

DP-350

INSTRUCTION MANUAL

IM350DP01-E2

Thank you for purchasing our "DP-350".

This manual describes how to use "DP-350". Prior to using the thermometer, please carefully read this manual and fully understand the contents.

Keep this manual safely for future reference as required.

The contents of this manual may be subject to change without prior notice.

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"DP-350" and this manual are manufactured and prepared under strict quality control before delivery. However, if any problems arise, please contact us directly or your nearest our sales agent.

RKC assumes no responsibility for any of the following damages which the user or third party may suffer.

Damage incurred as a result of using this product.
Damage caused by product failure which cannot be predicted by RKC.
Other indirect damages.

MARKING CAUTIONS

For safe operation of "DP-350", the following "Signal Words and Symbol Marks" are used in this manual.

Signal Words

WARNING

Where there are possible dangers such as electric shock, fire (burns), etc. which could cause loss of life or injury, precautions to avoid such dangers are described.

CAUTION

These describe precautions to be taken if unit damage may result if operating procedures are not strictly followed.

NOTE

Extra notes or precautions are added to operating procedures and explanations.

Symbol Marks

⚠ : This mark is used when great care is needed especially for safety.

***** : This mark is used to add extra notes, precautions or supplementary explanations to table and figures.



WARNINGS

Never use this thermometer for medical equipment.

Never disassemble or modify this thermometer.

Electric shock, burning or injury may result.



CAUTIONS

Do not use this thermometer at a location where water may be splashed.

This thermometer is not waterproof construction.

Do not use this thermometer at a location where chemicals or solvent may be splashed.

The case may be deformed or damaged.

Do not use this thermometer in a high-temperature (more than 50) or low-temperature (less than 0) environment.

The thermometer may not normally function.

In addition, the case may be deformed or damaged.

Remove the batteries if this thermometer is not used for a long time.

Otherwise, the thermometer may be damaged due to battery-solution leakage.

Do not use any sensor or batteries other than those specified.

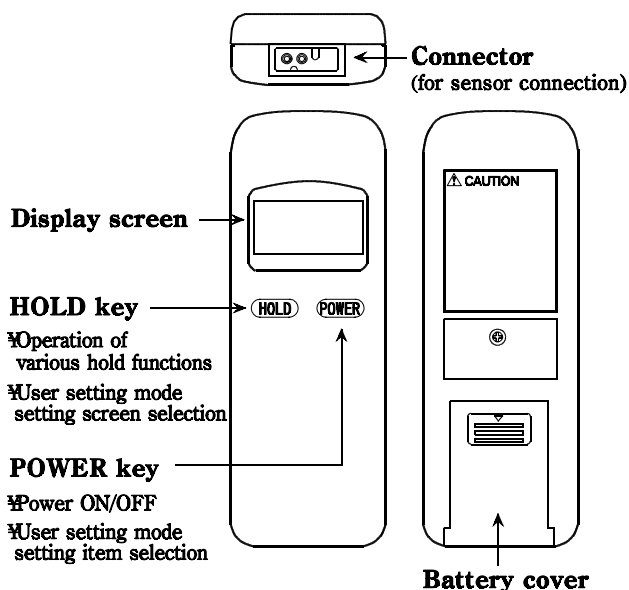
Otherwise, the thermometer may be damaged.

Do not drop this thermometer nor apply strong impact to the thermometer.

Otherwise, the thermometer may be damaged.

1. NAME OF PARTS

Mainframe

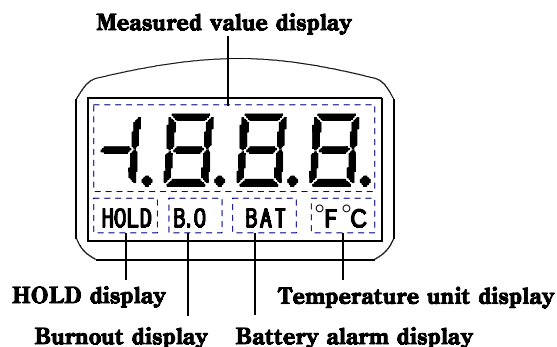


Accessories

Dry batteries 1.5 V [R6P type] (2 pcs.)

