



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 ± 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).

Some specifications on this document refer to the available models and options that can be found in the table at the end of this document.

REVISION HISTORY	
Date	Comment
17/07/2019	First issue
04/06/2020	Added Initial delay and prescaler for the channels and added the initial delay for the trigger output.
24/06/2020	Changed the Pulse Delay accuracy Changed the Amplitude accuracy
28/10/2021	Added table of available models and options

Specifications	PG-1072 Rev.B	PG-1074 Rev.B
Number of Analog Channels		
	2	4
Timing specifications		
Pulse Period Range (spec.) Resolution (spec.) RMS jitter ¹ (Integration Range 100 Hz to 10 MHz, Fout = 200 MHz)	5 ns to 8 sec. 10 ps 4 ps	
Pulse Frequency 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) ± 2 ppm max	
Pulse Width Range (spec.) Resolution (spec.) Accuracy RMS jitter ¹	300 ps to (period – 300 ps) 10 ps $\pm (0.1 \% + 30 \text{ ps})$ < 10 ps	
Pulse Delay (single/double/triple/quadruple) Range (spec.) Resolution (spec.) Accuracy	0 ps to period 10 ps $\pm (0.1 \% + 100 \text{ ps})$	
Output specifications (50 Ohm load)		
Impedance	50 Ohm nominal	
Amplitude		

¹ All channels at the same frequency in Single Pulse mode and Continuous mode



Range pk-pk (spec.) Absolute accuracy (spec.) Resolution (spec.)	10 mVpp to 5 Vpp ± (1% of amplitude pk-pk + 1% of DC Offset + 20 mV) 4 mV (amplitude 250 mVpp to 5Vpp), 1 mV (amplitude 10 mVpp to 250mVpp)
Baseline DC Offset Range (spec.) Resolution (spec.)	± 2.5V adjustable 2 mV
Rise/Fall Time (20% to 80%)	< 70 ps
Rise/Fall Time (10% to 90%)	< 95 ps (1Vpp amplitude), < 105 ps (5Vpp amplitude)
Overshoot	< 5%
Channel to Channel RMS Jitter ¹	< 10 ps
Initial delay	0s to 8s (retriggerable delay off) 0s to 2.5us (retriggerable delay on)

Trigger input specifications	
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.) Resolution (spec.) Accuracy	± 8V 10 mV ± 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
Prescaler(for every channel)	0 to 65535
Trigger output specifications	
Impedance	50 Ohm nominal
Amplitude (open load) Range (spec.) Resolution (spec.) Accuracy	1.8V to 3.3V adjustable 1 mV ± 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)
Initial delay	0s to 8s (continuous mode) 0s to 2.5us (single,burst,gated mode)
Internal timer	
Time range (Frequency range)	25ns to 42.9 sec (40Mhz to 23.3 mHz)
Time resolution	1 ps
Frequency accuracy	± 2ppm max
External Clock IN	
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
External Clock OUT	
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	
Programmability		
Trigger modes	Single, continuous, burst, gated	
Multiple pulse modes	Single, double, triple, quadruple, external width	
Power		
Voltage range	100-240 VAC ±10%	
Frequency range	47-63 Hz	
Max. power consumption	120 W	
Environmental characteristics		
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.	
Humidity (non-operating)	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.	
Altitude (operating)	3,000 meters (9,842 feet) maximum at or below 25°	
Altitude (non-operating)	12,000 meters (39,370 feet) maximum	
EMC and safety		
Safety	EN61010-1	
Main Standards	EN 61326-1:2013 – Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 1: General requirements	
Immunity	EN 61326-1:2013	
General characteristics		
Display	7 inch, 1024x600, capacitive touch LCD	
Operative System	Windows 10	
External Dimensions	W 445 mm – H 135 mm – D 320 mm (3U 19" rackmount)	
Weight	21.4 lbs (9.7 Kg)	
Front panel connectors	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
Rear panel connectors	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)	
Hard Disk	128 GB SSD	
Processor	Intel® Celeron J1900, 2 GHz (or better)	
Processor Memory	8 GB	



Table of Available Models

Item	Description
PG-1072	2 Channels Pulse Generator 70 ps edge time 5 Volts
PG-1074	4 Channels Pulse Generator 70 ps edge time 5 Volts

Table of Available Options and Accessories

Item	Description
Options	
PG1072-WAR	3 years warranty extension for PG1072
PG1074-WAR	3 years warranty extension for PG1074
GPIB / USB-TMC	GPIB and USBTMC Ports for Remote Control
Accessories	
RIDER-RACK	Rackmount kit for Rider series instruments (Pulse, Func., Arb.)
SSD-250	Additional 250GB Solid State Disk for RIDER series
SSD-500	Additional 500GB Solid State Disk for RIDER series
SSD-1000	Additional 1TB Solid State Disk for RIDER series