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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, please send 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

The 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 IEC594 temperature/voltage tables of K-type thermocouples.

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

MOUNTING & 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 the instrument.

SAFETY SYMBOLS

The instrument complies with IEC1010-1.

When servicing, use only specified replacement parts.

LOCATION OF CONTROLS

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 annunciators.

Fig 1 - DT-130

Fig 2 - DT-130 Display
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 erased).

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°C to 199.9°C.
1.0
Pressing the "1.0" button selects 1 degree resolution. Range from -50°F to 199°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 socket). 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.

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 "O" 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.
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. 0.5°F adjust VR2
3. 1.5°F adjust VR3
4. 9°F adjust VR4
5. 61°F adjust VR5
6. OUTPUTS Sign 0.0mVDC adjust VR7 (at 0.0°C)

SPECIFICATIONS
Measurement Range
-0°F to 199°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 C009P or IEC 6F22

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 ±1.5% of reading + 2°F or 1°C with relative humidity up to 80%.

<table>
<thead>
<tr>
<th>Function</th>
<th>Resolution</th>
<th>Range</th>
<th>Accuracy</th>
<th>Output Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>0°F-1°F</td>
<td>1°F</td>
<td>0°F-100°F</td>
<td>±(0.3%+1°F)</td>
<td>±(0.5%+1mV)</td>
</tr>
<tr>
<td>1°F</td>
<td>1°F</td>
<td>0°F-100°F</td>
<td>±(0.5%+1°F)</td>
<td>±(0.75%+1mV)</td>
</tr>
<tr>
<td>-50°C-1°C</td>
<td>1°C</td>
<td>0°F-100°C</td>
<td>±(0.5%+1°C)</td>
<td>±(0.75%+2mV)</td>
</tr>
<tr>
<td>1°C</td>
<td>1°C</td>
<td>100°F-1300°C</td>
<td>±(0.5%+1°C)</td>
<td>±(0.75%+2mV)</td>
</tr>
</tbody>
</table>

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°F/dg.

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

<table>
<thead>
<tr>
<th>Model</th>
<th>Range</th>
<th>Tolerances</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TPK-94 Bead Probe</td>
<td>-58°F to 392°F</td>
<td>±0.6°F or ±0.75%</td>
<td>±2.0°C or ±0.75%</td>
</tr>
<tr>
<td></td>
<td>(-50°C to 200°C)</td>
<td>(at 2.0°C or ±0.75%)</td>
<td>at 500°C</td>
</tr>
</tbody>
</table>

Fig. TPK-94 Bead Probe