

Instruction Manual of

Refrigerator Digital Thermometer Model PC-3310

Min-Max Digital Thermometer Model PC-3510

These products are designed to measure temperature. Do not use them for other purposes. Read this manual thoroughly before use, and keep it for future reference.

Important Notices



Beware of Explosion

PC-3310 and PC-3510 are not explosion-proof. Never use them in an atmosphere containing flammable gases.



Cautions

To use PC-3310/PC-3510 properly, follow the instructions below.

- **Do not use the device as a clinical thermometer.**
- Do not drop or give a shock to the device, as it is a sensitive instrument.
- Do not forcibly pull, bend, bundle, heat, or put a heavy thing on the cable. Otherwise, the cable may get damaged.
- Do not keep the device submerged in water.
- Do not measure temperature out of the measurable range, or it may result in malfunction.
- Do not use the device under direct sunlight or aside a heat source, or it may lead to a deformation or malfunction.
- Do not leave the device in a place like an automobile on a fine summer day, or the extreme heat may damage it.
- Do not wash or wipe the device with alcohol, thinner, or other organic solvents. If the device becomes dirty, wipe it with a tightly-wrung towel that has been dipped in warm water with neutral detergent.
- Do not use the device in an environment with electrical noise, or the display may become unstable or the measurement error may increase.

- Do not disassemble or customize the device, or it may cause a fatal malfunction.
- For repair or calibration, or if the device is broken before use, contact us or a retailer from which you have purchased.

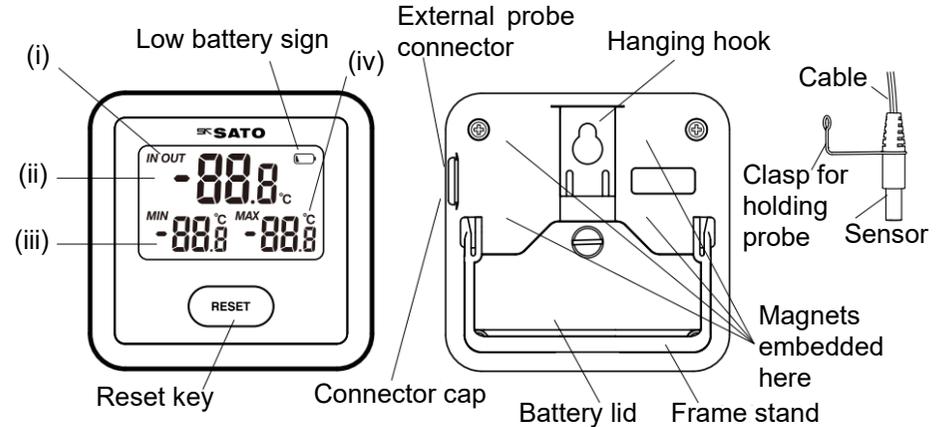


Cautions Related to Magnets

As PC-3310/PC-3510 contain magnets, do not place it near the followings:

- chests of people with pacemakers or other implanted cardiac devices
- electronic devices
- materials vulnerable to magnetic fields such as magnetic cards

Names of Sections



- (i) Internal sensor (IN) or external probe (OUT)
- (ii) Current temperature
- (iii) Minimum temperature (MIN)
- (iv) Maximum temperature (MAX)

Replacement of Batteries

Replace the battery immediately when the low battery sign is displayed, as described below to prevent errors in measurement.

1. If the device is wet, wipe it out first.
2. Close the frame stand in the back.

3. Turn the battery lid screw anticlockwise to loosen it and remove the lid. If the device was wet in the process 1, face the lid down when opening in order to prevent water from immersing inside the battery box.

Be sure that the screw is designed not to drop from the lid.

4. Exchange the batteries according to the description in the battery box.
5. Confirm that the black packing seal is firmly put into the groove, then tighten the screw until the screw head comes under the body surface.

Maximum and minimum temperatures are initialized after replacing batteries.



Cautions Related to Batteries

- Do not dispose of batteries in a fire, or it may explode to hurt you.
- For environmental conservation purposes, dispose of batteries in compliance with local rules and regulations.
- Keep batteries out of the reach of children. If they are swallowed accidentally, consult a doctor immediately.
- If battery fluid leaks out, wipe it away immediately without touching it directly.
- Remove the battery if not used for a long period, or it may lead to fluid leakage and malfunction.
- Do not use rechargeable batteries, because the sealed structure of PC-3310/PC-3510 can accumulate gas leaked from the battery to cause a fire or explosion.
- Attach the battery lid firmly to the body with the packing seal put into the groove, and secure the screw. Otherwise, the device may fail to be waterproof and result in malfunction, short-circuit, battery leakage, extreme heat, or explosion.

