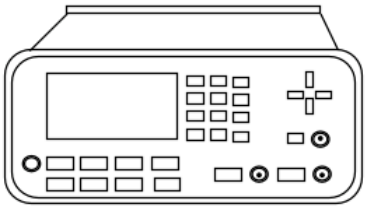
400MHz Universal Frequency Counter

BNC | model | 1105- G

ORDER ONLINE



Real-Time DSP, Easy LAN Control With Comprehensive GUI

- Up to 6GHz, Standard
- Frequency: 1MHz - 400MHz
- Time Interval Resolution: 40pS
- IEEE488.2 and USBTMC Compliance

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A new counter, Model 1105-G, from Berkeley Nucleonics compares favorably to existing counters. The 1105-G has 12 digits of frequency resolution and 40 ps of time interval resolution. The real-time DSP front-end facilitates faster measurement throughput.

We have made the front panel controls more user-friendly. The SCPI software commands are compatible with the most commonly-used counters so you do not have to rewrite your software. Our LAN control feature lets you control one or several 1105-G's from your computer with displays of the control or measurement function you want.

Impressive 12 Digits Resolution & 6 GHz Frequency Measurements

The Model 1105-G includes a RF Channel 3 with a range from 375 MHz to 6GHz and standard Channels 1 & 2 from 1 mHz to 400 MHz. Up to 20 frequently-used setups may be stored in memory. Our design features full front-end isolation.

Packed with Many New Features

The BNC Model 1105-G, ISO 9001 compliant, gives users of existing counters all the measurement capability they are used to, with a few exciting new features. Features include Frequency & Ratio (11 digits/sec.), Time interval, Period (2.5 ns to 1000s), Duty Cycle, Pulse Width, Rise/Fall Time, Peak Volts (100 Hz~300 MHz), Phase, Totalize, with a time base temperature stability of < 1 PPM and aging rate of < 2 PPM per year. We can also measure the peak voltage of incoming waveforms as well.

The BNC Model 1105-G offers built-in statistics and math functions. Users can measure and display mean, min/max, delta & standard deviation. These apply to period, frequency, time interval, risetime and peak voltage measurements. Scale & offset can be easily used in compensating for systematic occurrences.

All functions are controlled by either the front panel or via remote control. USB and GPIB control is standard; Data logging to a spreadsheet is easily accomplished with included software (PC Compatible). Of interest is the Ether net connectivity via your LAN, using your IP address. You can control and display the parameters of several 1105-G's from your local computer.

Fast Measurement & Special Applications

In addition to the real-time DSP (digital signal processing) technology, which increases the measurement speeds, a Limit Mode allows users to set margins according to their specific measurements. Go-NoGo commands can be issued via the USB You may control what happens when a limit is exceeded eg. store current data, stop measuring and generate an output signal to trigger an external device.

Handy Software & Familiar SCPI Commands

Users can obtain data logs in Excel via USB or via an GPIB interface. Our web-support mode allows the 1105-G to be connected to your office LAN. Users simply call up an Ethernet address (Default: 192.168.0.247) on a local web browser to access and control the Model 1105-G. We also provide SCPI commands that are compatible with other manufacturers (Agilent 53132A, etc)

Berkeley Nucleonics Corporation, 2955 Kerner Blvd., San Rafael CA 94901 U.S.A
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Signal Input Range	LVTTL and TTL compatible
Timing Restrictions	
Pulse Width	> 50 ns
Transition Time	< 250 ns
Start-to-Stop Time	> 50 ns
Damage Level	12 Vrms

External Arm Input Characteristics

Impedance	1 kΩ
Input Capacitance	17 pF
Start Slope	Positive or Negative
Stop Slope	Positive or Negative
Notes	1. External Arm is available for all measurements except Peak Volts. 2. External Arm is referred to as External Gate for some measurements.

Internal Time Base Stability

		Standard (0° to 50°C)	High Stability Oven (1105-opt01)
Temperature Stability (referenced to 25°C)		± 1 x 10E-6	± 5 x 10E-9
Aging Rate	**Per Day**		± 8 x 10E-10
	Per Month		
	Per Year	± 2 x 10E-6	± 8 x 10E-8
Turn-on stability vs. time (30 min.)			± 2.0 x 10E-8 (referenced to 24 hours)
Calibration		Electronic	Electronic

External Time Base Input Specifications

Voltage Range	200 mVrms to 10 Vrms
Damage Level	12 Vrms

External Time Base Input Characteristics

Threshold	0 V	
Impedance	1 kΩ	
Input Capacitance	25 pF	
Input Frequency	10 MHz	
Internal vs. External Time Base Selection	**Manual**	Select Internal or External
	Automatic	Internal used when External not present (default)

