HOZAN

H-769

SOLDERING IRON THERMOMETER

Thank you for purchasing the HOZAN H-769 SOLDERING IRON THERMOMETER. With proper care and handling, this fine instrument will provide years of trouble-free operation. Please read this entire instruction manual carefully before attempting to place this instrument in service. Please keep this instruction manual available for reference.

Identification of parts and contents

LCD

Power switch

Operation buttons
(refer to page 2)

Socket for
mini USB cable

Antenna

Slot for SD card

Sensor

Accessories

Sensor (H-768)	IC tags 5pcs	SD card driver and software recorded
R6 batteries 4pcs	Stickers for IC tag 5pcs	USB-mini USB (B plug) cable

Specifications

Measurement range	0 to 500℃	Sampling rate	1.25 times / sec.
Sensor	H-768	Power supply	R6 battery x 4 (accompanied)
Resolution	1℃	Battery life	Approx. 75 hours The attached batteries are not warranted in its life since just testing batteries.
Accuracy	0 to 100℃ ±(0.1%rdg+2dgt) 101 to 500℃ ±(1.0%rdg+1dgt)		
		Dimensions	110(W)x66(H)x155(D)mm
Max. reading	999 count	Weight	430g

Warning and caution symbols

These symbols are used throughout the instruction manual to alert the user to potential safety hazards as follows :

⚠**Warning** ⋯ Notice when incorrect handling could cause the user's death or serious injury.

⚠**Caution** ⋯ Notice when incorrect handling could cause injury to the user or material damage.

Even if the instructions do not have ⚠**Caution** mark, there are some possibilities for a serious situation. Follow the instructions.

Precautions

The H-769 is a thermometer only for soldering irons. Do not use for any other purpose.

⚠**Warning**

Do not touch the sensor immediately after measuring. Otherwise, this could cause a burn.

⚠**Caution**

1. Do not press hardly the center of the sensor. The sensor will wear out in a short period.
2. The measuring range of this instrument is 0∼ 500℃. Do not use with soldering irons exceeding 500℃.
3. Place the instrument on a level and stable place.
4. The H-769 is a precision instrument. Do not drop or apply a strong impact. This could damage the H-769.

Explanation for LCD and operation panel

Identification of operation panel parts and functions are follows.

① ●REC   indicates when measurement - recording

② OK   Indicates when judged to be OK

③ NG   Indicates when judged to be NG

④ SD   Indicates when SD card is recognized

⑤ Error   Indicates when an error is occurred

⑥ Sub letters   First half of soldering iron number, Setting function

⑦ Main letters   Temperature, Second half of soldering iron number, Error number, Setting value
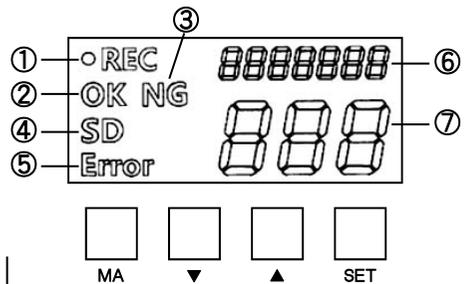
MAX Button   Indicates maximum temperature since power on.

▼ ▲ Button   Use for setting temperature and others.

SET Button   Use for setting temperature and others.

Sleep function

When H-769 is in sleep function, it does not measure temperature nor display all kinds of data.
Through three minutes without any action, the unit enters in sleep function buzzing "pee…" and stands by. Responding to the next action, it wakes up buzzing "pi, pi."

*If the unit is USB connected, it does not enter into sleep function since depending external power supply.

Battery exhaustion

When the voltage of the batteries become lower, "Lo" and the temperature are displayed alternately on the main letters. But no operations are restricted even in this state.
When batteries wear furthermore and enough voltage does not supplied, just "Lo" is displayed on the main letters. Replace the batteries since the unit does not work in this state.
Remove the lid of the battery compartment with a No. 1 Phillips screwdriver, and road four new R6 batteries according the direction.

Menu

・ Menu is displayed when SET button is depressed, in powered or stand by state.

・ Select the subject from blinking ones on the sub letters by ▼▲ buttons.
  And determine it by SET button.

・ Then, numbers on the main letters will blink.
  Change the numbers by ▼▲ button, and determine them by SET button.

