



# HAKKO THERMOMETER

## HA-KO FG-100

### 溫度計

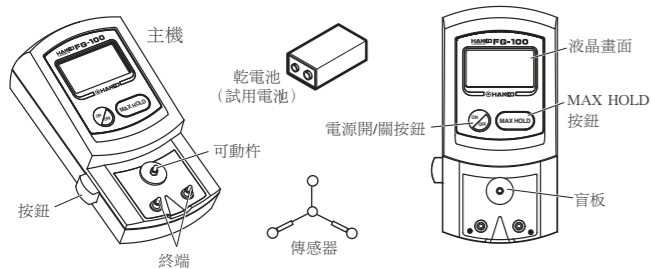
# 使用說明書

承蒙惠顧，謹致謝忱。  
使用HAKKO FG-100前，請詳閱本使用說明書，正確使用。  
閱後請妥為收存，以備日後查閱。

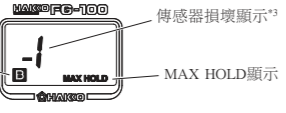
## 1. 包裝清單及各部名稱


首先請確認包裝內容。

主機..... 1 傳感器.....10個  
006P 9V乾電池（試用電池）.....1 使用說明書.....1



## 2. 規格

	攝氏型	華氏型
型號	HAKKO FG-100	
分解	1°C	1°F
量度範圍	0~700°C <sup>1</sup>	32~1300°F <sup>1</sup>
傳感器	K (CA) 熱電偶	
測定容許差	±3°C (範圍300~600°C) ±5°C (其他溫度範圍)	±6°F (範圍572~1112°F) ±10°F (其他溫度範圍)
顯示	一般顯示測溫部的溫度，下面列舉其它的顯示項目。 	
電源 (電池)	006P 9V 乾電池 (推薦：鹼性乾電池)	
外部尺寸	68 (W) × 140 (H) × 38 (D) mm (不包含突起部分)	
重量	115g (不包含電池)	
使用溫度範圍	0 - 40°C、max.80% RH (無凝結)	
環境條件	適用規格污染度2 (基于 IEC/UL 61010-1)	

<sup>1</sup> 溫度傳感器(191-212)是可以使用至500°C (932°F)。  
如果測定500°C (932°F)以上時，請使用溫度探針(請參照5. 更換部件 / 選購部品)。  
<sup>2</sup> 如果顯示  表示乾電池含量不夠，不能正確測量溫度。必須更換新的乾電池。  
<sup>3</sup> 傳感器斷裂時，會顯示傳感器損壞。請更換新的傳感器。

※規格及外觀有可能改良變更，恕不另行通知。

## 3. 安全及使用上的注意事項

●為安全起見，請嚴格遵守“注意事項”。

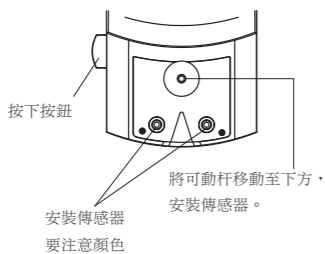
### ⚠ 注意

測量焊鐵的焊鐵頭和焊鐵除去器的吸嘴溫度時，焊鐵頭的溫度會高達200~450°C。測量其它高溫產品時，濫用可能導致灼傷或火患，請注意。

## 4. 使用方法

- 打開電池蓋，按正確的方向放入電池。
- 安裝附帶的傳感器。

- 按下按鈕，可動杆向終端方向移動。
- 在可動杆移動到終端方向的狀態下，將傳感器安裝到可動杆上。
- 將傳感器紅邊置入紅色終端，藍邊置入藍色終端。



### ⚠ 注意

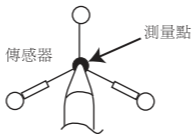
傳感器是用非常纖細（直徑 0.2）CA線制成，宜小心使用，切勿擠壓，否則會導致斷裂。

- 傳感器安裝完畢後打開電源開關。當顯示屏顯示室溫時，溫度計便可使用。

### 注記：

- 按電源開關的時間太短，可能無法打開。請長按電源開關。
- 電源打開後的液晶顯示全部點亮時，電源無法立即關閉。

- 請在焊鐵頭上放上新的焊錫，使用焊鐵頭觸及傳感器的測量點。



### ⚠ 注意

- 溫度計本身是用塑料制成，請注意不要用焊鐵頭觸及。另外請注意也不要讓焊鐵頭碰觸終端和可動杆。
- 傳感器的測溫部有進行特殊處理，但反復測量會導致傳感器老化。為了測量出正確的溫度，請更換測溫部已損耗的傳感器。另外，傳感器的更換標準大約為測量次數 50次。
- 終端上粘附了助焊劑時，請用酒精擦拭。（請不要用稀釋劑和汽油擦拭。）
- 請于溫度的顯示狀態安定後辨識。



