

U62 Series

High Accuracy, Speed & Performance Universal/Frequency Counter

Interface:

STD. USB & LAN / OPT. GPIB
(Conform to USBTMC & IEEE-488.2)



U6200A 6 GHz Universal Counter - 3 Channels -

- CH 1/2 Capacity: 1 mHz ~ 400 MHz (Standard)
- CH 3 Capacity I: 375 MHz ~ 6 GHz (Standard)
- Freq. Resolution: 12 Digits with 1s Gate Time
- High Accuracy Timing Resolution: 40ps
- Measurement Functions:
 - Frequency & Ratio
 - Time Interval
 - Period
 - Pulse Width
 - Rise/Fall Time
 - Phase
 - Duty Cycle
 - Totalize
 - Peak Voltage (100 Hz ~ 300 MHz)
- Time Base Reference Stability: < 1 ppm
- Time Base: 10 MHz Input/Output
- Display: Multi-Parameter of Results
- Webserver: Support
- Free Software: PT-TOOL & PT-LINK
- Dimension & Weight: (for Rack)
214.6(W) x 88.6(H) x 346.9(D) mm, 3130 g
- Optional Accessories:
 - U6200-opt04: Rear Panel Input Module (CH1/2)
 - U6200-opt05: Rear Panel Input Module CH1/2/3)
 - M3500-opt04: GPIB Card(Note: The Accessories have to be assembled in Picotest.)

U6220A 400 MHz Frequency Counter - Single Channel -

- CH 1 Capacity: 1 mHz ~ 400 MHz (Standard)
- Freq. Resolution: 12 Digits with 1s Gate Time
- High Accuracy Timing Resolution: 40ps
- Measurement Functions:
 - Frequency
 - Period
 - Totalize
 - Peak Voltage (100 Hz ~ 300 MHz)
- Time Base Reference Stability: < 1 ppm
- Time Base: 10 MHz Input/Output
- Display: Multi-Parameter of Results
- Webserver: Support
- Free Software: PT-TOOL & PT-LINK
- Dimension & Weight: (for Rack)
214.6(W) x 88.6(H) x 346.9(D) mm, 2887 g
- Optional Accessories:
 - M3500-opt04: GPIB Card(Note: The Accessory has to be assembled in Picotest.)



CH1/2 Input Specifications

DC Coupled:	1 mHz ~ 400 MHz
AC Coupled:	200 KHz ~ 400 MHz (50 Ω) 30 Hz ~ 400 MHz (1 MΩ)
FM Tolerance:	25%

Voltage Range & Sensitivity

1 mHz ~ 225 MHz:	20 mVrms ~ ± Vac + (Medium & High) 25 mVrms ~ ± 5 Vac + dc (Low)
225 MHz ~ 400 MHz:	30 mVrms ~ ± 5 Vac + dc

CH1/2 Input Characteristics

Impedance:	1 MΩ ~ 50 MΩ		
ATT x 1, 1MΩ Capacitance:	24 pF	ATT x 10, 1MΩ Capacitance:	15 pF
Coupling:	AC/DC		
Low-Pass Filter:	100 KHz (or Disabled) -20 dB at > 1 MHz	Internal Noise:	200 μVrms (Typical)
Input Sensitivity:	Selectable btw. Low, Medium (Default) or High Medium (Approx. 1.35 x High Sensitivity) Low (Approx. 1.7 x High Sensitivity)		

Voltage Range & Sensitivity (Single-Shot Pulse)

Pulse Width 1.5 ~ 10 ns:	80 mVpp ~ 10 Vpp
Pulse Width > 10 ns:	50 mVpp ~ 10 Vpp

Damage Level

(DC) 400 MHz, 50 Ω:	12 Vrms
0 ~ 3.5 KHz, 1 MΩ:	350 Vdc + ac pk
3.5 KHz ~ 100 KHz, 1 MΩ:	350 Vdc + ac pk linearly derated to 12 Vrms
100 KHz ~ 400 MHz, 1 MΩ:	12 Vrms

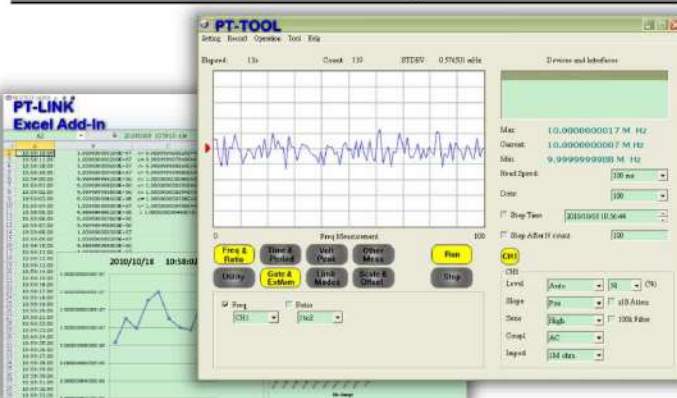
CH3 Input Specifications & Characteristics

