved.  
**NOTE** By default, files are saved in the same location as software folder
- Tip sensor temperature monitor auto save: ON/OFF**  
When set to [ON], the Tip sensor temperature will be recorded constantly and saved as CSV file.  
**NOTE** Default is OFF.
- Tip sensor temperature monitor file split interval (minutes): 1 to 120**  
Segments CSV files into multiple files based on minutes.  
**NOTE** Default is 5 min.
- Log file: ON/OFF**  
Operation logs can be recorded when operations or setting changes are performed on this app and unit.  
**NOTE** Default is ON.

## 2. Screen Description

**1 Connection unit name** is displayed.  
The connection unit can be named in the section [ID] of the Parameter Setting button.

**2 Channel number** is displayed.  
When you select the channel number band, you can change the color.

**3 The operating status of the connection unit** is displayed.

<b>RUNNING</b> Operating normally	<b>SENSOR ERROR</b> Tip heating element/sensor not detected	<b>GRIP ERROR</b> Inapplicable handpiece connected or the handpiece is disconnected
<b>SLEEP</b> Sleep state	<b>NO CONNECTION</b> Connection unit is turned OFF or the main unit is not connected to the PC	<b>HEATERSHORT ERROR</b> Inapplicable tip inserted
<b>SHUT OFF</b> Time specified in the ShutOff Menu has elapsed	<b>ZEROCROSS ERROR</b> Power supply abnormality or the main unit is damaged	<b>HEATER DRIVE ERROR</b> The main unit is damaged
<b>OFF</b> Power Off		

**4 The Setting Temp** status is displayed.

- Manual inputing temperature displays [SET TEMP]
- Preset temperature displays [PRESET] and the preset number.

This can be done through the Temperature Change button.

You can change the Setting Temp manually or by selecting one of the preset temperature buttons.

**5 The correction value (offset value)** is displayed.  
The offset can be changed using the Tip Temperature Correction button or the Automatic Calibration and Recorder button.

**6 The suction status** of the desoldering tool is displayed.  
 • Blue: Suction OK  
 • Red: Possible restriction. (See "7. Maintenance" in the Instruction Manual)  
**NOTE** Only displayed when a desoldering tool is connected.

**7 The type of handpiece** connected is displayed.  
 • FX-9701 Soldering iron  
 • FX-9703 Micro soldering iron  
 • FX-9705 Hot tweezers  
 • FX-9706 Micro hot tweezers  
 • FX-9707 Micro hot tweezers  
 • FR-4103 Gun-type desoldering tool  
 • FR-4104 Pencil-type desoldering tool

**8 The channel with the illuminated button** becomes the **priority channel**.  
Press ACTIVE to change the priority channel. (See "Setting the priority channel" in "4-3. operation" of the Instruction Manual)

**9 The temperature registered** for each preset number is displayed. The preset temperatures can be changed in the [Temp Set Menu] of the Parameter Setting button.

The preset temperature selection status is shown by the button color.

Why are some buttons unselectable?  
[Preset 5 ON/OFF] is set to [OFF] under the [Temp Set Menu] of the button.

**10 Channel power ON/OFF** can be switched.  
Displayed when the parameter setting change is locked.

**11 This can be locked/unlocked** in the [Lock Menu] of the Parameter Setting button.

**The tip sensor temperature** can be displayed on a graph.  
 • The graph data can be manually or automatically saved  
 Manually record: Pressing [Start record], pressing [Stop record] ends the recording  
 Recording with Auto save: Files will be saved depending on the value inputed in [Tip sensor temperature monitor file split interval (minutes)].  
 • Saved file name  
 During manual saving: FX-973TEMP\_M\_250101\_093358\_CH1.csv  
 During automatic saving: FX-973TEMP\_250101\_093358\_CH1.csv  
 Date stamp of recording: January 1, 2025, 9:33:58  
 See [Management] in "1. Menu" for the storage location and the auto save timing.