・ Then, the subject on the sub letters will blink.
  Change the subject to "End" by ▼▲ button, and depress the SET button to finalize the menu.

All the subjects and those values to be set are follows.

Subject	Description	Setting value, else	Initial setting
SEt rEC (SET REC)	Recording function setting	ON/OFF	ON
SEt SEC (SET SEC)	Recording time setting	1 to 60	5
SEt bor (SET BOR)	Initial temp. to be recorded setting	50, 100, 150, 200, 250	200
SEt Jud (SET JUD)	Good/NG judgment setting	ON/OFF	ON
SEt Hi (SET HI)	Upper limit of Good setting	50 to 500	350
SEt Lo (SET LO)	Lower limit of Good setting	50 to 500	330
SEt Con (SET CON)	LCD brightness setting	1 to 3	2
SEt VoL (SET VOL)	Buzzer loudness setting	0 to 2	2
End (END)	Menu finalizing		

① **Using for measuring of temperature solely**

1   When use for the first time, remove the lid of the battery compartment with a No. 1 Phillips screwdriver, and road four new R6 batteries according the direction.

2   Settle the H-769 on a level and stable place.
Turn the power switch on. The unit rises buzzing "Pipi!" and begins to display the room temperature on the main letters.

3   Gently place the tip of energized soldering iron, the temperature of which must be stable, on the center of the sensor. Note the reading on the main letters. To improve heat transfer from the soldering iron tip to the sensor, apply a small amount of solder.
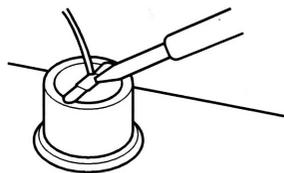
⚠**Caution**

Do not apply the iron tip onto the sensor wire excessively force. This could damage the sensor wire.
Weighed 50 to 100g is recommended.

4   Solder flux builds up on the sensor. Wipe off periodically with suitable cleaning liquid such as the HOZAN Z-293 FLUX REMOVER.
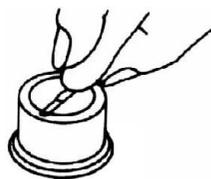
5   The sensor is a consumable item. "999" will displayed when worn out. Simply remove the sensor as illustrated, and replace it with a new sensor.
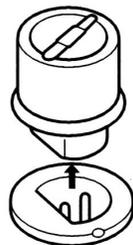
After having executed calibration or exchanging the sensor, the displayed temperature may change as before.

② Measuring temperature using record function
(No administration by IC tags)

The measured temperature data can be recorded in SD cards.
They are saved in CSV format recording that how many seconds pass beyond the set temperature.

[Setting example]
Recording function (SET REC) ON
Recording time (SET SEC) 5(sec.)
Initial temp. to be recorded (SET BOR) 200($°$C)
Good/NG judgment function (SET JUD) OFF

If data and time information is required with the measured data, please carry out clock setting. (Refer to P13 to 18.)

(Preparation)

Recording function setting — Set the recording function "ON"

Call the menu.
Select SEt rEC (SET REC) and set the setting subject "ON".

SEt rEC
SD on

Recording time setting — Set the recording time (sec.) per one measurement.

Call the menu.
Select SEt SEC (SET SEC) and set the setting time in a rage of 1 to 60 seconds.

SEt SEC
SD 5
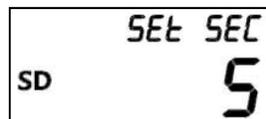
Incidentally, as the sampling rate is 1.25/sec. and omitting decimals, set to 1 becomes 1, set to 30 becomes 37 and set to 60 becomes 75.

Initial temperature to be recorded setting — Set the initial temperature to be recorded.
Recording starts when the temperature crosses this value.

If record the temperature continuously, next measurement can not be done until the displayed value falls than the set value.

Call the menu.
Select SEt bor (SET BOR) , and select among 50, 100, 150, 200 and 250.
Set.

SEt bor
SD 200

(Operation)

Inserting SD card   Temperature data are saved in a SD card.
When insert a SD card into the SD card slot, "SD" is displayed on the LCD buzzing "Pi!"

*The bar will spin at the upper right corner of the LCD during the SD card is accessing the CPU. Do not shut the power or remove the SD card till this dynamic image goes out. This could damage the data in the SD card.

*The recording function does not work without inserting SD cards.

