

Instruction Manual

**No. 8061-00 Waterproof Digital Thermometer
Model SK-250WPII-N**

Thank you for purchasing the SK-250WP11 –N Waterproof Digital Thermometer.

- This product is designed to measure temperature. Do not use it for other purposes.
- Read this manual carefully before using the SK-250WP11-N. Keep the manual in a safe place for future reference whenever necessary.

1. Notes on Use

Be sure to observe the following precautions in order to use this unit correctly.

- Do not use this unit as a clinical thermometer.
- Do not drop this unit or apply impact to it. This unit is a precision instrument.
- Never disassemble or modify this unit. Doing so may result in failure.
- Do not use this unit in water.
- Do not use this unit in a place exposed to direct sunlight or near heating equipment. Doing so may result in deformation of the casing or failure.
- Do not use this unit in an environment where electrical noise is generated. Doing so may result in unstable display or larger errors.
- Do not forcibly pull, bend, or bundle the sensor cord. Placing a heavy object on the sensor cord, heating or scratching the cord may also damage it.
- If this unit is not to be used for a long time, always remove the batteries from the unit. Otherwise, the batteries may leak fluid, resulting in failure.
- Do not wash or wipe this unit with alcohol, thinner, or other solvents. Also, do not wash it in water. If the unit becomes dirty, wipe it with a tightly wrung cloth that has been dipped in warm water with neutral detergent.
- Be sure to use this unit within the specified measurement range. Using the unit outside the specified measurement range will result in failure or damage.
- The pointed type probe has a sharp pointed edge so that it can penetrate into the measuring object; as this edge could cause accidental injuries, handle the probe with due care.

** For repair or calibration, contact the dealer from which the unit was purchased, or our service network.

2. Overview

The SK-250WP11 –N is a waterproof digital thermometer to which a dedicated thermistor sensor probe can be connected. SWP11 series probes can be interchangeably connected with main unit.

3. Features

- Both the main unit and the probes have a waterproof structure that conforms to “Protection level 6 in JIS C 0920” that is equivalent to IP X6. They will not be affected in function at the touch of wet hands or with splashes of water.
- Measured value can be held. (HOLD)
- Maximum (MAX) and minimum (MIN) temperature can be measured.
- The power is automatically turned off if the continuous measurement was not done for 60 minutes.
- Temperature can be measured between -40 and 250°C with SWP11-01 probe.

Warning

The SK-250WP11 –N is not explosionproof. Never use it in an atmosphere containing flammable gases.

Beware of explosion!

There is a risk of explosion. Take extreme care.

Caution

- Waterproofness of this instrument conforms to “Protection level 6 in JIS C 0920 Protection level 6 (equivalent to IP X6) is called Water resistant type. It means a construction of an instrument which protects against splashes from any direction.
- This instrument can not be used in water.
- The screws to fix the instrument are fastened at the designated torque to guarantee waterproofness. Do not loosen or tighten the screws. Otherwise, waterproofness corresponding to IP X6 will not be guaranteed.

4. Names of Section

4-1 Main housing

(1) POWER ON/OFF key

- Press this key to turn the main unit on. Press the key again to turn it off.

(2) MAX/MIN key

- It display the maximum value or minimum value after the power is on or alter displayed valued is cleared by RESET key.

(3) HOLD key

- Press the HOLD key to hold (freeze) temperature readings. Press the HOLD key again to return to real-time measurement.

(4) RESET key

- Press the RESET key to clear the maximum and minimum temperature values stored.

(5) Sensor connector

- Connect the connector of SWP-II series probes

(6) Hook for hand strap

(7) Fixing screw for battery compartment cover

4-2 Display section

- (a) 7-segment LCD: Display the measured value or error message
- (b) Low battery mark Will blink when battery power is insufficient. Replace the batteries with new ones
- (c) HOLD: Will show while measured value is being held
- (d) MAX: Will show while the maximum measured value is being displayed
- (e) MIN: Will show while the minimum measured value is being displayed
- (f) AUTO PWR OFF: Will show when the auto-power function is being set.

5. How to Use

5-1. Loading Batteries

(1) Rotate the screw on the battery lid on the back of the main unit counterclockwise using a blade screwdriver or a coin until it comes free and then remove the lid.

(2) Load two AAA batteries so that each positive or negative terminal faces the correct direction as shown in the battery compartment.

Note: Replace all two batteries with new batteries of the same type.