### ●自動關閉功能

電源打開後，如果 3分鐘以內沒有測試 100°C以上的溫度的話，電源會自動關閉。3分鐘以內有測試 100°C以上的溫度的話，液晶顯示會延長 3分鐘。當經過 3分鐘後電源關閉時，請重新打開電源。


### ●MAX HOLD功能

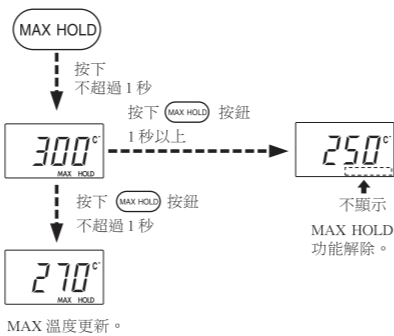
按下  按鈕，畫面右下方顯示 MAX HOLD。此狀態下顯示溫度最大值。另外， 按鈕還具備其它功能。操作方法如下所述。

### 操作方法

短時間按下  按鈕時，具有 MAX溫度更新功能，長時間按下  按鈕時具有解除功能。

#### ・短時間按下時（不超過1秒）

MAXHOLD 狀態下僅顯示MAX溫度，但短時間按下  按鈕時，MAX溫度會重新設置一次，顯示按下按鈕後的 MAX溫度。



#### ・長時間按下時（1秒以上）

MAX HOLD 功能解除，返回通常顯示

### 注記：

無論在何種狀態下關閉電源一次，下次投入電源時就會返回通常顯示。

## 5. 更換部件 / 選購部品

### ●更換部件

編號	部件名稱	
191-212	傳感器 (無鉛對應)	1 0 個

### ●選購部品

編號	部件名稱	
A1310 <sup>*4</sup>	適用於測量焊錫槽溫度探針	
C1541	溫度探測針 / 熱風用	附傳感器A / B
A1557	傳感器B	

<sup>\*4</sup> 焊錫槽專用探針。將傳感器拆下，再把探針連接部的紅色對紅色終端，藍色對藍色終端連接到FG-100機身，然後用探針前端插入錫爐即可測量溫度。

# HAKKO THERMOMETER

## HA-KO FG-100

### Thermometer

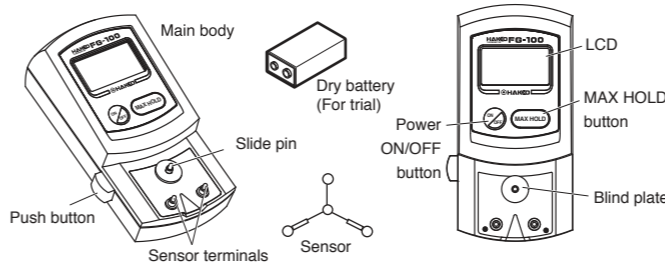
# Instruction Manual

Thank you for purchasing the HAKKO FG-100 thermometer.  
Please read this manual before operating the HAKKO FG-100.  
Keep this manual readily accessible for reference.

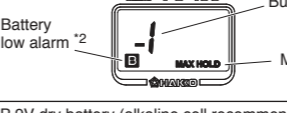
## 1. PACKING LIST AND PART NAMES


Please check to make sure that all items listed below are included in the package.

Main body .....1 Sensors (10 pcs/set) ..... 1  
006P 9V Dry battery (For trial) .....1 Instruction manual ..... 1



## 2. SPECIFICATIONS

	Celsius type	Fahrenheit type
Model name	HAKKO FG-100	
Resolution	1°C	1°F
Temperature measurement range	0 - 700°C <sup>1</sup>	32 - 1300°F <sup>1</sup>
Applicable sensor	K (CA) type thermocouple	
Measurement tolerance	±3°C (between 300 and 600°C) ±5°C (Other than above)	±6°F (between 572 and 1112°F) ±10°F (Other than above)
Display	Besides measured temperatures, display indications include the following: 	
Power supply	006P 9V dry battery (alkaline cell recommended)	
Outline dimensions	68 (W) x 140 (H) x 38 (D) mm (excluding protrusions)	
Weight	115 g (excluding battery)	
Ambient temperature/humidity range	0 to 40°C, max.80% RH, without condensation	
Environmental condition	Applicable rated pollution degree 2 (According to IEC/UL61010-1)	

<sup>1</sup> Temperature sensor (191-212) can only be used to measure temperatures below 500°C (932°F). To measure higher temperatures, use an applicable temperature probe (see "5. REPLACEMENT PARTS AND OPTIONS").  
<sup>2</sup> When  appears, be sure to replace the battery. Failure to do so will result in incorrect temperature measurements.  
<sup>3</sup> This alarm indicates a sensor burnout. If this alarm occurs, replace the sensor.  
\* The specifications may be subject to change without notice.

