

# Frequency Counter

## Protek 9100/U2000A



Protek 9100

### Features

- Frequency, Period, Totalize Measurements
- Low Pass Filter
- 2 Channel Inputs (100MHz, 1GHz)
- 8 Digits LED Display
- 3 Steps Gate Time Control
- 1/20 Input Attenuator



Protek U2000A

### Features

- Frequency, Period, Totalize, Ratio Measurements
- Low Pass Filter
- 8 Digits LED Display
- 4 Steps Gate Time Control
- 1/10 Input Attenuator
- 3 Channel Inputs (CH A, CH B, CH C)
- Variable Trigger Level
- Self Test

### Specifications

MODEL	9100	U2000A
Frequency Range		
Channel A	10Hz ~ 10MHz : 10MHz Range 10MHz ~ 100MHz : 100MHz Range	0,1Hz ~ 10MHz : Low Mode 10MHz ~ 100MHz : High Mode
Channel B	100MHz ~ 1GHz	10MHz ~ 2GHz
Sensitivity		
Channel A	25mVrms (10Hz ~ 8MHz) : 10MHz Range 50mVrms (8MHz ~ 10MHz) : 10MHz Range 25mVrms (10MHz ~ 80MHz) : 100MHz Range 50mVrms (80MHz ~ 100MHz) : 100MHz Range	25mVrms (0,1Hz ~ 100MHz)
Channel C (CH B at 9100)	20mVrms	25mVrms (20MHz ~ 1,6GHz) / 50mVrms (10MHz ~ 2,0GHz)
Input Characteristic		
Impedance	1M $\Omega$ 35pF (CH A), 50 $\Omega$ (Ch B)	1M $\Omega$ 30pF (CH A, B), 50 $\Omega$ (Ch C)
Max. Input Voltage	250V (DC + AC rms, CH A), 3Vrms (CH B)	250V (DC + AC rms, CH A), 3Vrms (CH C)
Resolution	1Hz / 10Hz / 100Hz : 10MHz 10Hz / 100Hz / 1KHz : 100MHz 100Hz / 1KHz / 10KHz : CH B	0,1Hz / 1Hz / 10Hz / 100Hz : Low Mode 1Hz / 10Hz / 100Hz / 1KHz : High Mode 10Hz / 100Hz / 1KHz / 10KHz : CH C
Time Base		
Reference Oscillator	10MHz, 3,90625MHz (CH B)	10MHz, 3,90625MHz (CH B, C)
Short Term Stability	$\pm 3 \times 10^{-9}$ (1s Average)	
Long Term Stability	$\pm 2 \times 10^{-5}$ / Month	$\pm 3 \times 10^{-7}$ / Month
Temperature	$\pm 1 \times 10^{-5}$ (0 $^{\circ}$ C ~ 40 $^{\circ}$ C)	$\pm 5 \times 10^{-6}$ (0 $^{\circ}$ C ~ 40 $^{\circ}$ C)
Gate Time	0,01 / 0,1 / 1s (CH A) 0,027 / 0,27 / 2,7s (CHB)	0,01 / 0,1 / 1 / 10s (CH A) 0,0256 / 0,256 / 2,56 / 25,6s (CHC)
Ratio A/B		
Range		10 ~ 100MHz (CH A), 0,1Hz ~ 10MHz (CH C)
Multiplier		1 / 10 / 100 / 1000 (4 Mode)
Period	10Hz ~ 2,5MHz, $10^{-7}$ / $10^{-8}$ / $10^{-9}$ s	5Hz ~ 2MHz, 0,01 / 0,1 / 1 / 10s
Time Interval (T1 A $\rightarrow$ B)		5Hz ~ 2MHz, 1 / 10 / 100 / 1000 (4 Mode)
Totalize (CH A)	10Hz ~ 10MHz, $\pm 1$ Count of Input	DC ~ 10MHz
General		
Power Requirement	AC 100 / 120 / 220 / 230V AC $\pm 10\%$ , 50Hz / 60Hz	100 / 120 / 220 / 230V AC $\pm 10\%$ , 50Hz / 60Hz
Dimension & Weight	250(W) X 267 (D) X 76(H) mm / Approx. 2,4Kg	253(W) X 280 (D) X 95(H) mm / Approx. 2,4Kg

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