

## **Waterproof Digital Thermometer Model PC-9220**

This product is designed to measure temperature. Do not use it for other purposes. Read this manual thoroughly before use, and keep it for future reference.

### **Important Notices**



#### **Beware of Explosion**

PC-9220 is not explosion-proof. Never use it in an atmosphere with flammable gases.



#### **Cautions**

To use PC-9220 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 disassemble, customize, or insert improper batteries to the device.
- Handle the sensing part carefully to not to hurt yourself with its sharp edge.
- Do not press or bend the sensing part.
- Do not measure temperature out of the measurable range.
- 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 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.
- Wet hands or water splashes do not affect the function of the device. However, do not immerse the parts other than the sensor in liquids.
- PC-9220 can be fully rinsed with tap water. However, do not leave it underwater.
- 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 dipped in warm water with neutral detergent.

- After washing, wipe out the water with a dry cloth completely. Do not put the device in a dryer.
- Because sodium hypochlorite corrodes metals, do not put it on the sensing part. If the device is contaminated by sodium hypochlorite, rinse and wipe it out completely.
- For stable long-life use it is recommended to check the measured reading comparing with other correct thermometers. We offer traceable calibration service to achieve it.

- For repair or calibration, or if the device is broken before use, contact us or a retailer from which you have purchased.

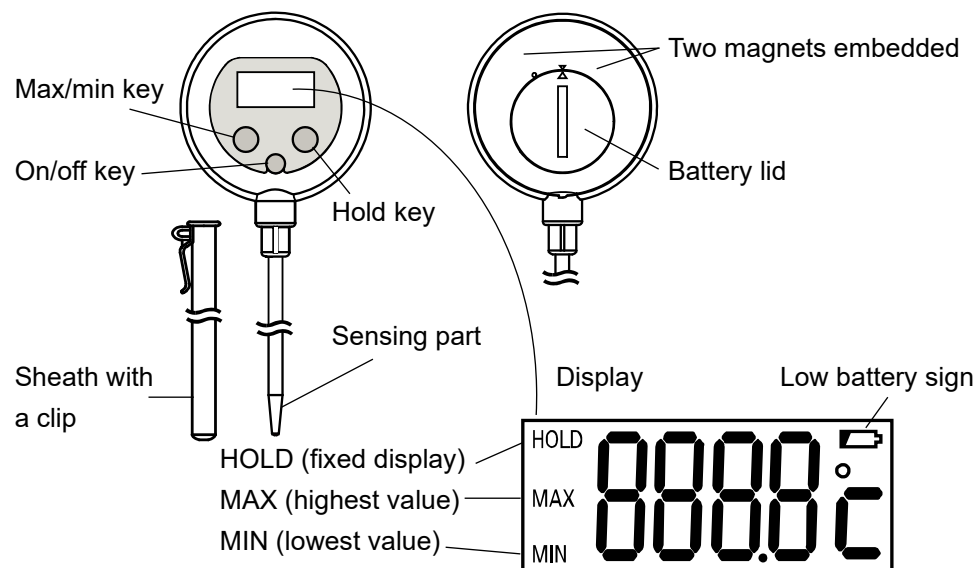


#### **Cautions Related to Magnets**

As PC-9220 contains 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

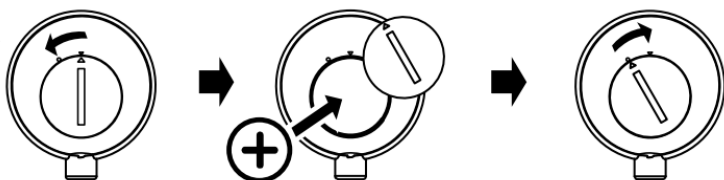
### **Names of Sections**



## Replacement of Battery

To insert a battery for the initial use or replace the battery when the low battery sign is displayed, follow the instruction below. A prompt replacement is essential to prevent errors in measurement.