## 3. SAFETY NOTICE

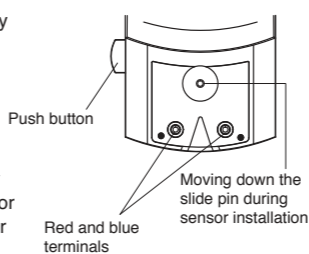
### ⚠ CAUTION

When using the thermometer to measure the temperature of the soldering iron tip or de-soldering nozzle, pay great attention to the temperature of the tip or nozzle that will be as high as 200 to 450°C (392 to 842°F). Careless handling of such a hot object may result in a burn or fire.

## 4. OPERATION

- Open the battery cover and insert the battery in the correct direction.
- Attach the sensor:

- Press the push button to move the slide pin down to the terminal side.
- While moving down the slide pin, attach a sensor to the slide pin and terminals by connecting the red connector of the sensor to the red terminal and the blue connector to the blue terminal.



### ⚠ CAUTION

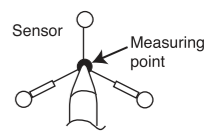
Handle the sensor with care. Inadvertent handling may break the CA sensor wire as it is as thin as 0.2 mm in diameter.

- Turn on the power. When the room temperature appears on the LCD, the thermometer is ready for measurement.

### NOTES :

- Pressing the power button for a short duration may result in failure to turn on the power. In such a case, press the button again for a longer duration.
- The power cannot be turned off until all screen elements are displayed after the power is turned on.

- Wet the soldering iron tip with solder and put the tip to the measuring point.





### ⚠ CAUTIONS

- Do not bring the hot iron tip into contact with the plastic body, slide pin and terminals of the thermometer. Doing so will damage them.
- The measuring point of the sensor generally undergoes degradation as a result of repeated measurement activities. It is recommend that the sensor be replaced every 50 measurements as a guideline to ensure measurement accuracy.
- If the terminals are contaminated with the soldering flux, wipe them clean with alcohol. Do not use thinner or benzin for cleaning.
- Please read when the temperature stabilizes.


### ● Auto shutoff function


If no measurement is taken within three minutes after power on, the power will be turned off automatically. Measurement of a temperature higher than 100°C (212°F) within three minutes will reset the auto shutoff. To turn on the power, press the power button again.

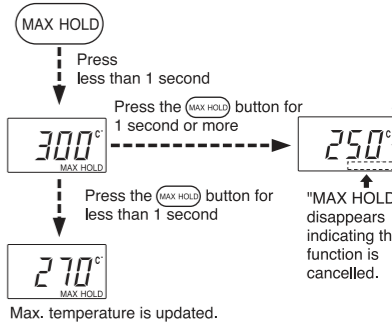
### ● MAX HOLD function


When pressing the  button, "MAX HOLD" is displayed at the lower right of the LCD. As long as  appears, the maximum temperature will stay displayed.

### OPERATION

The  button provides two additional functions: The max. temperature update function when quickly pressing the button and the MAX HOLD cancellation function when pressing the button longer.

- Quickly pressing the  button for less than one second, with "MAX HOLD" displayed, updates the maximum temperature. See the figure to the right.



- With "MAX HOLD" displayed, pressing the  button for longer than one second cancels the MAX HOLD function. See the figure to the right.

### NOTE:

Turning off the power always cancels the MAX HOLD function.

## 5. REPLACEMENT PARTS AND OPTIONS

### ● Replacement Parts

Item No.	Part Name	
191-212	Sensor / Lead-free	10 pcs.

### ● Options

Item No.	Part Name	
A1310 <sup>*4</sup>	Temperature probe for soldering pot	
C1541	Temperature probe for hot air	With sensor A / B
A1557	Sensor B	

<sup>\*4</sup> Remove the standard sensor, and connect the red connector of this option to the red terminal of the thermometer and the blue connector to the blue terminal. Insert the top of the probe into solder to measure the temperature.