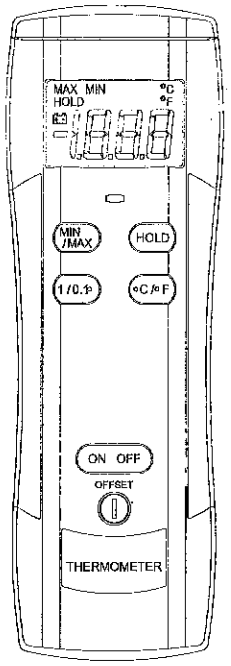
OPERATING INSTRUCTIONS

DIGITAL THERMOMETER



INTRODUCTION

This instrument is a portable 3½ digit, compact-sized digital thermometer designed to use external K-type thermocouple as temperature sensor. Temperature indication follows National Bureau of Standards and IEC 584 temperature/voltage tables for K-type thermocouples. One K-type thermocouple is supplied with the thermometer.

SAFETY INFORMATION

It is recommended that you read the safety and operation instructions before using the thermometer. Designed to meet IEC-1010-1, CE-EMC.

WARNING

TO AVOID ELECTRICAL SHOCK, DO NOT USE THIS INSTRUMENT WHEN VOLTAGES AT THE MEASUREMENT SURFACE EXCEED 24V AC OR 60V DC.

WARNING

TO AVOID DAMAGE OR BURNS, DO NOT MAKE TEMPERATURE MEASUREMENTS IN MICROWAVE OVENS.

CAUTION

Repeated sharp flexing can break the thermocouple leads. To prolong lead life, avoid sharp bends in the leads, especially near the connector.

The ⚠ symbol on the instrument indicates that the operator must refer to an explanation in this manual.

SPECIFICATIONS

ELECTRICAL

Temperature Scale:

Celsius or Fahrenheit user-selectable

Measurement Range:

-50°C to 1300°C, (-58°F to 2000°F)

Resolution: 1°C or 1°F, 0.1°C or 0.1°F

Accuracy:

Accuracy is specified for operating temperatures over the range of 18°C to 28°C (64°F to 82°F), for 1 year, not including thermocouple error.

±(0.3% rdg+1°C) -50°C to 1000°C

±(0.5% rdg+1°C) 1000°C to 1300°C

±(0.3% rdg+2°F) -58°F to 2000°F

Temperature Coefficient:

0.1x(specified accuracy) per °C . (0°C to 18°C , 28°C to 50°C).

Input Protection:

60V dc or 24V rms ac maximum input voltage on any combination of input pins.

Reading Rate: 2.5 times per second.

Input Connector:

Accepts standard miniature therm ocouple connectors (flat blades spaced 7.9mm,center to center).

ENVIRONMENTAL

Ambient Operation Range:

0°C to 50°C, (32°F to 122°F)

Storage Temperature:

-20°C to 60°C, (-4°F to 140°F)

Relative Humidity:

0% to 80% (0°C to 35°C) (32°F to 95°F)

0% to 70% (35°C to 50°C) (95°F to 122°F)

GENERAL

Display:

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

Battery:

Standard 9V battery (NEDA 1604,IEC 6F22)

Battery Life:

100 hours typical with carbon zinc battery

200 hours typical with alkaline battery

Dimensions: 184mm (H) x 62mm (W) x35mm (D)

Weight: 10.6oz (300g) including holster

Supplied Probe:

4-foot type "K" thermocouple bead probe (teflon tape insulated). Maximum insulation temperature 260°C (500°F). Probe accuracy ±2.2°C or ±0.75% of reading (whichever is greater).

OPERATING INSTRUCTIONS

Selecting the Temperature Scale

Readings are displayed in either degrees Celsius (°C) or degrees Fahrenheit (°F). When the thermometer is turned on, it is set to the temperature scale that was in use when the thermometer was last turned off. To change the temperature scale, press the °C or °F key.

Selecting the Display Resolution

The thermometer allows two choices of resolution:

High resolution: 0.1°C or 0.1°F

Low resolution: 1.0°C or 1.0°F

To select the alternate display resolution, press the corresponding "1°" or "0.1°" key.

The 0.1° resolution is applicable for temperature measurements below 200°C or 200°F.

HOLD Mode

Pressing the HOLD key to enter the Data Hold mode, the "HOLD" annunciator is displayed. When HOLD mode is selected, the thermometer holds the present readings and stops all further measurements. Pressing the HOLD key again cancels HOLD mode, causing the thermometer to resume taking measurements.

MIN/MAX Mode

Press MIN / MAX once to begin recording MIN and MAX. Press MIN / MAX to select MIN or MAX. Hold down for 2 seconds to exit MIN / MAX function.

OFFSET ADJUSTMENT

The OFFSET control is set at the factory to allow for the variations found in standard thermocouples. By adjusting the OFFSET control, you can optimize measurement accuracy for a particular thermocouple at a particular temperature.

Adjusting for Accurate Measurements

1.Connect the thermocouple to the input connector and turn the thermometer ON, then press the 0.1° key to select the high display resolution.

2.Place the thermocouple in a known , stable temperature environment at or near the temperature you wish to measure , and allow the readings to stabilize.

3.Slowly adjust the OFFSET control so that the thermometer reading matches the temperature of the known environment. Leave sufficient time between adjustments to allow for measurement lag.

4.The calibration of the thermometer-thermocouple combination is now optimized for measurements near the temperature measured in step 2.

Resetting the OFFSET Control

To return the OFFSET control to the factory setting without having to recalibrate the thermometer, perform the following procedure:

1.Connect a thermocouple that is in good working order to the input that is to be adjusted.

2.Place the thermocouple in an ice-water bath and allow the readings to stabilize.

3.Slowly adjust the OFFSET control until the thermometer reads 0°C (32°F)

Probe Detector

The red LED will be ON when no K-type thermcouple probe is inserted into the TEMP input of the meter, and will be OFF after K-type thermocople probe is inserted. If the red LED stays ON when thermocouple probe is attached, check the thermocouple probe which might be damaged.

OPERATOR MAINTENANCE

WARNING

TO AVOID POSSIBLE ELECTRICAL SHOCK, DISCONNECT THE THERMOCOOUPLE CONNECTORS FROM THE THERMOMETER BEFORE REMOVING THE COVER.

Battery Replacement

Power is supplied by a standard 9 volt battery (NEDA 1604,IEC 6F22). The "" appears on the LCD display when replacement is needed. To replace the battery, remove the screw from the battery cover of the meter. Remove the battery and replace with a new equivalent 9 volt battery.

P/N: 7000-1699A