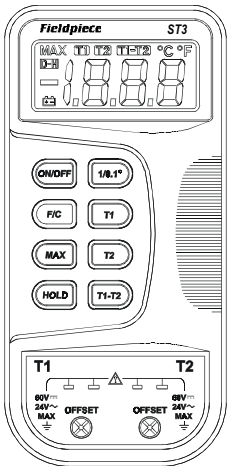


DIGITAL THERMOMETER

Model ST3



OPERATOR'S MANUAL



Description

This instrument is a portable 3 1/2 digit, compact-sized digital thermometer designed to use external K-type thermocouples as temperature sensors. Temperature indication follows National Bureau of Standards and IEC 584 temperature/voltage tables for K-type thermocouples. Two thermocouples 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 VOLTAGES AT THE MEASUREMENT SURFACE EXCEED 24VAC OR 60VDC.

⚠ WARNING!

TO AVOID DAMAGE OR BURNS, DO NOT MAKE TEMPERATURE MEASUREMENTS IN MICRO-WAVES OVENS.

Specifications Electrical

Measurement range: -58 °F to 2000 °F, (-50 °C to 1300 °C)

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

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

±4 °F ----- -58 °F to 32 °F

±2 °C ----- -50 °C to 0 °C

±(0.3% rdg + 2 °F) ----- 32 °F to 2000 °F

±(0.3% rdg + 1 °C) ----- 0 °C to 1000 °C

±(0.5% rdg + 1 °C) ----- 1000 °C to 1300 °C

Accuracy after ice bucket calibration: ±1 °F between 0 °F and 180 °F after ice water calibration.

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

Input protection: 60VDC or 24VAC maximum input voltage on any combination of input pins.

Reading rate: 2.5 times per second.

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

Environmental

Ambient operating range: 32 °F to 122 °F (0 °C to 50 °C)

Storage temperature: -4 °F to 140 °F (-20 °C to 60 °C)

Relative humidity:

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

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

General

Display: 3 1/2 digit liquid crystal display (LCD) with maximum reading of 1999.

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

Battery Life: 200 hours typical with carbon zinc battery.

Dimensions: 6.125 in. (H) x 2.917 in. (W) x 1.625 in. (D) Weight: 7.6 oz (215g)

Supplied (2) Probes: 4-foot type "k" thermocouple bead probe (teflon tape insulated). Maximum insulation temperature 500 °F (260 °C).

⚠ WARNING!

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

Operating Instructions

1. Select either degrees Fahrenheit (°F) or degrees Celsius (°C) by using the F/C key. The selection is displayed by an icon in the LCD.
2. Select resolution of 0.1° or 1° by pressing the (0.1°/1°) key. Highest reading on 0.1° resolution is 199.9. Highest reading on 1° resolution is 1999. The selection is displayed by an icon in the LCD.
3. Select thermocouple by pressing the T1, T2 key or T1-T2 input. T1-T2 will display the temperature difference between the two thermocouples. The selection is displayed by an icon in the LCD.
4. Press MAX to record the maximum values from now on. "MAX" is displayed in LCD. Press the MAX again to exit.
5. Select the DATA HOLD mode by pressing the HOLD key. The "D-H" icon is displayed in the LCD. This freezes the display and stops all further measurements. Pressing the HOLD key again returns DMM to normal operation.

Field calibration

To calibrate the system, adjust the calibration pots on the face of the converter while measuring a known temperature. Ice water is very close to 32°F and is readily available. Accuracies of one degree or better are easily obtained.

1. Stabilize a large cup of ice water. Pure distilled water will be the most accurate.
2. Immerse one probe in ice water and let it stabilize.
3. Select "T1" and adjust the "T1" calibration pot on the face of the meter to display 32.0.
4. Remove T1 from the water and repeat the previous steps 3 and 4 for "T2".

Warranty

The product is warranted to the original purchaser against defects in material or workmanship for a period of one (1) year from the date of purchase. During the warranty period, Fieldpiece Instruments will, at its option, replace or repair the defective unit.

This warranty does not apply to defects resulting from abuse, neglect, accident, unauthorized repair, alteration, or unreasonable use of the instrument. Any implied warranty arising out of the sale of Fieldpiece's products including but not limited to implied warranties of merchantability, and fitness for purpose, are limited to the above. Fieldpiece shall not be liable for incidental or consequential damages.

State laws vary, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



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