SK SATO

Instruction Manual for

No.7693-00 Hot Wire Anemometer

Model SK-73D

Thank you for purchasing the No. 7693-00 Hot Wire Anemometer Model SK-73D.

- This product is designed to measure air speed and temperature.　Do not use it for other purposes.
- Read this manual thouroughly before using the SK-73D.　Keep the manual in a safe place for future reference whenever necessary.

 Warning

The SK-73D is not explosion-proof. Never use it in an atmosphere containing flammable gases.

 Beware of explosion!

There is a risk of explosion. Take extreme care.

1.　Description

This instrument adopts the principle of thermal anemometer and can easily measure air speed and ambient temperature.

2.　Features

. Large LCD　　　　　　 : Easy to read measured value

. Telescoping type probe　: Probe can be easily extended and contracted. Suitable for the measurement at higher places such as outlet of ducts and air-conditioners.

. Data Hold function　　 : Data can be held. Possible to read data easily.

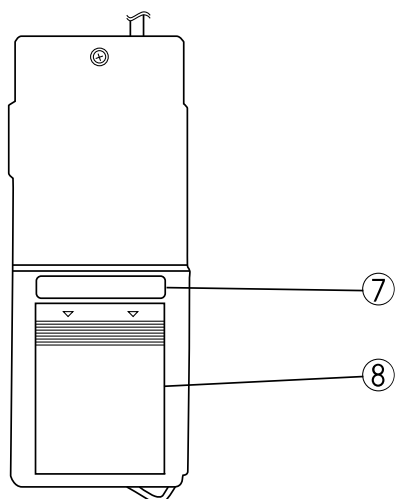. Wide measuring range　: 0 to 30 m/s for air speed and 0 to 80°C for temperature
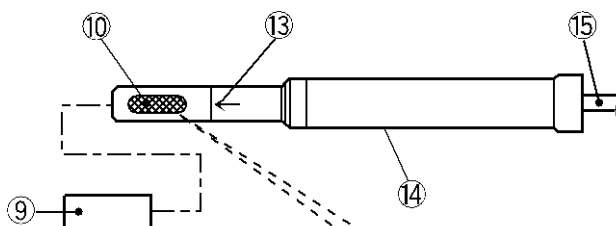
3. Name of each section

1) Front view
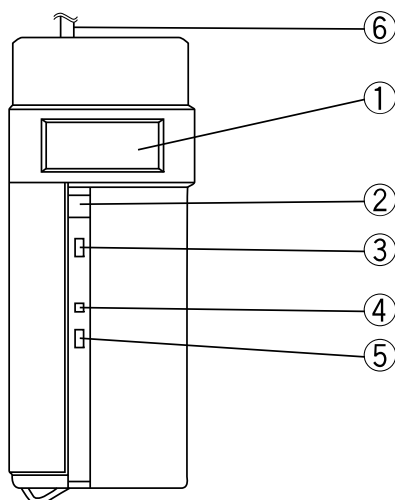
1. Display (LCD)
2. Hold switch (HOLD)
3. Function Switch
   (VELO/TEMP)
4. Battery alarm (LED)
   (BATT, ALARM)
5. Power switch
6. Sensor cord

2) Rear view

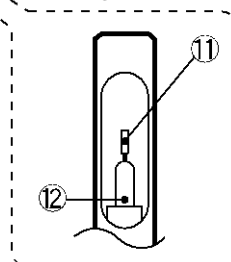7. Label
8. Lid of Battery compartment

3) Probe assembly

enlarged view of sensor

9. Sensor cap
10. Detection window (with mesh)
11. Air speed sensor.
12. Temperature sensor
13. Wind direction mark
14. Telescoping type rod
15. Sensor cord

4. Operation

How to load batteries

1) Place POWER switch in OFF position.
2) Slide and open the lid of battery compartment at the back of instrument and load five batteries (LR6) properly as per instruction.
3) Slide and close the lid of battery compartment. Place POWER switch in ON position and confirm that the battery alarm (LED) does not light up.
   NB: If it lights up, replace batteries to new ones. At replacement of batteries, make sure to place the POWER switch in OFF position.


Heat-running

Place POWER switch in ON position and run the heat for 2 minutes. This is the time required to stabilize after electric current flows through the circuit and sensor. This procedure is necessity for accurate measurement.

How to measure air speed

1) Remove the sensor cap and place function switch in VELO position.
2) Measure air speed facing a wind direction mark of probe (red arrow mark under the detection window) to windward.