Measuring →
Recording start   Perform measuring after the temperature of the soldering iron tip has been stable.
Apply the tip of the soldering iron onto the sensor. The LCD displays temperature, and ●REC when it exceeds 200℃. The remaining seconds are displayed on the sub letters, counting down, 4...3...

```
● REC              4
SD       344
```

Saving data   When recording is completed, ●REC sign goes out and the data are saved in the SD card.

Do not remove the SD card during the bar is spinning on the sub letters since it is under data saving. This could damage the data in the SD card.

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③ **Measuring temperature using good/NG judgment function and recording**

This is the function to confirm whether the temperature of the measured soldering iron is in the temperature range and time range set previously or not, and judge good/NG.
This functions under the state of recording function is ON and saves judgment data with temperature data in the SD card.

[Setting example]

Recording function	(SET REC)	ON
Good/NG judgment function	(SET JUD)	ON
Upper limit of good	(SET HI)	350(℃)
Lower limit of good	(SET LO)	350(℃)
Judging time	(SET SEC)	5sec.
Initial temp. to be recorded	(SET BOR)	200(℃)

If data and time information is required with the measured data, please carry out clock setting. (Refer to P13 to 18.)

(Preparation)

Recording function setting | Set the recording function as the explanation of page 5.

Good/NG judgment setting | Raise Good/NG judgment function.
Call the menu.
Select Set Jud (SET JUD).
Subject-ON.

```
              SEt Jud
SD
               on
```

Upper limit of Good setting | Set the upper limit of good.

Call the menu.
Select Upper Set Hi (SET HI).
Set in the range of 50 to 500.

```
              SEt Hi
SD
              350
```

Lower limit of Good setting | Set the lower limit of good.

Call the menu.
Select Set Lo (SET LO).
Set in the range of 50 to the value of upper limit.

```
              SEt Lo
SD
              330
```
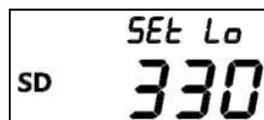
Sampling time setting | The recording time set on the recording function is the sampling time (sec.)
These can not be set separately.

```
              SEt SEC
SD
                5
```

7
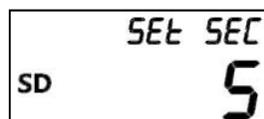
Operation

Initial temperature to be recorded setting

Set the initial temperature to be sampled.

If record/judge the temperature continuously, next measurement can not be done until the displayed value falls than the set value.

Call the menu.
Select SEt bor (SET BOR) ,
and select among 50, 100, 150, 200 and 250.
Set.

```
SEt bor
SD 200
```

(Operation)

Inserting SD card

Temperature data are saved in a SD card.
When insert a SD card into the SD card slot, "SD" is displayed on the LCD buzzing "Pi!"

*The bar will spin at the upper right corner of the LCD during the SD card is accessing the CPU. Do not shut the power or remove the SD card till this dynamic image goes out. This could damage the data in the SD card.

*The recording function does not work without inserting SD cards.

**Measuring →
Recording start**

Perform measuring after the temperature of the soldering iron tip has been stable.
Apply the tip of the soldering iron onto the sensor. The LCD displays temperature, and streaming □ on the sub letters when it exceeds 200℃. Wait until the temperature becomes stable.

```
○○○○
SD 306
```

Temperature recording and judgment start when the difference of the existing temperature and the former temperature becomes less than 10℃, judging it is stable.

Once recording and judgment start, they continue if there is temperature fluctuation over 10℃.

*The criterion, difference of the existing temperature and the former temperature, is changeable in the range of 0 to 20℃ (only by computer operation—refer to page 18).

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When recording and judgment start, the LCD displays ●REC. The remaining seconds are displayed on the sub letters, counting down, 4...3...

```
● REC          4
SD    344
```
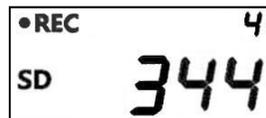
Judgment

"NG" is displayed if the temperature goes out of the set temperature and set time, and "OK" blinks when the set temperature is maintained.

```
● REC
OK
SD
```

Saving data

When recording is completed, ●REC sign goes out and the data are saved in the SD card.

Do not remove the SD card during the bar is spinning on the sub letters since it is under data saving. This could damage the data in the SD card.

Next measurement

The temperature of the sensor part must be higher if continuously measured temperature after that. Next measurement can not be done until the displayed value falls than the set value (in this case: 200℃).

