





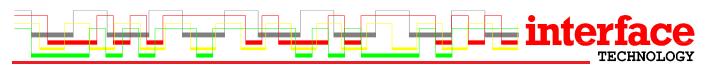
- 10 Hz to 300 MHz
- Two Output Channels
- Programmable Pulse Widths or Duty Cycles
- 24 V p-p Programmable Amplitude, ±12 V Range
- Programmable Transition Times or Slew Rates
- Programmable Delay
- Double Pulse and Inverted Pulse Modes
- Auto, Triggered, Counted Burst, Timed Counted Burst, Gated, External Width, and Master/Slave Modes
- Internal, External, or VXI TTLTRG Triggers
- Save/Recall Up to 10 Setups to Nonvolatile RAM
- Supports SCPI and IEEE 488.2 Commands

Description

The PG110 is a full performance 300 MHz pulse generator housed in a single VXI C-size enclosure. Rivaling the performance of costlier stand-alone models, the PG110 sets a new standard for VXI based instrumentation. Clean edges and accurate control of frequency, pulse widths, amplitude, offset, and transition times, mean you can perform not only functional tests, but parametric tests at frequencies up to 300 MHz.

The PG110 provides two output channels, trigger input, trigger output and external clock input. Each module may be used in a stand-alone mode or in a Master/Slave configuration. In the Master/Slave mode, PG110 slave modules receive clock and trigger timing from the master module via two interconnect cables, ensuring tight timing specifications across all modules.

Frequency and leading and trailing edge rates are programmable per module. Amplitude, offset, pulse width, polarity, single or double pulse mode and trigger delays are all programmable per channel. The external trigger input, or the selected VXITTLTRG line, may be used as either an edge trigger or a synchronous gate trigger to the PG110. Alternate methods of triggering the PG110 include software commands and an internal timer.





PG110 SPECIFICATIONS*

All timing specifications are measured at 50% amplitude, fastest transition times and output high and low levels at +1.0 V and 0.0 V, respectively. All delay times are measured relative to trigger out.

Common Specifications:

Spec. Clock Reference VXI 10 MHz clock

Clock Accuracy ± 0.01% Resolution 12-bits

Repeatability 4 times better than accuracy, typical

RMS Jitter

Period < 100 ns
 Period > 100 ns
 O.05% of period + 15 ps
 O.025% of period + 15 ps
 Overshoot / Undershoot
 Ettling Time
 O.05% of period + 15 ps
 O.025% of period + 10 mV)

Pulse Period:

Range: 3.3 ns to 100 ms

Accuracy:

Period > 500 ns \pm 0.02% Period \leq 500 ns \pm 1.0%

Pulse Width:

Range 1.5 ns to (period - 1.5 ns)

Duty Cycle 1 to 99%

Accuracy

Width > 500 ns $\pm 0.02\% \pm 1$ ns Width ≤ 500 ns $\pm 1.0\% \pm 1$ ns

Pulse Delay:

Range 0 ns to (period - 1.5 ns)

Accuracy

Delay > 500 ns $\pm 0.02\% \pm 1$ ns Delay ≤ 500 ns $\pm 1.0\% \pm 1$ ns

Slew Rates:

Range 1 2700 V/µs

Range 2 33 V/µs to 1300 V/µs
Range 3 1 V/µs to < 33 V/µs
Range 4 33 mV/µs to < 1 V/µs
Accuracy ± 20% of setting

Transition Times:

 Slew Range 1
 650 ps, typical

 Slew Range 2
 3.3 ns to < 130 ns</td>

 Slew Range 3
 130 ns to < 1 μs</td>

 Slew Range 4
 1 μs to 581 μs

Outputs:

Output Channels:

Number 2 single ended

Connector SMB

Impedance 50 ohms, ± 1 ohm, source terminated

Output Amplitude

Output Offset

Slew range 1 & 2 -1.75 V to +6.75 V Slew ranges 3 & 4 -11.75 V to +11.75 V

Output Low Level

Slew range 1 & 2 -2.0 V to +6.5 V Slew ranges 3 & 4 -12.0 V to +11.5 V

Output High Level

Slew range 1 & 2 -1.5 V to +7.0 V Slew ranges 3 & 4 -11.5 V to +12.0 V

Level Accuracy ± (1% of setting + 1% of amplitude

+ 40 mV)

Overshoot & Undershoot ± (8% of setting + 10 mV)

Trigger Output:

Connector SMB
Output Level 100K ECL into 50 ohm load

Width of first pulse of output channel 2

Transition Time < 1 ns

Input:

Trigger:

Connector SMB
Slope Negative
Termination 50 ohms to -2.0 V

Transition < 50 ns Minimum Width 3.5 ns

Threshold Range -5.0 V to +5.0 V, programmable

Threshold Resolution 50 mV

Clock:

Connector SMB

Range 1 MHz to 20 MHz Level 100K ECL Termination 50 ohms to -2.0 V

Functional Modes:

Modes Auto, Timer, Gate, Burst, External Width,

Master/Slave

Double Pulse Either channel, both or neither

Burst Count Range 1 to 536870944 Auto Timer Range 80 µs to 10 seconds

VXI Specifications

Interface Compatibility:

Size C-size, single slot
Type Message-based, servant
Logical Address Static or dynamic
Interrupt Level Programmable 1-7
Triggers TTLTRG 0-7

Power Requirements:

+5.0 volts 3.0 A 15 W -5.2 volts 4.5 A 23.4 W +12.0 volts 0.5 A 6 W -12.0 volts 0.5 A 6 W -2 0 volts 2.5 A 5 W +24.0 volts 0.75 A 18 W -24.0 volts 0.5 A 12 W

Total Power 85.4 W

Cooling Requirements:

Per Slot Average 85 W

Airflow 7L/sec @ 0.3 mm water pressure for

10° C temperature rise

Environmental Specifications:

Temperature Storage = -40° C to $+75^{\circ}$ C Operating = 0° C to 45° C

Humidity 5% to 95% relative, noncondensing

Software Drivers:

National Instruments LabWindows/CVI

^{*} Specifications subject to change without notice.