**12 The graph "Time axis" and "Temperature axis" settings** can be changed. Click button to display the Setting screen.

Time axis default		Temperature axis default	
Length of time displayed	30 seconds	Maximum Temperature Displayed	500°C/950°F
Time Scale Interval	5 seconds	Minimum Temperature Displayed	0°C/0°F
		Temperature Scale Interval	50°C/50°F

## 3. Operation Buttons

### Temperature Change

- Change the set temperature

#### Temperature range

- Heavy duty soldering iron .....50 to 500°C (120 to 940°F)
- Desoldering tool .....330 to 450°C(620 to 850°F)
- Other handpieces .....50 to 450°C (120 to 850°F)



**NOTE** If the temperature is changed here, the preset temperature selection is automatically canceled.

### Tip Temperature Correction (offset)

- The tip temperature can be corrected with the following two methods.

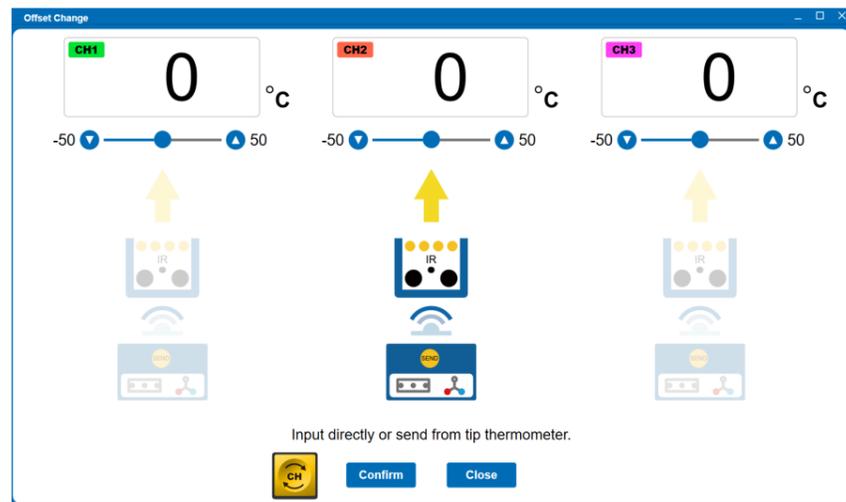
**NOTE** This will not function when the connection unit is in offset mode.

Manual input

- (1) Measure the tip temperature
- (2) Input the offset value
- (3) Click the **[Confirm]** button
- (4) Click the **[Close]** button

Using the HAKKO thermometer with the Temperature Sending Function

- (1) Select the channel for temperature correction (offset) using the **[CH]** button
- (2) Measure the tip temperature
- (3) Send the measured temperature
- (4) Click the **[Confirm]** button
- (5) Click the **[Close]** button



**NOTE** When sending the measured temperature using the HAKKO thermometer, only one channel can be corrected (offset) at one time.

### Parameter Setting

(See "8.Parameter settings" in the Instruction Manual)

The current settings are highlighted in blue **A** and can be changed in the column to the right **B**. By clicking the **[Confirm]** button the buzzer will sound, and **[Sys]** or **[Set]** will display on the connection unit to show the settings have been updated.

- The settings can be saved or loaded as CSV files. Click the **[Save]** button to store the settings from **B**.

Default file name:FX-973-Parameter.csv

Click the **[Load]** button and select CSV file to input the settings, and then click **[Confirm]** to apply the settings.

\* The file name is displayed in the upper left corner.

**Lightbulb icon:** If the selected file name has an " \* "...

When the **B** values are changed after loading, " \* " mark will be added at the end of the file name.  
Example:FX-973-Parameter.csv\*

If the ID of the connection unit is not registered, it will be displayed as below.



Confirm the changed values | Load File | Save File

## 3. Operation Buttons(cont'd)

### AUTO CAL Automatic Calibration and Recorder

**What is Automatic Calibration?**  
It is an operation to automate tip temperature management, and to save the proper calibration results.

- Automatically saves the calibration results when the calibration is completed
- Compiles one month of saved calibration results in one CSV file  
File name:FX-973CAL\_2025\_03.csv

Product Name    Calibration year and month

If a calibration was within the same month, it is sequentially saved to the same file.

**Calibration procedure**

Check this box if the tip was replaced. This will allow you to know when the tip was replaced when viewing the calibration result data or a graph.