Please configure good/NG judgment function

The displayed temperature on this soldering iron thermometer is influenced by seasons, locations, the manner of placing the soldering tip onto the sensor and any other factors. Please make up your good/NG criterion and use this function after recording and analyzing multiple samples under various circumstances.

If a soldering iron, which is working properly, is judged as "NG", there is a possibility that judgment and recording start at inappropriate timing. Check below.

・The heat of the soldering tip, whose temperature has been already stable, isn't
   efficiently conducted to the sensor.
      → Supply more solder onto the sensor and the soldering tip.
・Judgment and recording start before the temperature of the soldering tip becomes
   stable.
      → Narrow the criterion not to start measurement until the temperature of the
         soldering tip becomes more stable. (Refer to page 18.)

Soldering iron discrimination function

This is the function to distinguish plural soldering irons.
The ID number given to each soldering iron and measured data of which are saved in the SD card being combined.

(Preparation)

Inserting SD card

When insert a SD card into the SD card slot, "SD" is displayed on the LCD buzzing "Pi!"

*The bar will spin at the upper right corner of the LCD during the SD card is accessing the CPU. Do not shut the power or remove the SD card till this dynamic image goes out. This could damage the data in the SD card.

*The soldering iron discrimination function does not work without inserting SD cards.

Sticking an IC tag

Stick one of IC tags provided on the grip top and such of the soldering iron. Stick on a plastic surface and such since IC tags stuck on metallic surfaces may not function normally.

Adding ID number

A new IC tag has no ID number. When bring close the IC tag to the antenna part of H-769, the recorded contents are displayed buzzing "Pi!"

Be careful not to burn by the soldering iron.

2 1900 10 ← Serial number of this H-769 (seven-digit number)

SD 05 ← ID number of soldering iron (01 to 99)
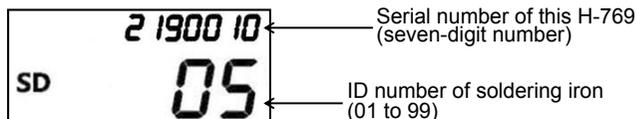
An H-769 can administer 99 soldering irons correspond to ID numbers 01 to 99.
On and after the 100th soldering irons can not recorded. Those are displayed by under bars.

*Always hold IC tags up over the antenna one by one. Holding plural IC tags up at a time could cause confusion and malfunction.

*5 IC tags are provided with H-769. purchase H-769-1 IC tag (5/ pack) depending on increase of soldering irons to be administered.

*See page 17 for procedures confirming recorded IDs of soldering irons or deleting them.

The soldering irons/IC tags recorded by other H-769 already can not be recorded. Those data are simply displayed.

Writing down ID number

Write down the found ID number to the sticker for IC tag and stick it onto the soldering iron or neighborhood to utilize identifying the ID numbers and the soldering irons.

Cover with the clear protector on the wrote sticker.

HOZAN
H-769 温度計 No.
2 1 9 0 0 1 0
コテ No. 0 5

(Operation)

Recognizing IC tag

When bring close the IC tag to the antenna part of H-769 under state of record function and Good/NG judgment function are effective and the SD card is recognized, recorded contents are displayed buzzing "Pi!"

2 1900 10
SD   05
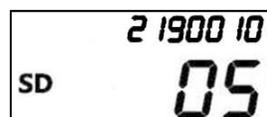
Immediately apply the soldering iron tip onto the sensor to measure the temperature.
Treat in the same way as each operation of recording function and Good/NG judgment function.
At last, measured results are recorded in the SD card adding the ID number of the soldering iron automatically.

* If there is no operation (if the temperature does not cross the initial temperature to be recorded/judged) for 10 seconds being displayed the ID number, ID number writing function will be canceled buzzing "Pipipi"

* If depress the SET button being displayed the ID number, ID number writing function will be canceled buzzing "Pipipi"

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Retrieving data

Retrieve the data saved by record function and Good/NG judge function in the SD card. They are saved in the identical file at random order of measured date or ID numbers. "Error 003" will be displayed when the temperature data becomes over 65000. Delete the existing CSV file after backing up it in the computer if necessary.

● Retrieving through card reader

Remove the SD card from H-769. Retrieve the data through your SD card reader.
HOZAN > H-769 > 20120701.csv (files are named based on saved date)
Open the CSV file using a spreadsheet software or others and read the data.