1. If the device is wet or contaminated, wipe it before opening the battery lid.
  2. Turn the battery lid anticlockwise by a coin to remove the lid.
  3. Put the battery with its positive side facing up.
  4. Confirm that the packing seal of the lid is firmly put into the groove, then fit the lid in the hole so that a  $\Delta$  mark faces the left one of the two protrusions on the body.
  5. Turn the lid clockwise until the  $\Delta$  mark faces the right one of the protrusions.
- If the battery slides toward internal magnets, push the battery with the lid to stop sliding.



### Cautions Related to Battery

- Attach the battery lid firmly to the body with the packing seal put into the groove. Otherwise, the device may fail to be waterproof and result in malfunction, battery leakage, extreme heat, or explosion after short-circuiting.
- Do not dispose of batteries in a fire, or it may explode to hurt you.
- Insulate batteries with a tape before storing or disposing of them. Otherwise, unconsidered contacts with other batteries or metals may lead to a fire or explosion.
- For environmental conservation purposes, dispose of batteries in compliance with local rules and regulations.
- Keep the battery out of the reach of children. If it is swallowed accidentally, consult a doctor immediately.
- Remove the battery if not used for a long period, or it may lead to fluid leakage.
- Do not heat, solder, short-circuit, or disassemble the battery.
- If battery fluid leaks out, wipe it away immediately without touching it directly. If it gets into your eyes, consult a doctor immediately after washing.

## How to Use

1. Refer to “Replacement of Battery” to insert the battery.
2. Press On/off key. After flashing of all display contents and then “----“, a measured value is shown.
3. Press On/off key again to turn off.



### Cautions for Measurement

- Do not measure temperature out of the valid range between  $-50$  and  $250^{\circ}\text{C}$ .
- To eliminate the effect from ambient temperature and improve accuracy, insert the sensing part in a target for more than 70 mm. However, when measuring high temperature, make sure the sensing part is penetrated for less than 100 mm and the continuous measurement time does not exceed 2 minutes to keep the body of PC-9220 from the heat.
- Do not put the sensing part back to the sheath while it is hot.
- Some corrosive liquids may deteriorate the device. Do not measure temperature of such liquids able to corrode the materials of PC-9220. Refer to “Specifications” for materials.
- A sign of “LLL”, “HHH”, “----” is indicated when the temperature is out of range.

## Max/Min

PC-9220 records the maximum and minimum temperatures since it is turned on.

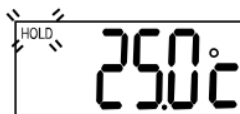
1. Press Max/min key. The maximum value is shown with a sign of “MAX” for 3 seconds.



2. When Max/min key is pressed again while the maximum value is shown, the minimum value is indicated with a sign of “MIN” for 3 seconds.
3. Press Max/min key again if you wish to revert to a current measurement without waiting for 3 seconds.
4. The maximum and minimum values are initialized when the device is turned off, or Max/min key is pressed for 3 seconds while the current temperature is shown.

### Hold (Fixed Display)

Pressing Hold key stops refreshing of the temperature indication. A sign of “HOLD” flashes until Hold key is pressed again to revert to a current measurement.



### Auto Power Off

PC-9220 shuts down its power automatically after 60 minutes of operation, to reduce the loss of battery. This function cannot be disabled.

### Specifications

Product name	Waterproof Digital Thermometer
Model no.	PC-9220 (Catalog no. 1751-00)
Measuring range	-50.0 to 250.0°C
Accuracy	±0.7°C (-10.0 to 150.0°C), ±1.0°C (other)
Resolution	0.1°C
Sampling time	Approx. 2 seconds
Sensor	Thermistor
Waterproof/ Dustproof rating	IP67: No effect occurs when located in dusty places, or sunk in water of room temperature as deep as 1 m for 30 minutes.
Operating ambient	0 to 50°C, less than 90%rh without condensing
Storage ambient	0 to 50°C without condensing
Power	CR2032 battery x 1 (3VDC)
Battery life	10 months if used 60 minutes a day Attached battery is for test purpose and may last shorter.
Materials	Body: ABS resin, acrylic resin Sensing part: SUS304
Dimensions	Body: Ø 48 mm x 15.5 mm deep excluding protrusion Sensor: Ø 3.5 mm x 197 mm long
Weight	28 g including a battery
Accessories	CR2032 battery x1, sheath with clip 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/>