



## PG-1072/1074 Rev.B - Technical Specifications

Document name: PG-1072/1074 Rev.B - Technical Specifications

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Definitions

*Specification (spec.)*

The warranted performance of a calibrated instrument that has been stored for a minimum of 2 hours within the operating temperature range of 5 °C to 40 °C and after a 45-minute warm up period. Within  $\pm 10$  °C after autocal. Data published in this document are specifications (spec) only where specifically indicated.

*Typical (typ.)*

The characteristic performance, which 80% or more of manufactured instruments will meet. This data is not warranted, does not include measurement uncertainty, and is valid only at room temperature (approximately 23 °C).

### PRELIMINARY

Specifications	PG-1072 Rev.B	PG-1074 Rev.B
<b>Number of Analog Channels</b>	2	4
<b>Timing specifications</b>		
<b>Pulse Period</b> Range (spec.) Resolution (spec.) RMS jitter <sup>1</sup> (Integration Range 100 Hz to 10 MHz, Fout = 200 MHz)	5 ns to 8 sec. 10 ps 4 ps	
<b>Pulse Frequency</b> Range (spec.)  Accuracy	0.125 Hz to 200 MHz (Single pulse mode) 0.25 Hz to 400 MHz (Double pulse mode) 0.375 Hz to 600 MHz (Triple pulse mode) 0.5 Hz to 800 MHz (Quadruple pulse mode)  $\pm 2$ ppm max	
<b>Pulse Width</b> Range (spec.) Resolution (spec.) Accuracy RMS jitter <sup>1</sup>	300 ps to (period – 300 ps) 10 ps $\pm (0.1 \% + 30 \text{ ps})$ < 10 ps	
<b>Pulse Delay</b> (single/double/triple/quadruple) Range (spec.) Resolution (spec.) Accuracy	0 ps to period 10 ps $\pm (0.1 \% + 30 \text{ ps})$	
<b>Output specifications (50 Ohm load)</b>		
<b>Impedance</b>	50 Ohm nominal	
<b>Amplitude</b> Range pk-pk (spec.) Absolute accuracy (spec.) Resolution (spec.)	10 mVpp to 5 Vpp $\pm (1\% \text{ of amplitude pk-pk} + 1\% \text{ of }  \text{DC Offset}  + 10 \text{ mV})$ 4 mV (amplitude 250 mVpp to 5Vpp), 1 mV (amplitude 10 mVpp to 250mVpp)	
<b>Baseline DC Offset</b> Range (spec.) Resolution (spec.)	$\pm 2.5\text{V}$ adjustable 2 mV	
<b>Rise/Fall Time (20% to 80%)</b>	< 70 ps	
<b>Rise/Fall Time (10% to 90%)</b>	< 95 ps (1Vpp amplitude), < 105 ps (5Vpp amplitude)	
<b>Overshoot</b>	< 5%	
<b>Channel to Channel RMS Jitter <sup>1</sup></b>	< 10 ps	

<sup>1</sup> All channels at the same frequency in Single Pulse mode and Continuous mode



<b>Trigger input specifications</b>	
Impedance	50 Ohm or 1K Ohm programmable
Range (spec.)	± 3.5 V (50 Ohm input impedance) ± 10 V (1K Ohm input impedance)
Minimum detectable amplitude (spec.)	< 50 mVpp
Threshold	
Range (spec.)	± 8V
Resolution (spec.)	10 mV
Accuracy	± 100 mV
Max. input frequency (spec.)	40 MHz
Min. pulse width (spec.)	1 ns
Max. external width mode input frequency (spec.)	1 GHz
Edge selection	Positive, negative, both
<b>Trigger output specifications</b>	
Impedance	50 Ohm nominal
Amplitude (open load)	
Range (spec.)	1.8V to 3.3V adjustable
Resolution (spec.)	1 mV
Accuracy	± 1%
Delay (trigger in to trigger out)	< 100 ns
RMS jitter (trigger in to trigger out)	< 30 ps (Trigger IN Frequency ≤ 15 MHz)
Width	10 ns (single,burst mode) Period/2 (continuous mode)
<b>Internal timer</b>	
Time range (Frequency range)	25ns to 42.9 sec (40Mhz to 23.3 mHz)
Time resolution	1 ps
Frequency accuracy	± 2ppm max
<b>External Clock IN</b>	
Connector type	SMA on rear panel
Input Impedance	50 Ω,AC Coupled
Input voltage range	-5 dBm to 4 dBm sine or square wave (rise time T10-90 <1 ns and duty cycle from 40% to 60%)
Damage level	+8 dBm or ±15 VDC Max
Frequency range	10 MHz to 100 MHz
<b>External Clock OUT</b>	
Connector type	SMA on rear panel
Output Impedance	50 Ω,DC Coupled
Frequency	10 MHz or External Clock IN Frequency
Accuracy	± 2ppm max
Aging	± 1.0 ppm/year max
Amplitude	Square wave: 0V to 1.25 V into 50 Ω, 0V to 2.5 V into High Z
<b>Programmability</b>	
Trigger modes	Single, continuous, burst, gated
Multiple pulse modes	Single, double, triple, quadruple, external width
<b>Power</b>	
Voltage range	100-240 VAC ±10%
Frequency range	47-63 Hz
Max. power consumption	120 W
<b>Environmental characteristics</b>	
Temperature (operating)	+5 °C to +40 °C (+41°F to 104 °F)
Temperature (non-operating)	-20 °C to +60 °C (-4 °F to 140 °F)
Humidity (operating)	5 % to 80 % relative humidity with a maximum wet bulb temperature of 29 °C at or below +40 °C, (upper limit de-rates to 20.6 % relative humidity at +40 °C . Non-condensing.



<b>Humidity (non-operating)</b>	5 % to 95 % relative humidity with a maximum wet bulb temperature of 40 °C at or below +60 °C, (upper limit de-rates to 29.8 % relative humidity at +60 °C. Non-condensing.	
<b>Altitude (operating)</b>	3,000 meters (9,842 feet) maximum at or below 25°	
<b>Altitude (non-operating)</b>	12,000 meters (39,370 feet) maximum	
<b>EMC and safety</b>		
<b>Safety</b>	EN61010-1	
<b>Main Standards</b>	EN 61326-1:2013 – Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 1: General requirements	
<b>Immunity</b>	EN 61326-1:2013	
<b>General characteristics</b>		
<b>Display</b>	7 inch, 1024x600, capacitive touch LCD	
<b>Operative System</b>	Windows 10	
<b>External Dimensions</b>	W 445 mm – H 135 mm – D 320 mm (3U 19" rackmount)	
<b>Weight</b>	21.4 lbs (9.7 Kg)	
<b>Front panel connectors</b>	OUTPUT1 (SMA) OUTPUT2 (SMA) TRG.IN (SMA) TRG.OUT (SMA) 2 USB 3.0 ports	OUTPUT1 (SMA) OUTPUT2 (SMA) OUTPUT3 (SMA) OUTPUT4 (SMA) TRG.IN (SMA) TRG.OUT (SMA) 2 USB 3.0 ports
<b>Rear panel connectors</b>	External Monitor ports (HDMI, VGA) 2 USB 2.0 ports 2 USB 3.0 ports 3 COM ports 2 Ethernet ports (10/100/1000BaseT Ethernet, RJ45 port) Audio In/Out ports 2 PS/2 keyboard and mouse ports External Clock IN (SMA) External Clock OUT (SMA)	
<b>Hard Disk</b>	128 GB SSD	
<b>Processor</b>	Intel® Celeron J1900, 2 GHz (or better)	
<b>Processor Memory</b>	8 GB	