This is an example recorded under the prerequisite as follows.

Record function	ON
Good/NG judgment function	ON
Upper limit of Good	350(℃)
Lower limit of Good	330(℃)
Sampling time	5(sec)
Initial temp. to be recorded	200(℃)

[Retrieved example using a spreadsheet software]
The title of each column A to G means as follows.

date	:date measured
time	:time measured
number	:datum number on each measurement
serial	:serial number of H-769
tag	:ID of soldering iron
temp	:temp. measured
judge	:result judged

	A	B	C	D	E	F	G
1	H-769						
2	date	time	number	serial	tag	temp	judge
3	2012/7/2	9:05:23	1	2190001	2190001-2	335	--
4	2012/7/2	9:05:24	2	2190001	2190001-2	337	--
5	2012/7/2	9:05:25	3	2190001	2190001-2	342	--
6	2012/7/2	9:05:26	4	2190001	2190001-2	338	--
7	2012/7/2	9:05:27	5	2190001	2190001-2	342	--
8	2012/7/2	9:05:27	6	2190001	2190001-2	346	ok
9	2012/7/2	9:06:15	1	2190001	xxxxxx-xx	346	--
10	2012/7/2	9:06:16	2	2190001	xxxxxx-xx	347	--
11	2012/7/2	9:06:17	3	2190001	xxxxxx-xx	344	--
12	2012/7/2	9:06:18	4	2190001	xxxxxx-xx	340	--
13	2012/7/2	9:06:19	5	2190001	xxxxxx-xx	342	--
14	2012/7/2	9:06:19	6	2190001	xxxxxx-xx	331	ok
15	2012/7/2	9:07:05	1	2190001	3150085-5	226	--
16	2012/7/2	9:07:06	2	2190001	3150085-5	233	--
17	2012/7/2	9:07:07	3	2190001	3150085-5	240	--
18	2012/7/2	9:07:08	4	2190001	3150085-5	247	--
19	2012/7/2	9:07:09	5	2190001	3150085-5	253	--
20	2012/7/2	9:07:09	6	2190001	3150085-5	257	ng
21	2012/7/2	9:14:41	1	2190001	2190001-3	341	--
22	2012/7/2	9:14:42	2	2190001	2190001-3	338	--
23	2012/7/2	9:14:43	3	2190001	2190001-3	336	--
24	2012/7/2	9:14:44	4	2190001	2190001-3	341	--
25	2012/7/2	9:14:45	5	2190001	2190001-3	344	--
26	2012/7/2	9:14:45	6	2190001	2190001-3	346	ok
27	2012/7/2	9:15:59	1	2190001	2190001-9	337	--
28	2012/7/2	9:16:00	2	2190001	2190001-9	342	--
29	2012/7/2	9:16:01	3	2190001	2190001-9	345	--
30	2012/7/2	9:16:02	4	2190001	2190001-9	342	--
31	2012/7/2	9:16:03	5	2190001	2190001-9	339	--
32	2012/7/2	9:16:03	6	2190001	2190001-9	337	ok
33							

Soldering irons which have no IC tag

Soldering irons which are registered at the other H-769

1.25 times/sec. x 5sec. = 6.25 times, omitting decimals, 6 times measurements

● Retrieving through USB cable
See the next clause "Connecting to computer".

Connecting to computer

A computer connected to H-769 with USB cable
provided controls as follows.
①administering/deleting IC tags(ICタグ)
②forwarding data in SD cards(SDカード)
③setting clock(時計設定)
④setting criterion of temperature fluctuation being
judged that it is stable(安定判断)
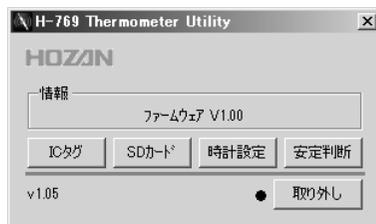
(Preparation)

Prepare a personal computer which is in environment as follows.
The driver and software are recorded on the SD card.

Workings

[Suitable OS]   Windows 10 Japanese edition(32 or 64bit)
Windows 8 Japanese edition(32 or 64bit)
Windows 7 Japanese edition(32 or 64bit)
Windows Vista Japanese edition+SP1(32bit)

[Required PC performance]   OSs listed above can work without any trouble.