How to Use

1. Refer to “Replacement of Batteries” to open the battery lid and remove an insulation sheet. The measurement begins immediately.
2. Install the device using either the frame stand, hanging hook, or the magnets embedded in the back. Carefully check if it is placed safely.
3. Let the device adapt to the ambient environment for more than 30 minutes.

Internal Sensor

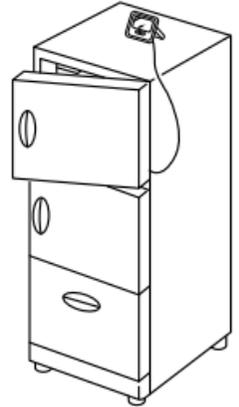
When the external probe is not connected, an indicator of “IN” is lit and temperature of the internal sensor is displayed. Connector cap must be closed.

Note that the indication of internal sensor is no valid if it falls below -5°C or exceeds 50°C , even if the value is shown. Use the external probe in such case.

External Probe

When the external probe is inserted to the connector, an indicator of “OUT” is lit and the temperature of the external probe is displayed.

As illustrated in the right, an ultra-thin cable can be inserted to a refrigerator or incubator through a gap of the door. Then, hooking the clasp attached to the cable on somewhere helps the probe get fixated.



Cautions When in Use

- The device accepts water splashes, but it does not mean that the body and the probe can be submerged in water.
- Do not pull the probe when it runs through the door, or it may break.
- Do not let the probe touch other working electric circuits, or it can cause electrical shock.
- The sensor part made of stainless steel may get deteriorated when it contacts with corrosive liquid. Do not measure temperature of such liquid.
- The magnet may not work well depending on a surface condition where it takes place.
- Measurement error can be enlarged when your hand touches the cable.
- A sign of “HHH” or “LLL” is indicated when the temperature is out of range.
- For better management, it is recommended to compare the measured value with that of a standard thermometer to check accuracy once in a year. We offer traceable calibration service.

Max/Min Temperatures

PC-3310/PC-3510 permanently shows the highest and lowest temperatures.

Their logging is initialized in the cases below:

- when the battery is replaced
- when the reset key is pressed

Switching between the internal sensor and the external probe does not affect the logging.

Specifications

Product name	Refrigerator Digital Thermometer	Min-Max Digital Thermometer
Model no.	PC-3310	PC-3510
Catalog no.	1830-00	1840-00
Measuring range	Internal sensor: -5.0 to 50.0°C External probe: -50.0 to 70.0°C	
Accuracy	±1.0°C (0.0 to 40.0°C), ±2.0°C (other)	
Resolution	0.1°C	
Sampling time	Approx. 10 seconds	
Operating ambient	-5 to 50°C, less than 80%rh without condensing	
Power	AAA battery x 1	
Battery life	2 years under room temperature, with an alkaline battery Attached batteries are for test purpose and may last shorter.	
Waterproof rating	IPX5 (resists water stream of room temperature) The rating is valid only when the connector cap is closed, or the external probe is connected.	
Dimensions	Body: 67 (W) x 65 (H) x 22 (D) mm External probe: sensor part Ø 5.5 mm, cable 3 m long	
Materials	Body: ABS resin with antimicrobial, silicone rubber Sensor part of external probe: SUS304, PE resin Cable part of external probe: PVC resin	
Weight	71 g including a battery	
Accessories	AAA battery x1, clasp for holding external probe x1	

Specifications and appearance are subject to change for improvement.

Visit our website <https://www.sksato.co.jp/en/> for the latest information.

Warranty Policy

Our products are warranted to be free from defects in materials and workmanship for a period of one year from date of delivery. If repair is necessary and has not been the result of misuse, force majeure, or transportation arranged by yourself within the one-year period, please return the products on freight prepaid basis. Correction of the defect will be made without charges. We alone will determine if the product problem is due to deviations or customer misuse.

Out-of-warranty products will be repaired for a fee.

Before returning, request for our acknowledgement first.

For details, contact us or a retailer from which you have purchased.

SATO KEIRYOKI MFG. CO., LTD.

3-4, Kanda-kajicho, Chiyoda-ku, Tokyo 101-0045, Japan

<https://www.sksato.co.jp/en/>