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Display Screen



*The above figure shows all of the characters, but may differ from the actual display.

2. BEFORE OPERATION

2.1 Preparation

Loading batteries

Remove the battery cover at the rear of the mainframe, then load dry batteries* (attached as accessory or equal) in the direction indicated by the mark in the box. Then, close the battery cover.

*No charging batteries can be used.

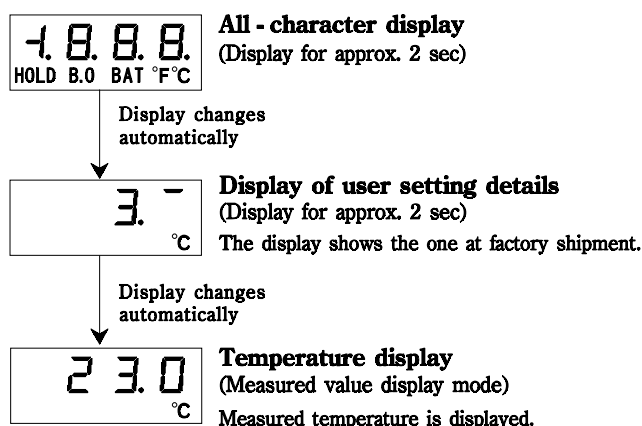
Connect the temperature sensor

Connect the temperature sensor to the connector at the top of the mainframe.

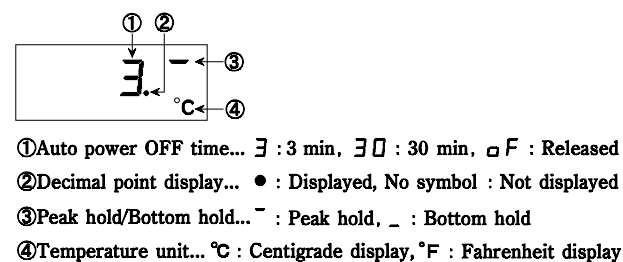
2.2 Power ON/OFF

Power ON

Press the POWER key. The following displays appear in order.



Display of user setting details



Power OFF

Pressing the POWER key again turns off the power.

NOTE

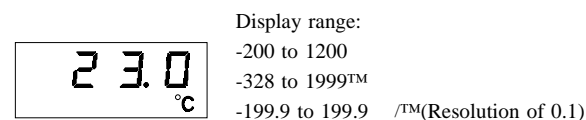
When the automatic power-OFF function is used, the power is automatically turned off if the preset time is over. (Value set prior to factory shipment: 3 min.)

3. OPERATION

This thermometer is provided with "Measured value display mode" in which measured temperature is displayed and "User setting mode" in which the setting relating to the function or action can be changed.

3.1 Measured Value Display Mode

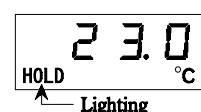
Temperature display screen (Normal display)



*The display resolution and unit can be changed in "User setting mode".

Measured Value Hold Function

This function is used to display measured value in succession by pressing the HOLD key during measurement.



Press the HOLD key. "HOLD" is displayed, and the measured value at this time is held.

*Pressing the HOLD key again can release the hold function.

NOTE

Even if the power is turned off in the HOLD state, the hold data (measured value) is held. If the power is turned on again, the thermometer starts from the HOLD state. However, if the batteries are replaced, the hold data and state are released.

Peak Hold & Bottom Hold Functions

This function is used to always store, then display the maximum or minimum measured value while following up measured value changes.



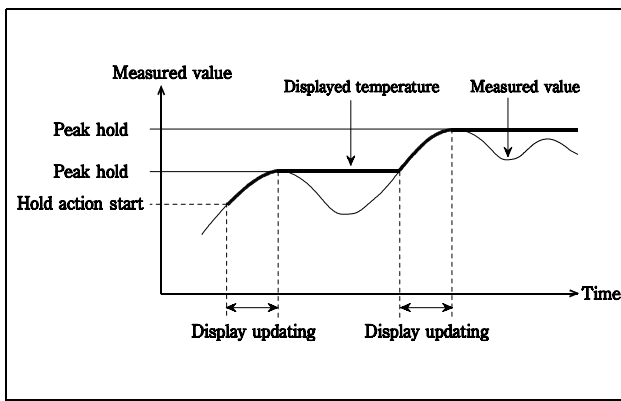
Continue to press the HOLD key for 5 sec. "HOLD" flashes start the hold action.