[Screen resolution]   800x600 or more

Installing driver and setting

The driver must be installed and set since H-769 has a built-in RS232C-USB
converter tip.

Installing driver

Carry out the program of driver installation.

Carry out "CDM*****.exe"
***** is the version number.

CDM20600

⇩
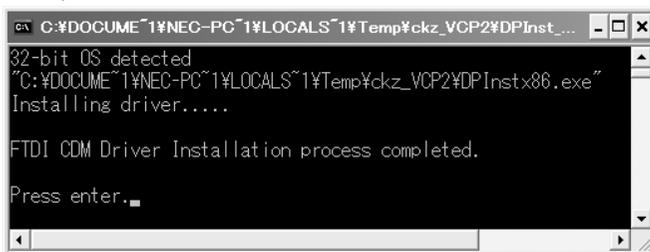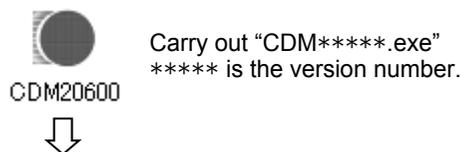
This window will be closed automatically. If not closed,
depress the enter key to close it.

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Setting driver

①Load VCP Setting

Connect H-769 to the computer using the USB cable accompanied.
デバイスマネージャー → ＵＳＢコントローラ →
USB Serial Converter's property → Tab Advance, then check off on "Load VCP"

property

check off

⇩
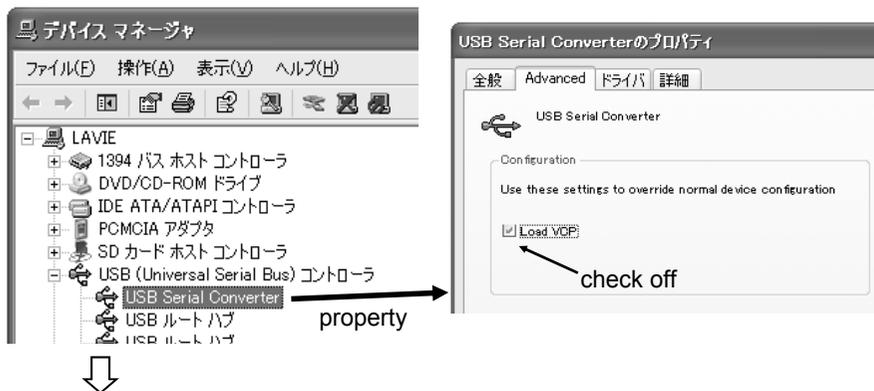
②Removing H-769

Remove H-769 from the computer

⇩

②Connecting H-769

Connect H-769 to the computer again.
Open デバイスマネージャー → ポート（ＣＯＭとＬＰＴ）.
Be sure that there is "USB Serial Port (COMxx) .

Be sure
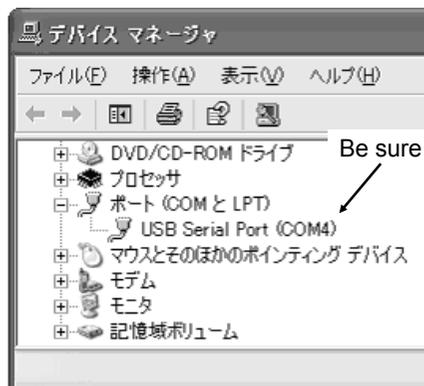
Procedure to display
"デバイスマネージャー" is follows.

For windows XP:
Start button → Control panel →
System → Hardware → デバイスマネージャー

For windows Vista/Windows 7:
Start button → Control panel →
Hardware and sound → デバイスマネージャー

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Installing application software

📁 HOZAN H-769 Thermometer Utility <u>v1.05</u>

⇨ 📁 English
📁 Japanese

Version

Select among "Japanese" and "English" corresponding to language of OS.