Time Base Output Specifications

Output Frequency	10 MHz
Voltage	570 mVpp (0 dBm), typical
Impedance	50 Ω (typical), AC coupled

Measurement Specifications

Frequency, Period Channel 1 and 2	1 mHz to 400 MHz (2.5 ns to 1000 s)
Trigger	Default setting is Auto Trigger at 50 %
"Auto" Gate Time	0.1 sec
STD CH 3	375 MHz to 6 GHz (0.166 ns to 2.6 ns)

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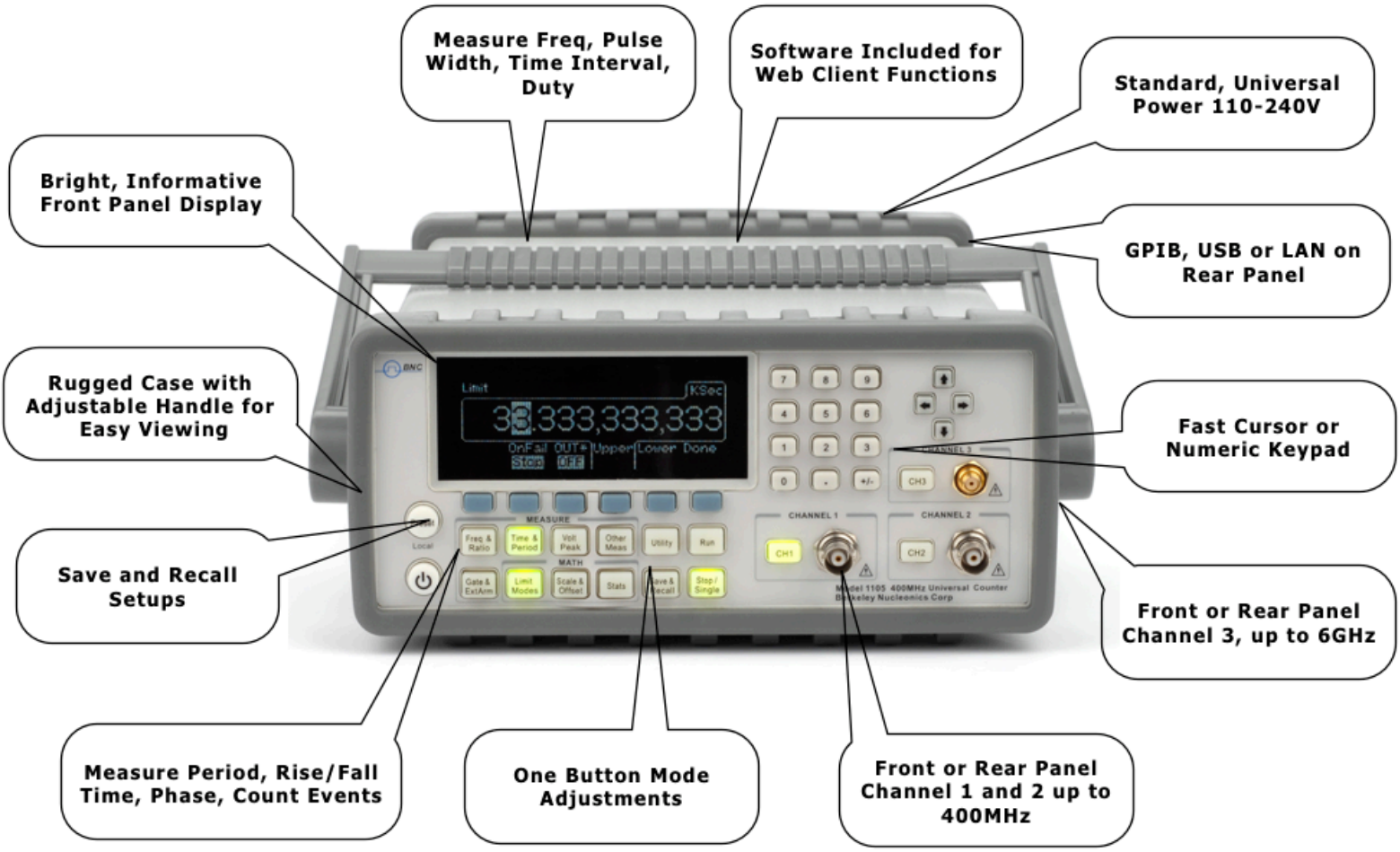

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