NB. If the mark is slanted against the wind direction, the air speed will be indicated higher than the actual value.

wind

wind direction mark
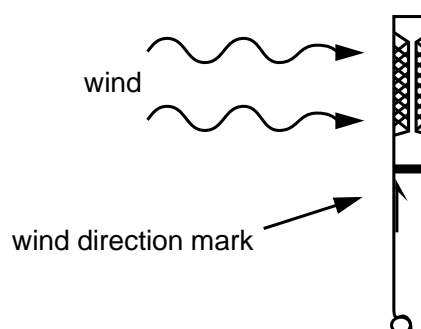
* When the temperature to be measured is high, it will take a few minutes until the temperature of sensor rises to the value (about 3 min. from 25°C to 80°C).
   Make measurement after the temperature of sensor is fully stabilized.

How to measure temperature

Temperature will be measured when the function switch is placed in TEMP position. Just after the measurement of air speed, the temperature of air speed sensor will be 100°C or higher since the speed sensor was heated. Start measuring after full stabilization (it takes about 2minutes.) as in the measurement of air speed.

Other functions

1) Hold function   : Press the HOLD button to hold the reading.
2) Telescoping rod   : This telescoping type rod is possible to be set its length at will.

Operation after measurement

1)   Place the POWER switch in OFF position.
2)   Put a sensor cap on after confirming that sensor is in good order.
3)   When telescoping rod of probe has been extended for use, retract it to be stored in a case.
     NB. Be sure the POWER switch is in OFF position. Otherwise batteries will
          consume. When the instrument is not used for a long time, be sure to take
          the batteries out of battery compartment for storage.

5. Cautions

Carefully read this clause before use.

Caution in use

1) Probe and instrument are of precision type. Be careful not to give them shocks or not let them drop.

2) Handle the probe with care as its sensing element is subject to contact with surrounding objects.

3) Be careful about extreme bending or expansion of sensor cord, which may be the cause of trouble.

4) Never touch the sensor. There is the possibility of getting burnt since temperature of the air speed sensor may be about 100°C at measurement

5) Never remove the metal mesh of the detection window at measurement.

Cautions on characteristics

1) If ambient temperature changes with the protection cap on the sensor in the air speed measurement mode, digital display may change. This is because the radiation of sensor in non air-flow state is different from the radiation in air stream and therefore it is not abnormal.

2) Be careful not let the maximum temperature of air to be measured exceed 80℃.

3) If sensor or mesh of detection window is stained with dusts or impurities in the form of tar in air to be measured the accuracy of measured value of air speed will be degenerated. In such a case, contact us for cleaning (on charge basis).

　NB.　Never use water or other solvents.

4) Never use SK-73D in the place of condensing and splashing water. It may be causes of the deterioration of electrical insulation or malfunction of sensor.

Caution in general

1) Never put sensor probe into water or other solvents.

2) SK-73D is calibrated in normal ambient. So if the component of air is extremely different, an error may arise in the measured value.

3) Never touch the sensor until its temperature falls when measurement of air of more than 50°C was made. There is the possibility of getting burnt.

4) Do not use this unit in dusty environment. Doing so may be a cause of malfunction of the sensor.

5) Never disassemble or modify this unit.

6. Specifications

Name	No. 7693-00 Handy Hot Wire Anemometer
Model	SK-73D
Measuring object	Clean air in normal humidity and pressure
Measuring range	Air speed : 0 to 30m/s Temperature : 0 to +80°C
Accuracy	Air speed : ±(3% F.S. +1 digit) m/s Temperature : ±(0.5 +1 digit) °C
Resolution	Air speed : min. graduation : 0.1m/s Temperature : min. graduation : 0.1°C
Conditions for measurement	Ambient temperature of instrument : +5 to 45°C Ambient humidity of instrument : less than 85% RH Ambient temperature of sensor : 0 to +80°C
Power requirement	7.5VDC : Alkali dry battery (LR-5) 5 pcs.
Life of battery	6 hours in continuous use at air speed of 30m/s at 25°C
Sensor	Specially coated platinum element (interchangeably used)
Dimensions (Probe)	Ø8 to Ø18.7mm × (180 to 930mm) (telescopic)
Dimensions of sensor cord	Ø6 × 2,000mm
Dimensions of Instrument	206(H) × 84(W) × 42(D)mm
Weight of instrument	about 375g (exclusive of batteries)
Materials of body	ABS resin.
Accessories	a soft porch, five batteries

All specifications subject to change without notice.