Carrying out "setup. exe" program

名前 ▲	サイズ	種類	更新日時
📁dotnetfx		ファイル フォルダ	2012/03/13 17:16
📁ID TAG v1.01_1_0_1_1		ファイル フォルダ	2012/03/13 17:16
📁windowsinstaller3_1		ファイル フォルダ	2012/03/13 17:16
ID TAG v1.01.application	6 KB	Application Manifest	2012/03/13 16:20
ID TAG v1.01_1_0_1_1.application	6 KB	Application Manifest	2012/03/13 16:20
🔧setup.exe	428 KB	アプリケーション	2012/03/13 16:20

Carry out "setup. exe"

⇩
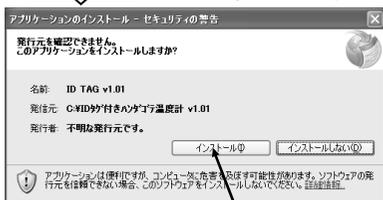
Select "インストール (install)"

If the former application software has been installed, carry out "setup.exe" after uninstall it.

Uninstalling application software

Uninstall the former application software at the control panel.

・ **Case of WindowsXP**

start → control panel → プログラムの追加と削除
→ HOZAN H-769 Thermometer Utility → 変更と削除
→ HOZAN H-769 Thermometer Utility の保守

・ **Case of WindowsVista/Windows7**

start → control panel → プログラムのアンインストール（またはプログラムと機能）
→ Select "HOZAN H-769 Thermometer Utility"
　一覧上部のアンインストールと変更
→ HOZAN H-769 Thermometer Utility の保守

*Sometimes procedures vary depending setting of the OS.

Select "このコンピュータからアプリケーションを削除します。
　(to delete application from this computer)"

Depress OK button

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Connecting to computer

(Operation)

How to start up application software

start → all programs → HOZAN
→ Carry out by HOZAN H-769 Thermometer Utility
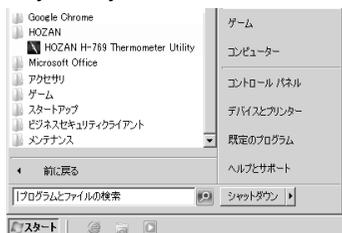
How to operate application software

The application software starts automatically when H-769 is connected to the USB port.

⚠**Caution**

· Do not connect plural soldering iron thermometers at a time to the computer.
· The switch and buttons of H-769 can not be able to operated during the application software is working.
· If communication does not start even USB connected, be sure that
· If Windows goes into power saving function (sleep/standby/pause) during the application software is working, it could not work normally even after return to work.

Control panel
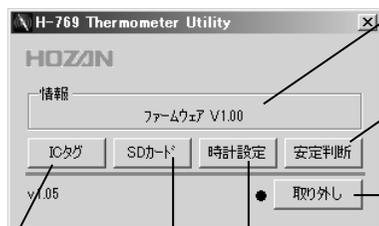
CPU version of H-769 is displayed.

安定判断 **("Stable" judgment) button**
Judging "stable" setting window appears for setting initial tem. to be recorded which is data to make a decision starting record or not.

取り外し **(Remove) button**
Depress to carry out removing procedure.
取り外し window appears.

ICタグ **(IC tag) button**
Depress to administer or delete ID tag data.
ICタグ window appears.

時計設定 **(Clock setting) button**
Depress to carry out clock setting.
時計設定 window appears.

SDカード **(SD card) button**
Depress to forward the CSV file in the SD card.
SDカード window appears.

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ICタグ **(IC tag) window**

The IC tags registered in the H-769 are listed.
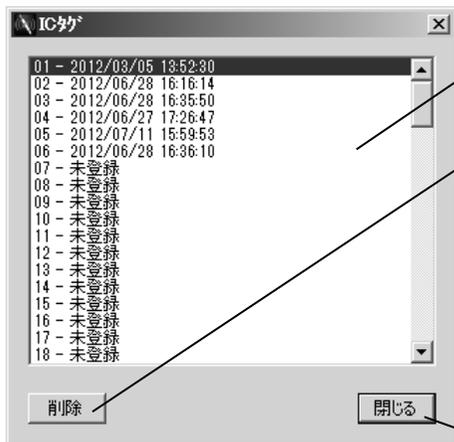
List of IC tags
ID numbers of IC tags, 01 to 99, are displayed. Registered numbers are accompanied by those dates.

削除 (Delete) button
To delete ID number selected from list.
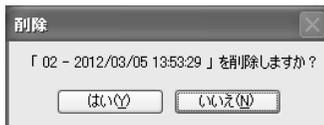
Depress はい(Y) button to delete registered date. This means the ID number concerned is unoccupied.

閉じる (Close) button
Depress to close the IC tag window.

