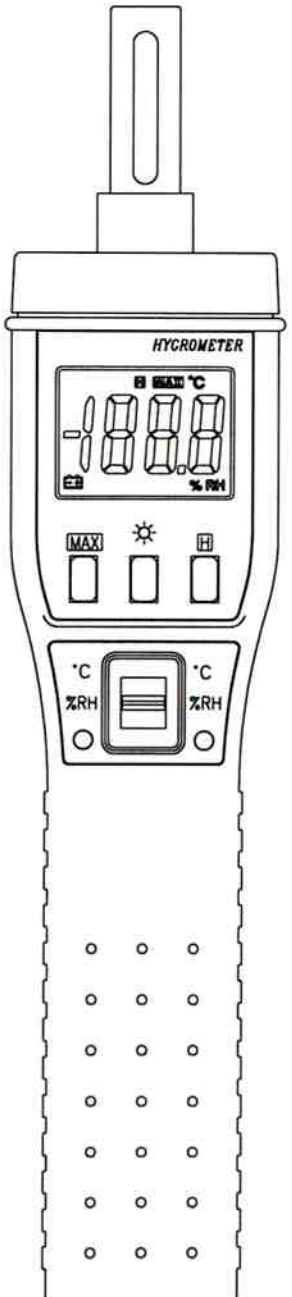
OPERATING INSTRUCTIONS

TECPEL 550 CE

HYGROMETER



INTRODUCTION

This instrument is a portable 3½ digit, compact-sized digital Thermo-Hygrometer designed for simplicity one hand operation. Use Platinum Resistance Temperature Detector Pt385/1000Ω (Alpha=0.00385) as temperature sensor, and use thin film polymer capacitive type relative humidity sensor as hygrometer sensor.

SAFETY INFORMATION

It is recommended that you read the safety and operation instructions before using the thermometer.

CAUTION

- Do not immerse the hygrometer sensor head into liguids since this causes permanent damage to the sensor.
- The meter when not in use, please use protective metal cap cover the sensor head and screw it to extend sensors life.

SPECIFICATIONS

GENERAL

Display:
3½ digit liquid crystal display (LCD) with maximum reading of 1999

Overtemperature: "OL" mark indication

Low battery indication:
The "⊟" is displayed when the battery voltage drops below the operating level

Measurement rate: 2.5 times per second, nominal

Accuracy:
Stated accuracy at 23°C ± 5°C, <75% relative humidity

Temperature Coefficient:
0.1 times the applicable accuracy specification per °C from °C to 18°C and 28°C to 50°C

Operating environment:
0°C to 50°C at <75% relative humidity

Storage environment:
-20°C to 60°C at <80% relative humidity.

Battery:
4 pcs 1.5V (AAA size) UM-4 R03

Battery Life:
200 hours typical with carbon zinc battery

Dimensions:
170mm(H) x 44mm(W) x 40mm(D)

Weight:
160g (including probe and batteries)

ELECTRICAL

TEMPERATURE

Temperature Scale: Celsius

Temperature Sensor: RTD Pt385/1000Ω

Measurement Range: -20°C to 100°C

Resolution: 0.1°C

Accuracy: ±0.5°C 0°C to 50°C
±1°C -20°C to 0°C, 50°C to 100°C

RELATIVE HUMIDITY

Humidity Sensor:
Electronic capacitance polymer film sensor. (The sensor is unaffected by water condensate, is immune to most reagent vapors)

Measurement Range: 0% to 100%RH

Resolution: 0.1%RH

Accuracy: ±2.5%RH (10% to 90%RH)
±5%RH (<10%, > 90%RH)

Sensor Response Time for 90% of Total Range:
60sec with 1m/s air movement

Sensor Stability:
±2%RH, 2 years typical

Sensor Hysteresis (excursion of 10% to 90% to 10% RH):
±1%RH typical

Sensor Temperature Dependence:
Negligible between 0°C to 50°C

OPERATING INSTRUCTIONS

Push Button

☼ Display Back-Light Button

Pressing "☼" button to toggle between turn on and turn off the Back-Light.

DATA HOLD Button

Pressing the DATA HOLD key to enter the Data Hold mode, the" H " annunciator is displayed. When DATA HOLD mode is selected, the hygrometer held the present readings and stops all further measurements.

Pressing the DATA HOLD key again cancels DATA HLOD mode, causing hygrometer to resume taking measurements.

MAX HOLD Button

Pressing the MAX HOLD key to enter the MAX HOLD mode. The hygrometer then records and updates the maximum absolute values and the MAX annunciator appears on the display. Pressing the MAX HOLD key again to exit the MAX HOLD recording mode.

In the MAX HOLD mode, press DATA HOLD key to stop the recording, press DATA HOLD key again to resume recording.

OPERATION

1. Use screwdriver remove protetive metal cap.
2. Set the power switch to the desired %RH or °C range.
3. Read the display.
4. Cover sensor head to extend sensor life when not in use.

SPECIAL CONSIDERATIONS

- Before a reliable measurement can be made, the measuring hygrometer and medium to be measured must be in temperature and humidity equilibrium.
- Temperature measurement errors
  Due to too short measurement time, sunshine during the measurement, heating, cold outer walls, air draft (e.g. fans), radiating hand and / or body heat etc.
- Humidity measurement errors
  Due to steam, water splashes, dripping water or condensation (not water condensate) on the sensor etc. However, repeatability and long-term stability are not impaired by this.
- Contamination
  By dust in the air or measurements in powdery substances. This can be largely avoided by using a corresponding filter. The filter must be cleaned or replaced periodically depending upon the degree of contamination of the measuring site.

OPERATOR MAINTENANCE

Battery Replacement

Power is supplied by four 1.5V (AAA size) batteries. The "⊟" appears on the LCD display when replacement is needed. To replace the batteries, remove the screw from the back of the meter and lift off the battery cover. Remove the batteries from battery contacts.

Cleaning

Periodically wipe the case with a damp cloth and detergent, do not use abrasives or solvents.

Model: DTM-550 from TECPEL CO., Ltd. Taipei, Taiwan Tel: (02) 2737-5866 ll Fax: 886-2-2737-3343 http://www.oka.com.tw