(3) Reinstall the battery lid and secure with the screw in the reverse order of the removal procedure.

NB. Secure the battery lid putting the packing in the groove. Otherwise, waterproofness will not be guaranteed.

5-2 Installing the hand strap

Install the attached hand strap as shown in the following figures.

- (1) Run the string through the hook
- (2) Pass the strap through the ring string.

5-3. Connecting the Sensor Probe

Put grooves of the plug of the probe and the connector socket together and insert the plug into the socket until a “click” is heard

Note: . Never forcefully rotate or pull the connector to avoid the causes of trouble.

- . To remove the probe, pull it straight toward you in the reverse direction of installation.
- . Never pull the sensor cord.

6. How to measure temperature

(1) Connect the probe to the main unit

NB. If the probe is disconnected when power is turned on, error message will be displayed. By connecting the probe, display changes to measurement mode.

(2) Press the POWER ON/OFF key to turn the power on. The current temperature will be displayed.

NB: To measure temperature precisely insert the sensor stem into the object to be measured , whether it is air, liquid or solid, to the depth of about 15 times as deep as the diameter of stem. (deeper than 45 mm in SWPII-01 standard probe) by reason that the sensor will be less affected by the open air around the sensor stem.

(3) Press the POWER ON/OFF key again and the display will disappear and power will be off.

Cautions!

When measuring high temperature be careful not to get hurt.

HOLD Function

When the temperature changes too frequently during measurement, press the HOLD key to hold (freeze) the measured value for easier reading. While the measure value is being hold, HOLD will show in display section. Press the HOLD key again to return to real-time display.

MAX/MIN Function

The maximum and minimum measured values are kept in the change of measured values. Press the MAX/MIN key once to display the highest temperature value and press the MAX/MIN key again to display lowest temperature value. Press the MAX/MIN key to switch back to the real-time display. The display will be switched cyclically. While the maximum or minimum measured values is displayed, MAX or MIN will show in display section. The maximum and minimum values are cleared by pressing the RESET key or turning the power off.

RESET Function

Press the RESET key to clear the maximum and minimum values stored. While these values are being cleared, °C will be blinking in display section. Then measured values are newly kept.

Auto Power-off Function

The power will be turned off automatically if the unit is not operated for approximately 60 minutes. This function conserves battery power if you forget to turn the power off.

The auto power-off function is activated by pressing the POWER ON/OFF key while pressing HOLD key. Then "AUTO PWR OFF" will show in the display section. Once the power is turned off, the Auto Power-off Function is released. To switch back the Auto Power-off Function mode press the POWER key again.

Warnings for low battery

When the batteries are exhausted, **B** mark will blink. Replace the batteries with new ones. Otherwise, measured value may display incorrectly.

7. Error Message

Display	Causes	Remedy
Hi	Measured value is higher than 305°C	Bring the value within the measuring range.
Lo	Measured value is lower than -55°C	
Er	Probe is not connected	Connect the probe. If the error message is still displayed although the probe has been connected, stop using it and contact us or the dealer.
Er1,Er2 ,Er3	An unusual signal or a noise may be input from sensor or power section.	Remove batteries and then load batteries again after 5 sec.

8. Specifications

Model	: No. 8061-00 Waterproof Digital Thermometer SK-250WP11-N
Display range	: -55 to 305°C (Measuring range is different depending on the probes connected.)
Display Accuracy	: ± (0.1°C + 1 digit) at 9.9 to 199.9°C : ± (1°C + 1 digit) at other than above.
Resolution	: 0.1°C at -9.9 to 199.9°C : 1°C at other than above
Grade of protection from water	: Conforming to JIS C0920 Protection Class 6 ---- Equivalent to IP X6 rated ---
Operation ambient	: 0 to 50°C
Sampling time	: 1 sec.
Probes connected	: SWP11 series probes (thermistor)
Operational Functions	: MAX: maximum memory data, MIN: minimum memory data, HOLD: data hold, Low battery mark, Auto-Power-Off
Power requirements	: 3VDC ("AAA" size alkali battery x 2 pcs.)
Battery life	: About 1000 hours continuous with alkali batteries in normal temperature
Materials	: ABC resin
Dimensions	: 71(W) × 170(H) × 36(D)mm
Weight	: Approx. 145g (including batteries)
Standard Accessories	: SWP11-01 probe, Vinyl case, hand strap, 2 alkali AAA batteries,