SDカード **(SD card) window**

Forward the exclusive CSV file in the SD card to the computer.
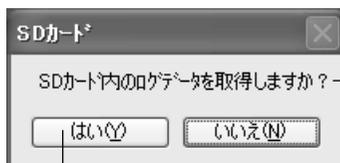
(Do you get the log data in the SD card ?.)

Execution button

The forwarded file does not remain in the SD card.

⚠**Caution**

Pay attention that data will be lost if close without saving them.
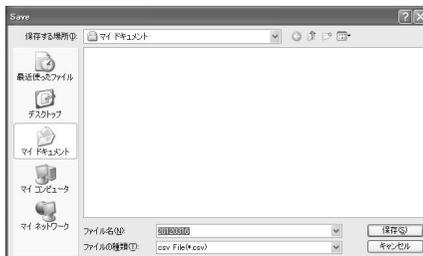
Attach a file name and save.

Retrieving through your media reader after removing H-769 from the computer is recommended since it could costs several quarters to treat the data if the file is huge (refer to P.12).

しばらくお待ちください
(Wait a moment.)

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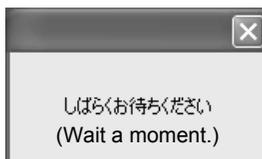
Operation

Clock setting window

Carry out clock setting for H-769.

時計設定

日時設定
☑ パソコンの時計に合わせる
2012年03月19日　09時　06分　34秒　　設定

閉じる

設定 (Setting) button
　To set the date and time
　displayed left.

閉じる (Close) button
　To close this clock setting window.

Date and time to be set
　Rewrite if set in manual operation.

Check off if set the date and time depending
upon the computer's clock.

"Stable" Judgment window

Judgment and recording start after recognizing the temperature is stable.
It is judged when difference of the existing temperature and the former temperature
becomes less than (A) ℃. This (A) value is changeable.
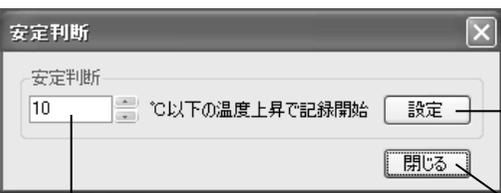
安定判断

安定判断
10　　℃以下の温度上昇で記録開始　　設定

閉じる

設定 (Setting) button
　To set into the vale displayed left.

閉じる (Close) button
　To close this "stable" judgment window.

Criterion
　Rewrite if change than 10, into 0 to 20.

Removing procedure window

Depress the OK button to remove the H-769 from the computer.

ⓘ　接続機を取り外すことが出来ます。

OK

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Operation

Error numbers' table

If "Error" and number on the main letters are displayed, find that details referring to the following table.

Error 005

Error No.	Description	Dealing
1	SD card is protected.	Release LOCK at the card side
2	Formatted by other than FAT16.	Format the card by FAT16.
3	Exclusive CSV file is filled with data.	Delete the existing CSV file after backing up it in the computer if necessary.
4	SD card was poorly accessed.	Format the SD card after backing up the CSV file in the computer if necessary.
5	Clock information has an error.	Set clock through the application soft. If errors occur frequently, the backup battery may be exhausted. Ask to repair.

While this is not an error No. (displayed no "Error").

999	The sensor worn out	Replace the sensor with new one.

Replacement parts

Sensor

・**H-768 (Standard accompanied)**
・**H-763**

H-763   **H-768**
1.6   1.3
3.5   3
Unit: mm

Soldering iron guideline	Sensor
30 W or more	H-763
11 W or more	H-768 (standard accessory item)
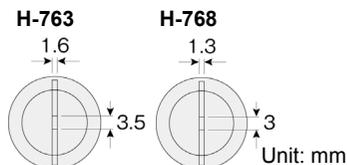
The 2 types are available.
Select among these serving your purpose.
*The induction solder on the sensor is lead-free solder.
■For digital type (thermocouple K-class 2)

IC tag (5/pack)

・**H-769-1**

Add when necessary than the accompanied IC tags.

Daily care

Solder flux builds up on the sensor. Wipe off periodically with suitable cleaning liquid such as the HOZAN Z-293 FLUX REMOVER.

As extended use, engagement of the sensor and the sensor base could become loose (tight). If so, adjust it as follows:

To be tight, widen the gap of the contact pins on the sensor base with a Phillips screwdriver and such.

To be loose, narrow the gap of the contact pins on the sensor base with pliers and such.

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