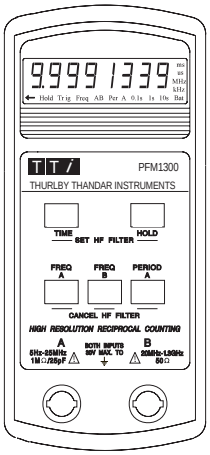
THURLBY THANDAR INSTRUMENTS

PFM1300 1.3GHz hand-held frequency counter



- 5Hz to 1300MHz frequency range
- Very high sensitivity at all frequencies
- Frequency and period measurement, 0.0001mHz resolution
- Reciprocal counting technique gives superior accuracy
- Push-to-measure function with auto power-down
- Large 8 digit display with full range of annunciators

A hand-held counter with bench top performance

The PFM1300 is a highly compact battery powered frequency counter which offers the convenience of a hand-held multimeter.

Surprisingly, however, its performance exceeds that of many bench top counters of much higher cost.

A large and clear display

Despite its compact dimensions, the PFM1300 incorporates an 8 digit liquid crystal display of the size you'd expect to find on a bench top instrument.

A full range of annunciators provide indication of measurement function, measurement time, overflow, trigger activity, low battery, and the measurement units.

Operation is simplicity itself with all functions and ranges being selected using just five large buttons.

Wide frequency range and high sensitivity

The PFM1300 can measure frequencies in the range 5Hz to 1300MHz.

Unlike many counters, the sensitivity is high across the whole frequency range with no dead spots.

A low pass filter can be selected to reduce high frequency signal noise and ensure stable readings at lower frequencies.

Low power consumption and push-to-measure

Despite its wide frequency range the PFM1300 has a remarkably low power consumption enabling it to operate for many hours from a PP3 size battery.

A push-to-measure capability gives a virtually 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.

Alternatively it can be operated from AC line via a DC adaptor.

Reciprocal counting for improved resolution

The PFM1300 uses a reciprocal frequency counting technique which involves multiple period measurements followed by computation of the reciprocal.

The system yields at least 7 digits of resolution per second of measurement time and can measure low frequencies to a resolution of 0.0001mHz.

Frequency and period measurement

The PFM1300 can display signals in terms of period as an alternative to frequency up to 25MHz.

Hold function

A Hold button allows readings to be frozen on the display for measuring non continuous signals or recording results later.

Note: *This is a faxable data sheet, a colour brochure is also available.*

MEASUREMENT FUNCTIONS

Frequency (Range A)

Frequency Range:	5Hz to 25MHz
Resolution:	10-7Hz to 10Hz (see Note)
Accuracy:	± (1 digit + timebase error)

Frequency (Range B)

Frequency Range:	20MHz to 1.3GHz
Resolution:	1Hz to 1kHz (see Note)
Accuracy:	± (1 digit + timebase error)

Period

Frequency Range:	5Hz to 25MHz
Resolution:	10-7ns to 1us (see Note)
Accuracy:	± (1 digit + timebase error)

Note: The resolution depends upon the measurement time and the input frequency. At least 7 digits are displayed per second of measurement time. Measurement time is selectable to be 0.1, 1, or 10 seconds.

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 key is released.

Hold

Pressing the Hold key will stop further measurements being made and the current measured value will remain in the display, with the Hold indicator on, until the Hold key is pressed again.

INPUT SPECIFICATIONS

Input A

Input Impedance:	1MΩ//25pF
Frequency Range:	5Hz to 25MHz
Sensitivity:	Sinewave 15mVrms 10Hz-20MHz

Input B

Input Impedance:	50Ω nominal
Frequency Range:	20MHz - 1.3GHz
Sensitivity:	10mVrms 20MHz - 700MHz, 50mVrms to 1.3GHz

Signal activity indicator

When an adequate input signal is present the Trig indicator will show, indicating that a measurement is possible.

Noise filter

For Input A, a low pass filter with a cut-off frequency of 50kHz is user selectable to ensure stable readings at low frequencies.

DISPLAY	8 digits (11.5mm high) and 11 annunciators

TIMEBASE

Initial Error:	± 2ppm (10MHz crystal)
Temperature Coefficient:	Typically < ± 0.3ppm/°C for 18oC to 28oC and ± 10ppm for -20°C to 70°C
Ageing Rate:	< ± 5ppm/year

POWER REQUIREMENTS

Battery Type:	9V PP3 alkaline
Battery Life:	Typically 12 hours continuous or 3000 press-to-measure operations. Low battery indicator

PHYSICAL & ENVIRONMENTAL

Safety:	Designed and manufactured to IEC1010-1
Operating Range:	+5°C to +40°C, 20% to 80% RH
Storage Range:	-20°C to +60°C
Size:	81x178x30mm (W x L x D)
Weight:	190g excluding battery

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

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