Test31

PRELIMINARY DATASHEET

DESCRIPTION OF PRODUCT TEST3

- Supports a 3U (embedded or remote) PXI Express controller, 2 PXI Express hybrid slots, 5 PXI slots, and a PXI Express system timing slot
- Built-in peripherals (hard disk drive, and a DVD-RW drive) for embedded controller configurations
- Compact footprint is ideal for bench top or portable applications
- Integral Smart functions provide per slot temperature monitoring and system power supply voltage monitoring
- 550 W power supply
- High performance cPCI Express bus architecture – up to 1 GB/s dedicated slot bandwidth and 3 GB/s system bandwidth
- 3U PXI Express Instrument

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DESCRIPTION

Description text

FEATURE

Test for Features tab

EXT1

test

PXI INSTRUMENTS

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SPECIFICATIONS

row1,cell1	row1,cell2
	row2,cell2

row1,cell1	row1,cell2	row1,cell3
	row2,cell2	row2,cell3
	row3,cell2	row3,cell3

header1	header2	header3
row1,cell1	row1,cell2	row1,cell3
	row2,cell2	row2,cell3

GENERAL SPECIFICATIONS	
Inputs	Hi, Lo, Hi Sense, Lo Sense; floating and isolated from ground External trigger
Input Connectors	(4) Banana, 7-pin DIN
Format	PXI, 3U single slot, hybrid slot compatible

DMM AND DIGITIZER MEASUREMENT SYSTEM FEATURES	
Resolution	22 bits (DMM), 16 bits (digitizer / DAQ)
DMM Sampling Rate (V_{DC}, I_{DC} & R Measurements)	Selectable PLC rate, 0.01 to 10; PLC can be set to 50 or 60 Hz
DMM Reading Rate (V_{DC}, I_{DC} & 2WR (< 10 M))	50 readings/sec @ 6.5 digits, 60 Hz, (1 PLC) 500 readings/sec @ 5.5 digits, 60 Hz, (0.1 PLC) 2500 readings/sec @ 4.5 digits, 60 Hz, (0.01 PLC) 3500 readings/sec @ 3.5 digits, 60 Hz, (0.002 PLC)
Digitizer (DAQ) Clock Rate	Programmable to 3 MHz Range: (3 MS/s) / N, N=1 to 2^{16} Accuracy: 100 ppm
DAQ Measurement Functions	AC / DC voltage and current measurements, frequency
Digitizer Memory	8192 samples
DMM Memory	1 K samples

DMM MEASUREMENT CHARACTERISTICS	
Input Range	100 nV to 300 V

V_{AC} Input Range	3 μV to 425 V (peak), 300 V_{RMS} 10 Hz to 100 kHz, AC coupled
Crest Factor (V_{AC})	No limitation as long as maximum input signal is below the maximum range value.
V_{DC} / V_{AC} Input Impedance	> 10 GΩ (0.1, 1, and 0 V_{DC} ranges) 400 pF shunt capacitance 10 MΩ for other AC / DC ranges, 400 pF shunt capacitance
Maximum Input (Volt - Hertz)	8 x 10e7 V x Hz Common Mode Input 8 x 10e7 V x Hz (across Hi or Lo input relative to earth ground)
Input Isolation	CATII 300 V
Input Overvoltage Protection	250 V for current input, 300 V CATII for all other inputs
Noise Rejection	V_{DC}: 90 dB, NMRR; 140 dB CMRR 15 readings/sec, 1 PLC, 6.5 digit, 10 V range V_{AC}: 70dB, CMRR

I_{DC} Input Range	10 nA to 2 A	
I_{AC} Input Range	3 μA to 2 A RMS, AC coupled 10 Hz to 5 kHz	
Crest Factor (AC Current)	No limitation as long as maximum input signal is below the peak range value	
AC / DC Input Current Protection	2 A, 250 V, fast blow, sand filled, 1.5 kA breaking	
Resistance Range	0.1 mΩ to 100 MΩ	
Resistance Measurement Configuration	Selectable, 2-wire or 4-wire	
Burden Voltage (Maximum)	**Current Range** 20 mA 100 mA 1 A 2 A	**Voltage** <0.2 V <0.1 V <0.5 V <1.0 V

