



HH12C DIGITAL THERMOMETER

INSTRUCTION SHEET

M5604/0917

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WARNING: These products are not designed for use in, and should not be used for, human applications.

INTRODUCTION

This instrument is a portable 4½ digit, compact-sized digital thermometer designed to use external K-type thermocouples as temperature sensor. Temperature indication follows National Bureau of Standards and IEC 584 temperature/voltage tables for K-type thermocouples. Two K-type thermocouple are supplied with the thermometer.

SAFETY INFORMATION

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

WARNING To avoid electrical shock, do not use this instrument when working voltages at the measurement surface over 24V AC or 60V DC.
WARNING To avoid damage or burns, do not make temperature measurement 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 Δ 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: -200°C to 1372°C, -328°F to 2501°F

Auto range: 0.1°C/1°C, 0.1°F/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.

±(0.1%rdg+0.5°C) on -50°C to 1372°C

±(0.1%rdg+2°C) on -50°C to -200°C

±(0.1%rdg+1°F) on -58°F to 2501°F

±(0.1%rdg+4°F) on -58°F to -328°F

Temperature Coefficient:

0.1 times the applicable accuracy specification per °C from 0°C to 18°C and 28°C to 50°C (32°F to 64°F and 82°F to 122°F).

Input Protection:

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

Input Connector:

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

ENVIRONMENTAL

Ambient Operating Ranges:

0°C to 50°C (32°F to 122°F) <80% R.H.

Storage Temperature:

-20°C to 60°C (-4°F to 140°F) <70% R.H.

GENERAL

Display: 4½ digit liquid crystal display (LCD) with maximum reading of 19999.

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

Measurement rate: 1 time/second.

Operating environment: 0°C to 50°C at <70% R.H.

Storage temperature: -20°C to 60°C, 0 to 80% R.H. with battery removed from meter.

Accuracy: Stated accuracy at 23°C±5°C, <75% R.H.

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

Battery Life: 100 hours typical with carbon zinc battery.

Dimensions: 210mm(H) x 65mm(W) x 35mm(D).

Weight: approx. 292g including battery.

Supplied Wire: 4 feet type "K" thermocouple bead wire (Teflon tape insulated). Maximum insulation temperature 260°C (500°F). Wire accuracy ±2.2°C or ±0.75% of reading (whichever is greater) from 0°C to 800°C.

OPERATING INSTRUCTIONS

1. "°C/°F" Button: Selecting the Temperature Scale
Reading 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.

2. Single-Thermocouple Temperature Measurement
The thermometer displays the temperature of the thermocouple that is connected to the selected input. Press the "T2" key to display the temperature of the thermocouple connected to the T2 input. Press the "T1" key to display the temperature of the thermocouple connected to the T1 input. The input selection cursor indicates which input is selected.

3. T2 or Differential Temperature Measurement
T2 thermocouple or Differential temperature measurement is selected by pressing the "T2/T1-T2" key. This causes the thermometer to display the temperature difference between the two thermocouples (the temperature of thermocouple T1 minus the temperature of thermocouple T2). The selection is indicated by the input selection cursor.

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

5. "REL" Button
Press "REL" key to enter Relative mode, zero the display, and store the displayed reading as a reference value and annunciator REL is displayed. Pressing "REL" key over 2 seconds to exit the relative mode.