Frequency Range:	375 MHz ~ 6 GHz	/ NS
Impedance:	50Ω	/ NS
Coupling:	AC	/ NS
VSWR:	< 2.5:1	/ NS
Damage Level:	+25 dBm, DC ± 12 V	/ NS

Internal Time Base Stability

	Standard (0°C ~ 50°C)	High Stability OCXO (U6200-opt01)
Temperature Stability, 25°C	< ± 1 x 10 ⁻⁶	Phase Out
(Aging Rate)		
Per Day:	---	
Per Month:	< ± 0.2 x 10 ⁻⁶	
Per Year:	± 2 ppm	
Turn-On Stability vs. Time (30 minutes)	---	
Calibration:	Electronic	

Remote Control Application through The Free Software



Measurement Specifications

Frequency & Period CH1/2:	1 mHz ~ 400 MHz (2.5 ns ~ 1000 s)
Standard CH3:	375 MHz ~ 6 GHz (0.166 ns ~ 2.6 ns) / NS
Frequency Ratio:	CH1/CH2, CH1/CH3, CH2/CH1, CH3/CH1 Measurement is specified over the full signal range of each input. / NS
Results Range:	10 ⁻¹⁰ ~ 10 ¹¹ / NS
Time Interval:	Measurement is specified over the full signal ranges of CH 1 & 2. The width of the pulse must be greater than 1 ns, frequency range to 300 MHz. / NS
Results Range:	-0.5 ns to 10 ⁵ s / NS
Resolution:	40 ps / NS
RMS Resolution:	120 ps / NS
Pulse Width Time:	Measurement is specified over the full signal ranges of CH 1. The width of the pulse must be greater than 1 ns, frequency range to 300 MHz. / NS
Results Range:	1.5 ns to 10 ⁵ s / NS
Resolution:	40 ps / NS
RMS Resolution:	120 ps / NS
Rise/Fall Time:	Measurement is specified over the full signal ranges of CH 1. The width of the pulse must be greater than 1 ns, frequency range to 300 MHz. / NS
Results Range:	2 ns to 10 ⁵ s / NS
Resolution:	40 ps / NS
RMS Resolution:	120 ps / NS
Phase:	Measurement is specified over the full signal ranges of each input. The width of the pulse must be greater than 1 ns, frequency range to 300 MHz. / NS
Results Range:	-180° ~ +360° / NS
Resolution:	40 ps / NS
RMS Resolution:	120 ps / NS
Duty Cycle:	Measurement is specified over the full signal ranges of CH 1. The width of the pulse must be greater than 1 ns, frequency range to 300 MHz. / NS
Pulse Selection:	Positive or Negative / NS
Results Range:	0 ~ 1 / NS
Resolution:	40 ps / NS
RMS Resolution:	120 ps / NS
Totalize:	Measurement is specified over the full signal ranges of CH 1. The width of the pulse must be greater than 1 ns, frequency range to 400 MHz. / NS
Results Range:	0 ~ 10 ¹⁵ / NS
Resolution:	1 count / NS
Results Range:	-5.1 V ~ +5.1 V / NS
Resolution:	2.5 mV / NS

	Range	Resolution	Note
DC Signals:	---	15 mV + 2 % of V	Peak-To-Peak Amplitude Greater than 200 mV
DC ATT x 10:	---	150 mV + 2 % of V	Peak-To-Peak Amplitude Greater than 1 V
1 Vp-p 50 Ω, ATT OFF	100 Hz ~ 10 KHz	15 mV + 2 % of V	Peak-To-Peak Amplitude Greater than 200 mV
	10 KHz ~ 5 MHz	15 mV + 4 % of V	
	5 MHz ~ 80 MHz	15 mV + 7 % of V	
	80 MHz ~ 300 MHz	15 mV + 15 % of V	

General Specifications

Item	Description	Item	Description
Power Supply	A. 100V/240V ± 10 % B. 100V/120V ± 10 %	Warm-Up Time	1 Hours
Power Cord Freq.	A. 50 Hz/60 Hz ± 10 % B. 400 Hz ± 10 %	Language	SCPI-1993, IEEE-488.2
Power Consumption	Max. 80VA (30W Typical)	Dimension	214.6(W) x 88.6(H) x 346.9(D) mm
Operating Environment	0 ~ 55°C	Weight	3130 g / 2887 g
Storage Environment	-40°C ~ 70°C	Safety	IEC61010-1 EN61010-1
Operating Altitude	Up to 2000 m	EMC	EN61326
Operating Humidity	Max. Relative Humidity 80 % for Temp. up to 31°C Decreasing Linearly to 50 % Relative Humidity at 40°C	Interface	STD. USB / LAN OPT. GPIB
		Warranty	1 Year
		Certificate	CE
		Recycle Level	

1. NS means the function is "Not Supported" by U6220A.

For more information, please refer to the user's manual.