P/N 949751
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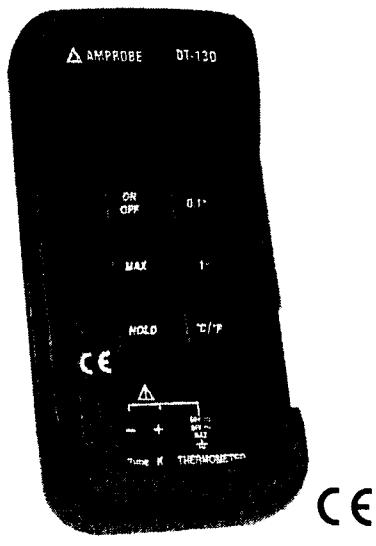
OPERATING INSTRUCTIONS
for
AMPROBE



CE

Digital Thermometer
Model DT-130

AMPROBE.
A United Dominion Company

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LIMITED WARRANTY

Congratulations! You are now the owner of an AMPROBE® instrument. It has been quality crafted according to the highest standards of quality and workmanship. This instrument has been inspected for proper operation of all its functions and tested by qualified factory technicians according to the long-established standards of AMPROBE®.

Your AMPROBE® instrument has a limited warranty against defective materials and/or workmanship for one year from the date of purchase provided that the seal is unbroken or, in the opinion of the factory, the instrument has not been tampered with or taken apart.

Should your instrument fail due to defective materials, and/or workmanship during the one-year warranty period, return it along with a copy of your dated bill of sale which must identify instrument by model number and manufacturing number.

IMPORTANT: For your protection, please use the instrument as soon as possible. If damaged, or should the need arise to return your instrument, place it in a shipping carton packed with sufficient packing material. It must be securely wrapped. Amprobe is not responsible for damage in transit. Be sure to include a packing slip (indicating model and manufacturer number) along with a brief description of the problem. Make certain your name and address appears on the box as well as the packing slip.

Ship prepaid via Air Parcel Post insured or U.P.S. (where available) to:

Service Division
AMPROBE®
630 Merrick Road (For U.P.S.)
P.O. Box 329 (For Parcel Post)
Lynbrook, NY 11563-0329

Outside the U.S.A. the local Amprobe representative will assist you. Above limited warranty covers repair and replacement of instrument only and no other obligation is stated or implied.

SAFETY INFORMATION

This instrument is a digital thermometer for use with any K-type thermocouple as a temperature sensor. Temperature indication follows the National Bureau of Standards and IEC584 temperature/voltage tables for K-type thermocouples.

Read the following safety information carefully before attempting to operate or service the meter.

Use the meter only as specified in this manual; otherwise, the protection provided by the meter may be impaired.

MAINTENANCE & CLEANING

Repairs or servicing are not covered in this manual and should only be performed by qualified personnel.
Periodically wipe the case with a dry cloth. Do not use abrasives or solvents on this instruments.

SAFETY SYMBOLS

Meter is protected throughout by double insulation or reinforced insulation.

CE Instrument complies with IEC1010-1.

When servicing, use only specified replacements parts.

LOCATION OF CONTROLS

Fig. 1 - DT-130

1. **ON/OFF**
   The ON/OFF key will turn the thermometer ON or OFF.

2. **LCD Display**
   The DT-130 has a 3 1/2" digital liquid crystal display (LCD) which can display 4 digits with a maximum reading of 1999. Each digit has a height of 0.5" (14mm). See figure 2 for all anunciators.

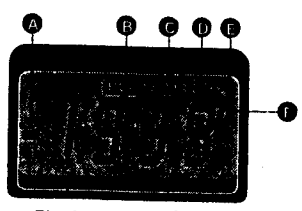

Fig. 2 - DT-130 Display

A. Negative Polarity
B. Data Hold
C. Maximum Hold
D. Low Battery Indicator
E. Celsius Temperature Scale Selected
F. Fahrenheit Temperature Scale Selected

3. Max Button
Press this button once and the meter will show the Maximum temperature reading taken since the instrument was turned "On". Press it again and the meter will display the present temperature reading (the Max value of temperature will be ereased).

Hold Button
Pressing the "HOLD" button selects DATA HOLD mode and the "HOLD" symbol appears on the display. Pressing the button once more cancels the HOLD mode, and causes the thermometer to resume taking measurements.

T1
Thermocouple Input Socket

0.1
Pressing the "0.1" button selects 0.1 degrees resolution. Range from -50.0° to 199.9°

1.0
Pressing the "1.0" button selects 1 degree resolution. Range from -50°F to 1999°F (-50°C to 1300°C).

°F/°C
The °F/°C button switches between the celsius (°C) and Fahrenheit (°F) scales on the display.

OFFSET
The "OFFSET" control allows you to optimize measurement accuracy for a particular temperature (Fig. 3). The OFFSET control is adjusted by using a small screwdriver.