*Pressing the HOLD key again can release the hold function.

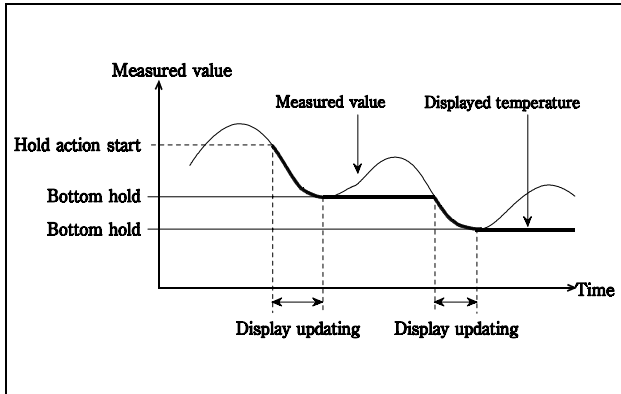
NOTES

The peak/bottom hold function can be selected in "User setting mode".
(Value set prior to factory shipment: Peak hold)

When the sensor is broken or removed during measurement, the peak hold (or bottom hold) function is released.



(Fig.) Peak hold action description



(Fig.) Bottom hold action description

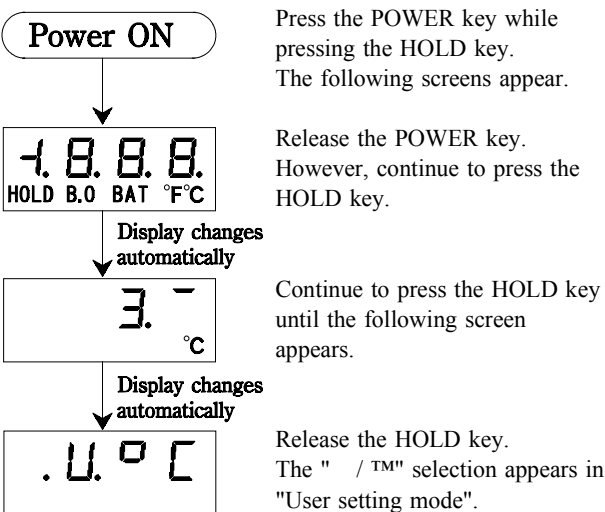
Automatic Power Off Function

This function is used to automatically turn off the power after a lapse of 3 min. or 30 min. following power ON. The automatic power-off function can be set in "User setting mode". (This function can also be released.)

3.2 User Setting Mode

Entry into/exit from "User setting mode"

Entry into "User setting mode"



NOTE

It is impossible to enter "User setting mode" from "Measured value display mode".

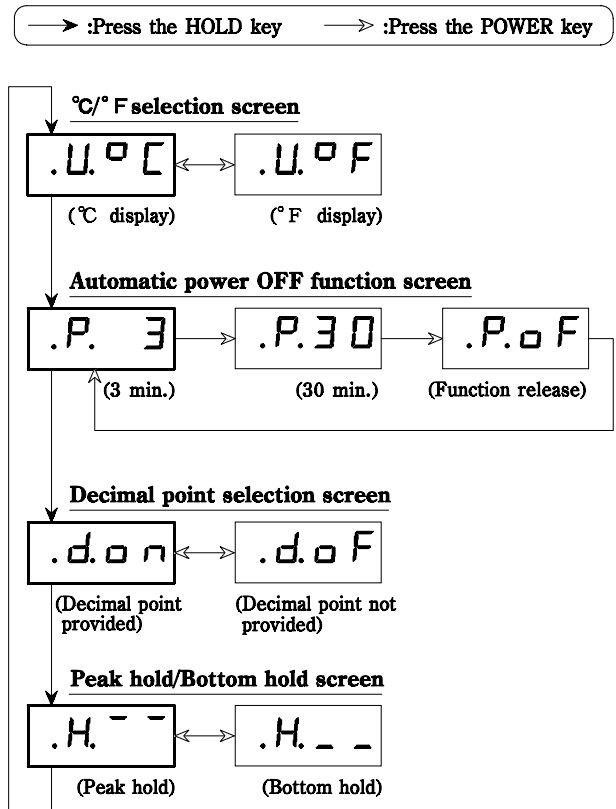
Exit from "User setting mode"

The power is automatically turned off after a lapse of approx. 3 min. following the thermometer set to "User setting mode" regardless of the automatic power-off function. (Finish the setting within 3 min.)

