

## Programmable 2.4GHz Universal Counter

- Highly accurate frequency measurements to 2.4GHz
- Measures Frequency, Period, Duty Cycle, RPM, Frequency ratio, Difference frequency, Time interval and Totalize
- Nine measurement functions
- Plots trend graph on LCD display
- Compare, Relative Error and Min/Max functions
- Standard RS-232 with optional GPIB interface
- Eight setup screens may be saved and retrieved from memory
- Software for controlling, displaying data and data logging
- Operates on all line voltages from 85V to 270V without any changes



**C3100**

### ■ SPECIFICATIONS

#### Frequency Measurement

##### Freq A

Ranges: DC coupled: 0 to 120MHz  
AC coupled: 10Hz to 120MHz  
Resolution: 0.00001Hz @ 200Hz  
Gate Times: 50ms to 10s (20 settings)  
Accuracy:  $\pm 2$ PPM; Coupling: AC or DC  
Trigger Level:  $\pm 1.8$ V in a scale from -99 to +99

##### Freq B

Ranges: DC coupled: 0 to 120MHz  
AC coupled: 10Hz to 120MHz  
Resolution: 0.00001Hz @ 200Hz  
Gate Times: 50ms to 10s (20 settings)  
Accuracy:  $\pm 2$ PPM; Coupling: AC or DC  
Trigger Level:  $\pm 1.8$ V in a scale from -99 to +99

##### Freq C

Ranges: 100MHz to 2.4GHz  
Resolution: 100Hz @ 500MHz  
Gate Times: 50ms to 10s (20 settings)  
Accuracy:  $\pm 2$ PPM + 1 count  
Coupling: AC only  
Trigger Level: Auto

##### Totalize

Input: CH A  
Frequency Range: DC to 10MHz  
Count Capacity: 0 to 99,999,999 counts  
Resolution: 1 count  
Accuracy:  $\pm 1$  count

#### Time Interval (A $\rightarrow$ B)

Input: CH A and CH B  
Range: 0.5 $\mu$ s to 200,000 $\mu$ s  
Minimum Pulse Width: 250ns  
Resolution: 1 $\mu$ s  
Accuracy:  $\pm 1$  count + timebase accuracy

#### Ratio (A/B)

Inputs: CH A and CH B  
Range: CH A: 10MHz to 150MHz  
CH B: 0.1MHz to 10MHz  
Resolution (0.000001)

#### Duty Cycle

Input: CH A  
Measurement Range: 0.01% to 99.99%  
Frequency Range: 0 to 100KHz

#### RPM

Input: CH A  
Measurement Range: 0 to 600,000 RPM  
Minimum Pulse Width: 250ns  
Resolution: 0.1 RPM

#### Input Characteristics

**Channel A & B**  
Frequency Range: 0 to 120MHz  
Sensitivity: 25mV  
Input Impedance: 1M $\Omega$  + 35 $\mu$ F capacitance  
Attenuator: X1, X10  
Maximum Input Volts: 250V DC or AC peak

#### Channel C

Frequency Range: 100MHz to 2.4GHz (usable to 2.7GHz)  
Sensitivity: 25mV RMS (100MHz to 2.4GHz)  
Maximum Input voltage: 5V DC or AC peak  
Attenuator: None  
Input Impedance: 50 $\Omega$

#### Reference Timebase Oscillator

Standard Frequency: 10MHz, 4.194304MHz  
Frequency Stability:  $\pm 5.0$  PPM Max  
Aging Rate:  $\pm 1.0$  PPM Max/Yr  
Temperature: -30 to +60 $^{\circ}$ C  
Storage Temperature Range: -40 to +85 $^{\circ}$ C

#### Software

The supplied software is a Windows<sup>®</sup>-based program, which runs under Windows 95/98/ME/XP/2000. It allows the user to set the Instrument Parameters from the PC via the RS-232 interface and provides time stamped data logging for all functions.

#### General Specifications

Display: 128 x 64 pixel super twist LCD  
Line Voltage: AC input Volts: 85 to 270V AC  $\pm 10\%$   
Line Frequency: 48Hz to 66Hz  
Power Consumption: 15W  
Operating Temperature: 0 to 40 $^{\circ}$ C (32 to 104 $^{\circ}$ F)  
Size: 3.3" H x 11.6" W x 11.0" D; Weight: 4.4 lbs  
Supplied Accessories: Manual, Line cord, BNC cable, Software, RS-232 cable  
Optional Accessories: GPIB (installed)

counters