The TA-1000 is a precision temperature measuring device which provides a true volume weighted average temperature for two separate channels using a volume input signal and a temperature probe input signal for each channel. The microprocessor controlled TA-1000 automatically calibrates the temperature probe each time temperature is sampled using two internal precision references. This technique eliminates both temperature drift and the requirement for field calibration since the probe temperature is calculated using a ratio of the probe and internal references in lieu of a fixed voltage or current level. Probe temperature, input counts, total temperatures, average temperature, reset totals, flow rates and alarms are displayed for each channel. An internal lithium battery preserves all data and alarms during battery power failure and continues normal operation when power is restored. A fail-safe alarm relay is provided to shut down external equipment in the event of power failure, alarms, probe failure or microprocessor failure.

### COUNT INPUTS
- **LEVEL:**
  - D. C. Dry Contact
  - A. C. 115 V AC Switched
- **ISOLATION:** 1500 Volts - Optical

### TEMPERATURE PROBE INPUTS
- Dual Thermister Probe (Standard)
  - 
  -20° to 150° F Range

### TEMPERATURE ACCURACY
- Probe Accuracy and Interchangeability
  - ±0.15° F over a range of -20° to 150° F
- Internal Resolution ± 0.01° F

### OPERATING TEMPERATURES
- -10° to 160° F (Standard)
- 0 to 130° F, 0 to 140° F, 0 to 150° F,
- 32° to 212° F, 59° to 239° F (Optional)

### DISPLAY
- 16 Character Alpha Numeric
- Liquid Crystal with Back Lighting
- Total Temperature - 8 Digits
- Probe Temperature - 4 Digits
- Average Temperature - 4 Digits
- Flow Rate - Counts per hour
- Temperature Resolution ± 0.1° F

### CONTROLS
- Forward/Reverse Switch to Cycle Display
- Internal Reset Switch - Alarm/Totals

### ALARM RELAY
- 10 Amp SPDT Dry Contact

### COUNT ACCURACY
- ± 1% of Input Counts

### LITHIUM BATTERY LIFE
- 3 to 5 Years (coin style - replaceable)

### SIZE
- 11.0” H x 8.5” W x 7.0” D

### WEIGHT
- 7.0 Pounds

### ENCLOSURE
- NEMA 4X Fiberglass (Standard)
- NEMA 7 or NEMA 12 (Optional)

### POWER REQUIRED
- AC or DC
- 115 VAC 60 Hz .5 Amp or
- 11 to 15 VDC .6 Amp

### DATA STORAGE
- MCU-Motorola 68332 @ 20mhz
- Program - Non Volatile EPROM 8/1 M
- DATA - CMOS RAM w/Battery Backup

### COMMUNICATIONS
- Remote - RS-232 C (Standard)
- Custom Software Available

### OPTIONS
- Temperature, Pressure Combination, Printer
- Output, Communication Formats Available, Extended Temperature Ranges
TEMPERATURE RESPONSE TEST

TA-1000 PROBE AND THERMOWELL TEMPERATURE RESPONSE TEST
Dual Thermister Probe (Standard)

Degrees Fahrenheit

Time in Seconds

Bare Probe
Probe with Standard Thermowell
Probe with LEMC High Response Finned Thermowell
## MODEL

<table>
<thead>
<tr>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA-1000 Standard 2-Channel Temperature Averager</td>
</tr>
<tr>
<td>TP-1000 Temperature &amp; Pressure Averager</td>
</tr>
<tr>
<td>TD-1000 Temperature &amp; Density Averager</td>
</tr>
<tr>
<td>TB-1000 Temperature &amp; BS&amp;W Averager</td>
</tr>
</tbody>
</table>

## CODE ENCLOSURES

<table>
<thead>
<tr>
<th>Code</th>
<th>Enclosures</th>
</tr>
</thead>
<tbody>
<tr>
<td>4X</td>
<td>Standard Fiberglass - NEMA 4X</td>
</tr>
<tr>
<td>7</td>
<td>Explosion Proof - NEMA 7</td>
</tr>
</tbody>
</table>

## CODE TEMPERATURE PROBE OPTIONS

<table>
<thead>
<tr>
<th>Code</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>One (1) Dual Thermister Probe</td>
</tr>
<tr>
<td>B</td>
<td>Two (2) Dual Thermister Probes</td>
</tr>
</tbody>
</table>

## CODE THERMOWELL OPTIONS

<table>
<thead>
<tr>
<th>Code</th>
<th>Options</th>
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</thead>
<tbody>
<tr>
<td>NG</td>
<td>1/2&quot; NPT x 4&quot; &quot;U&quot; Dimension</td>
</tr>
<tr>
<td>N J</td>
<td>Low Pressure Meter - 2 Hole Plug</td>
</tr>
<tr>
<td>N K</td>
<td>High Pressure Meter - 4 Hole Plug</td>
</tr>
</tbody>
</table>

## CODE MISCELLANEOUS OPTIONS

<table>
<thead>
<tr>
<th>Code</th>
<th>Options</th>
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</thead>
<tbody>
<tr>
<td>AL</td>
<td>Second Alarm Relay</td>
</tr>
<tr>
<td>PT</td>
<td>Printer Software Only</td>
</tr>
<tr>
<td>PTR</td>
<td>Printer and Software</td>
</tr>
<tr>
<td>COM</td>
<td>Communication Option</td>
</tr>
<tr>
<td>NPO</td>
<td>Net Pulse Output</td>
</tr>
<tr>
<td>BSWC</td>
<td>BS&amp;W Control</td>
</tr>
<tr>
<td>CBL1</td>
<td>Cable Communication - RS232C</td>
</tr>
<tr>
<td>CBL2</td>
<td>Cable Printer - RS232C</td>
</tr>
<tr>
<td>PR4X</td>
<td>Pressure Transducer NEMA 4X</td>
</tr>
<tr>
<td>PR7</td>
<td>Pressure Transducer NEMA 7</td>
</tr>
<tr>
<td>SPW</td>
<td>Solar Power System</td>
</tr>
<tr>
<td>24VDC</td>
<td>24 VDC to 12 VDC Converter</td>
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<tr>
<td>MFX</td>
<td>Meter Factor</td>
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