10. OUTPUT
Output for standard 3 pole 3.5mm coaxial jack (Internal Connector Pin and mediate). 1mV DC / °F(°C)..... at 0.1°F / 0.1°C resolution, 0.1mV DC / °F(°C).....at 1°F / 1°C resolution, Impedance: 50Ω

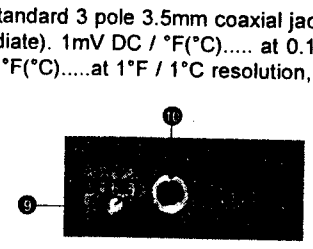

Fig. 3 - Offset and Output

TEMPERATURE MEASUREMENT

1. Turn on the thermometer.
2. Plug the thermocouple into the thermocouple input socket.
3. Set the thermometer to desired function (°F or °C) scale & 0.1 or 1.0 range).
4. Perform measurements by contacting the object to be measured with the probe sensor.
5. Read the temperature on the display.

WARNING
To avoid electrical shock, do not use this instrument when voltages exceeding 24V AC or 60V DC are present. Their are NO output terminals on this model. This is a cool model.

OPEN THERMOCOUPLE INDICATION

The symbol "*OL*" is displayed if any of the following conditions occur:

1. If no thermocouple is plugged into the thermocouple input socket.
2. If the thermocouple connected to the input is broken or open circuited.

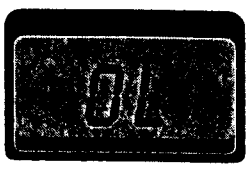

Fig. 4 - Overange & Open Thermocouple Display

REPLACING BATTERY

1. Remove protective boot from instrument.
2. Using a small phillips screwdriver, remove the three screws from the back of the unit.
3. Open unit, replace old battery with new one, and close unit.

RECALIBRATION PROCEDURE

Thermometer should be calibrated once a year to ensure its accuracy is within specifications. The required adjustments are listed below. A high accuracy thermocouple temperature simulator should be used for these adjustments.

1. 0.0°C adjust VR1
2. 0.0°F adjust VR2
3. 165.0°F adjust VR5
4. 952°F adjust VR4
5. 511°C adjust VR3
6. OUTPUTS Sign 0.0mVDC adjust VR7 (at 0.0°C)

SPECIFICATIONS

Measurement Range
• -50°F to 1999°F (-50°C to 1300°C)

RF Field Derating
• Strong RF fields can adversely affect accurate measurements.

Resolution
• 0.1°F, 1°F, 0.1°C, 1°C

Maximum Voltage at Thermocouple Input
• 60V DC, 24V AC

Operating Temperature and Humidity
• 32°F to 104°F (0°C to 40°C) below 80% RH (noncondensing)

Storage Temperature and humidity
• 14°F to 140°F (-10°C to 60°C) below 70% RH (noncondensing)

Display Rate
• Approximately 2.5 times per second nominal.

Power Requirement
9-Volt battery, NEDA 1604 or JIS 006P or IEC6F22

Battery Life (Typical)
• 200 hours (Alkaline Battery)

Dimensions
• 5.3 (L) x 2.8 (W) x 1.2 (H) inches; 135 (L) x 72 (W) x 31 (H) mm

Weight
• Approx. 8.3oz. (235g.), includes battery

Supplied Accessories
- Battery
- Instruction Manual
- Type K Thermocouple (Max. measuring Temp. = 400°F)

Basic Accuracy (@23°C±5°C)
- Calibration accuracy is ± (...% of reading + 2°F or 1°C) with relative humidity up to 80%.

Function		Resolution	Range	Accuracy	Output Signal
°F	-50°F~1999°F	0.1°F	-50°F~199.9°F	±(0.3%+2°F)	±(0.5%+5mV)
		1°F	-50°F~1999°F	±(0.5%+2°F)	±(0.75%+0.5mV)
°C	-50°C~1300°C	0.1°C	-50°C~199.9°C	±(0.3%+1°C)	±(0.3%+2mV)
		1°C	-50°C~1000°C	±(0.5%+1°C)	±(0.75%+0.2mV)
			1001°C~1300°C	±(0.75%+1°C)	

NOTE
The basic accuracy specification does not include the error of the probe. Please refer to the probe accuracy specification for additional details.

For single thermocouple measurements:
For T1-T2 measurements accuracy is basic accuracy add 0.2%rdg.

Temperature Coefficient
- For ambient temperatures: 32°F to 64°F & 82°F to 122°F (0°C to 18°C & 28°C to 50°C) ambient multiply the basic accuracy specification by 0.1 for each degree above 82°F (28°C) or below 64°F (18°C).

ACCESSORIES

K (CA) Type Thermocouple

Model	Range	Tolerances	Description
TPK-56 Bead Probe	-58°F to 392°F (-50°C to 200°C)	±3.6°F or ±0.75% (±2.2°C or ±0.75%)	w/ teflon tape insulation. maximum insulating temperature: 500°F/260°C

Fig. TPK-56 Bead Probe