- Select the channel for calibration using the button.
- Set the conditions during Automatic calibration with the button.

Temperature calibration range (plus) 1 °C ~ 25 °C  
Temperature calibration range (minus) -25 °C ~ -1 °C  
Number of retries: 3  
Tip to ground potential measurement setting: OFF  
Tip to ground resistance measurement setting: OFF  
Data Source: CX5041 / IR

- Click the button and follow message **C** to calibrate.  
Set the conditions during.

- Calibration results**  
You may select one of the following search conditions.
- ID Search ..... Search by specific ID
  - Date Search ..... Search by specific period by date
  - Channel Search ..... Search by specific Channel
  - Handpiece Search..... Search by specific Handpiece
  - Number of histories ..... Search number of recent histories

**Procedure to display the calibration results**

The following is an example for "Number of histories".

**NOTE** The calibration results can be displayed even if the connection unit is turned OFF.

- Click the **[Calibration results]** button to display the screen to input the search conditions.
- Input **[10]** in the **[Number of histories]** bar.

**Date search example**  
Click the check box and specify the date.  
You can also search across months as follows.

Date  2025/01/25 ~  2025/01/25  
Handpiece (All)    Number of histories: 10

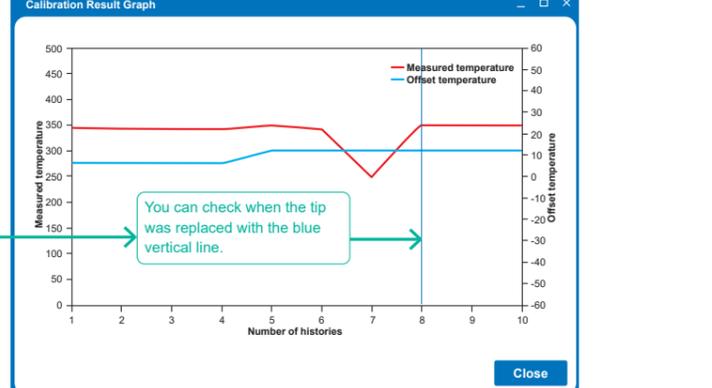
There is no need to erase the Number of histories.

- Click the **[Search]** button.
- The search results (latest 10 entries) are displayed.

Select one row to display all of the values as a list

ID	Channel	Handpiece	Calibration date	Calibration result	Setting Temp	Temperature calibration range	Calibration date	Calibration result	Setting Temp	Temperature calibration range	Calibration date	Calibration result	Setting Temp	Temperature calibration range
FX-973_001	CH2	FX-9701	2025/01/26 13:58	PASS	350 °C	+10~-10	2025/02/04 13:51	PASS	350 °C	+10~-10	2025/02/04 13:51	PASS	350 °C	+10~-10
FX-973_001	CH1	FX-9703	2025/01/27 13:41	PASS	350 °C	+10~-10	2025/02/07 13:52	PASS	350 °C	+10~-10	2025/02/07 13:52	PASS	350 °C	+10~-10
FX-973_001	CH1	FX-9705	2025/01/28 13:50	PASS	350 °C	+10~-10	2025/02/08 13:52	PASS	350 °C	+10~-10	2025/02/08 13:52	PASS	350 °C	+10~-10
FX-973_001	CH2	FX-9701	2025/01/31 13:52	PASS	350 °C	+10~-10								
FX-973_001	CH1	FX-9701	2025/02/01 13:50	PASS	350 °C	+10~-10								
FX-973_001	CH2	FX-9705	2025/02/02 13:51	PASS	350 °C	+10~-10								
FX-973_001	CH2	FX-9701	2025/02/03 13:51	FAIL	350 °C	+10~-10								
FX-973_001	CH1	FX-9705	2025/02/04 13:51	PASS	350 °C	+10~-10								
FX-973_001	CH1	FX-9703	2025/02/07 13:52	PASS	350 °C	+10~-10								
FX-973_001	CH2	FX-9705	2025/02/08 13:52	PASS	350 °C	+10~-10								

- Click **[Graph]** button.
- The 10 search results are graphed.



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