

Model UC10A

100MHz Universal Counter

- ◆ 5Hz to 100MHz Frequency Range
- ◆ Two Input Channels
- ◆ Measures Frequency, Period, Frequency Ratio, Time Interval, and Unit Count
- ◆ 20mV Input Sensitivity
- ◆ 4 Selectable Gate Times
- ◆ 14 LED Indicators
- ◆ 8-Digit LED Display
- ◆ Internal Oscillator Self Check

The UC10A is a feature-packed, highly accurate universal counter that measures frequency, period, frequency ratio of two input signals, time interval between two input signals, and unit count (totalize mode). It measures frequency from 5Hz to 100MHz with an input sensitivity of 20mV over the entire range. Four user-selectable gate times allow measurements at four levels of resolution. Push buttons provide easy access to six functional capabilities, four gate time selections, attenuator, input frequency range, and reset. Function selections are indicated by a combination of an LED indicator and a distinctive annunciator tone. A large, 8-digit LED indicates all readings. OVER, GATE, kHz and μ sec are separately identified by LEDs. A built-in 10:1 attenuator minimizes false counting by reducing sensitivity and thus noise effects. To verify internal time base generator and counter accuracy, the UC10A has complete self-check capability.

The UC10A is housed in a stylish case, featuring a cushion grip carrying handle/tilt stand, rear cord wrap, and recessed areas in the top cover for easy stacking of multiple units.

UC10A Specifications (at 23°C ±5°C; <70% R.H.)

Frequency Input	
Low Range	5Hz to 10MHz
High Range	50Hz to 100MHz
Frequency Measurement	
Range	5Hz to 100MHz
Gate Time	Selectable 0.01s, 0.1s, 1.0s, 10s
Resolution	
5Hz to 10MHz	100Hz, 10Hz, 1Hz, 0.1Hz
50Hz to 100MHz	1000Hz, 100Hz, 10Hz, 1Hz
Accuracy	±(time base stability ± 1 count)
Period Measurement	
Range	0.04 μ s to 0.2s
Gate Time	Selectable 0.01s, 0.1s, 1.0s, 10s
Resolution	
5Hz to 2.5MHz	0.1ns, 1.0ns, 10ns, 100ns
2.5MHz to 25MHz	0.01ns, 0.1ns, 1.0ns, 10ns
Accuracy	±1 count ±time base stability ±trigger error of signal
Frequency Ratio	
Low Range	Freq. Input: 5Hz to 10MHz Ratio Input: 5Hz to 2.5MHz
High Range	Freq. Input: 50Hz to 100MHz Ratio Input: 50Hz to 25MHz
Time Interval	
Input Frequency	5Hz to 2.5MHz (low range only)
Range	0.4 μ s to 0.2s
Resolution	100ns, 10ns, 1.0ns, 0.1ns
Accuracy	±1 count ±trigger error

Unit Count (Totalize)

Input Frequency	5Hz to 10MHz (low range only)
Count Capacity	99,999,999

Self-Check

Checks and displays the internal time base oscillator frequency

Input Sensitivity

Frequency Input	X1.0: 20mVRMS
Attenuator	X10: 200mVRMS
Ratio Input	20mVRMS

Input Impedance

Constant 1M Ω ±50k Ω shunted by less than 30pF over frequency range and attenuator position.

Max. Input Peak Voltage (DC+AC peak)

5Hz to 1kHz	212V
At 100MHz	7V

GENERAL

Display: 8 digit, 8mm (0.3") high LED display; **Functions:** Frequency, Period, Frequency Ratio, Time Interval, Unit Count, Self-Check; **Indicators:** kHz, μ s, OVER, GATE, 6 functions, 4 gate times; **Accessories:** AC power cord, two coaxial cables, two spare fuses, Operator's Manual; **Operating Temperature:** 0°C to 50°C (32°F to +122°F), 80% R.H.; **Storage Temperature:** -40°C to 70°C (-40°F to 158°F); **Time Base Temperature Stability:** ±5ppm 25°C ±5°C (77°F ±9°F); **Initial Time Base Calibration:** ±5ppm max. at 23°C (73.4°F); **Aging Rate:** 1ppm per month max.; **Power:** 117VAC or 234VAC, 50 or 60Hz, ≤15VA; **Dimensions (H x W x D):** 7.9cm x 23cm x 33cm (3.1" x 9.0" x 13.0") (Exclusive of Handle); **Weight:** 2kg (4.4 lb); **Warranty:** One year