In addition, "User setting mode" can be terminated by changing the thermometer to "Measured value display mode". In this case, "User setting mode" can be changed to "Measured value display mode" from any screen by pressing the HOLD key for more than 5 sec.

Details of Screen in "User setting mode"

Select each screen by pressing the HOLD key, then select the setting details by pressing the POWER key. The details thus set are established just when the next setting screen is selected by the HOLD key.



*Each display enclosed with the thick rectangle () shows that set prior to factory shipment.

NOTE

As for the contents of the setting at "User setting mode", the setting data before the power-off and the setting data just before the switching to the "Measured value display mode" are held. These data items are stored in the nonvolatile RAM.


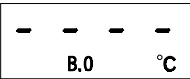

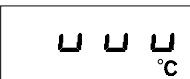
4. TROUBLESHOOTING

For inquiries, repairs or replacement resulting from cause other than those described below, please contact your nearest RKC sales office or sales agent where you bought the thermometer.

Not normally operated

Probable cause	Remedy
The sensor is disconnected.	The sensor must be repaired or replaced. Contact your nearest RKC sales office or sales agent.
The specified sensor is not used.	Uses the type K thermocouple sensor (manufactured by RKC).
The sensor is loosely connected.	Firmly insert the sensor in the specified location.
The low-voltage dry batteries are used.	Replace the two dry batteries (R6P type, 1.5V) with new ones. Turn off the power during dry battery replacement.
The thermometer is affected by strong electromagnetic noise. (CPU overrun) (No key operation is accepted.) (The display does not change.)	Keep the thermometer away from the noise generation source, then take the following measures. Remove the batteries. Load new batteries after a lapse of more than 10 sec. Press the POWER key to turn on the power. If the thermometer does not operate normally even after the above measures are taken, contact your nearest RKC sales office or sales agent.

Any of the following displays appears

Display	Remedy
Battery alarm 	Battery life expires. Replace the two dry batteries (R6P type, 1.5V) with new ones. Turn off the power during dry battery replacement.
Burnout 	This display flashes when the input is disconnected. Check whether the sensor is firmly connected or it does not fail.
Out-of input range  (High limit)	This display flashes when the input exceeds its input range. Check whether the sensor is firmly connected or it does not fail.
Out-of input range  (Low limit)	

5. SPECIFICATIONS

Model No.	DP-350C
Input type	Thermocouple type K (JIS/IEC)
Influence of external resistance	Approx. 0.1μV/Ω
Measuring range	-200 to 1200 -328 to 1999 ° F -199.9 to 199.9 ° F * *Measuring range with the resolution of 0.1 ° F . The resolution out of this range is 1 ° F .
Sampling cycle	Approx. 0.6 sec
Action of input break	Upscale (B.O display lights)
Display	LCD (TN type)
Display accuracy	±(0.2 % of indicated value+1 digit) or Within±2 (4 ° F) *Less than the value whichever is greater However, for less than -100 (-150 ° F): Within±4 (8 ° F)
Resolution	1 (° F) or 0.1 (° F)
Power supply	Dry batteries (1.5 V, Type R6P), 2 pcs.
Battery life	Approx. 400 hours (Total of operating hours)
Power consumption	5 mV (Mean value)
Allowable ambient temperature	Operating: 0 to 50 (32 to 122 ° F) *Display contrast warranty range: 5 to 40 (41 to 104 ° F) Storage: -20 to +50
Allowable ambient humidity	Operating: 45 to 85 % RH Storage: 95 % RH or less (MEA-25)
Ambient operating atmosphere	Free from no corrosive gases, no large amount of dust and a splash of water.
Weight	Approx. 140 g (Including dry batteries)
Dimensions	145 (H)×52 (W)×25 (T) mm
Accessories	Dry batteries (Type R6P) , 2 pcs.
Option	Softcase (Sold separately)

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