3GHz low-cost high resolution handheld frequency counter
PFM3000  3 GHz low-cost high resolution handheld frequency counter

- 3 Hz to > 3000 MHz in two overlapping ranges
- High input sensitivity over the full frequency range
- High impedance measurement up to 125 MHz
- Reciprocal counting technique gives superior resolution
- Period measurement from 3 Hz to 125 MHz

Wide frequency range and high resolution
The PFM3000 offers high sensitivity frequency measurement from 3Hz to more than 3GHz in two overlapping ranges. Period measurement is also provided from 8ns to 330ms. The PFM3000 uses a continuous reciprocal measurement technique to provide high resolution at all frequencies with rapid update. It offers high sensitivity across the whole frequency range. A low pass filter can be selected to reduce high frequency signal noise at lower frequencies.

Battery operation; handheld format with tilt-stand
- Push-to-measure function with auto power-down
- Large 8+ digit display with full range of annunciators
- Selectable measurement time; display hold function
- Noise filter for low frequency measurements

Large and clear display
Despite its compact dimensions, the PFM3000 incorporates a large 8 digit LCD. Annunciators are provided for measurement function, measurement time, overflow, trigger activity, low battery, and measurement units.

Low power consumption and push-to-measure
Despite its wide frequency range the PFM3000 has a power consumption that enables it to operate for many hours from a PP3 size battery. A push-to-measure capability gives an instantaneous reading followed by an automatic power down after 15 seconds. This provides greatly extended battery life where continuous monitoring of the signal is not required.

Bench-top use
The PFM3000 has the performance needed for many bench-top applications, and its built-in tilt stand sets the display at a convenient angle.

### OPERATING FUNCTIONS
- **Press to measure**
  With the power switch off, pressing any of the function select keys will power the instrument up in the corresponding function. The instrument will automatically switch off 15 seconds after the last key press.
- **Hold**
  Pressing the Hold key will stop further measurements being made and the current measured value will remain in the display until the Hold key is pressed again.
- **Noise filter**
  The Filter key controls a low pass filter, with a cut-off frequency of about 50kHz, to ensure more stable readings at low frequencies.

### INPUT SPECIFICATIONS

<table>
<thead>
<tr>
<th><strong>Input A</strong></th>
<th><strong>Input B</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Impedance: 1MΩ/20pF (AC coupled)</td>
<td>Input Impedance: 50Ω (AC coupled)</td>
</tr>
<tr>
<td>Frequency Range: &lt;3Hz to &gt;125MHz</td>
<td>Frequency Range: &lt;30MHz to &gt;3000MHz</td>
</tr>
<tr>
<td>Sensitivity: Sinewave - 15mVrms 10Hz-125MHz</td>
<td>Sensitivity: Sinewave - 15mVrms 80MHz-2GHz, 50mVrms to 3GHz</td>
</tr>
</tbody>
</table>

### OUTPUT SPECIFICATIONS

<table>
<thead>
<tr>
<th><strong>Display</strong></th>
<th><strong>Power Requirements</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Digits: 8 full digits plus overflow indicator for 8.5 digits</td>
<td>Battery Type: 9V PP3 alkaline</td>
</tr>
<tr>
<td>Size of Digits: 11.5mm (0.45”)</td>
<td>Battery Life: Typically 20 hours</td>
</tr>
<tr>
<td>Annunciators: 15 annunciators</td>
<td>Low Batt. Indicator: ‘Bat’ shows in display when approximately 10% of battery life remains</td>
</tr>
</tbody>
</table>

### POWER REQUIREMENTS

- Battery Type: 9V PP3 alkaline
- Battery Life: Typically 20 hours
- Low Batt. Indicator: ‘Bat’ shows in display when approximately 10% of battery life remains

### GENERAL

- Operating Range: -5°C to +40°C, 20% to 80% RH
- Storage Range: -20°C to +60°C
- Environmental: Indoor use at altitudes up to 2000m Pollution Degree 2
- Size: 81mm x 178mm x 30mm (W x L x D)
- Weight: 190gms excluding battery
- Electrical Safety: Complies with EN61010-1
- EMC: Complies with EN61326

Thurlby Thandar Instruments Ltd. operates a policy of continuous development and reserves the right to alter specifications without prior notice.

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**Designed and built in Europe by:**

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