TRIGGERING	
Trigger Source	Function: Start measurement Source: PXIbus, software, continuous, external input (DIN connector), timer
Trigger Output Modes	Functions: Start of measurement, end of measurement Trigger can be routed to the PXIbus or the DIN connector
Trigger Input Voltage Range	3.3 V CMOS, 5 V Tolerant
Minimum Trigger Input Pulse Width	50 ns for PXI bus, 250 μs for external DIN input

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Trigger Input Impedance	4.75 kΩ
Trigger Input Edge	Selectable, positive or negative

AC MEASUREMENT PERFORMANCE

Digits	Reading Rate	Signal Bandwidth
6½	1 S/s	4 Hz to 4 kHz
6½	5 S/s	30 Hz to 20 kHz (default)
6½	375 S/s	300 Hz to 300 kHz

DC VOLTAGE MEASUREMENT

Range	Resolution	Accuracy 24 Hours 23°C ±5° (% of Reading) + (% of FS)	Accuracy 90 Days 23°C ±5° (% of Reading)+ (% of FS)	Accuracy 1 Year 23°C ±5° (% of Reading)+ (% of FS)
100mV	100nV	0.0030 + 0.0040	0.0040 + 0.0045	0.0045 + 0.0045
1V	1 μV	0.0030 + 0.0007	0.0040 + 0.0008	0.0045 + 0.0008
10V	10 μV	0.0010 + 0.0004	0.0025 + 0.0005	0.0030 + 0.0005
100V	100 μV	0.0030 + 0.0006	0.0050 + 0.0009	0.0060 + 0.0009
300V	1 mV	0.0030 + 0.0020	0.0045 + 0.0030	0.0060 + 0.0030

DC VOLTAGE MEASUREMENT, DAQ MODE

Range	Resolution	Accuracy 24 Hours 23°C ±5° (% of Reading)+ (% of FS)	Accuracy 90 Days 23°C ±5° (% of Reading)+ (% of FS)	Accuracy 1 Year 23°C ±5° (% of Reading)+ (% of FS)
100mV	4 uV	0.06 + 0.08	0.06 + 0.08	0.06 + 0.08
1V	40 μV	0.06+ 0.03	0.06+ 0.03	0.06+ 0.03
10V	400 μV	0.06+ 0.03	0.06+ 0.03	0.06+ 0.03
100V	4 mV	0.06+ 0.03	0.06+ 0.03	0.06+ 0.03
300V	40 mV	0.06 + 0.01	0.06 + 0.01	0.06 + 0.01

DC CURRENT MEASUREMENT

Range	Resolution	Accuracy 24 Hours 23°C ±5° (% of Reading)+ (% of FS)	Accuracy 90 Days 23°C ±5° (% of Reading)+ (% of FS)	Accuracy 1 Year 23°C ±5° (% of Reading)+ (% of FS)
20 mA	10 nA	0.0060 + 0.0030	0.030 + 0.0080	0.0500 + 0.0080
100 mA	100 nA	0.0100 + 0.0300	0.0300 + 0.080	0.0500 + 0.080
1A	1 uA	0.0200 + 0.0030	0.0500 + 0.0080	0.0800 + 0.0080
2A	10 uA	0.1000 + 0.0035	0.1200 + 0.0060	0.1200 + 0.0060

DC CURRENT MEASUREMENT, DAQ MODE

Range	Resolution	Accuracy 24 Hours 23°C ±5° (% of Reading)+ (% of FS)	Accuracy 90 Days 23°C ±5° (% of Reading)+ (% of FS)	Accuracy 1 Year 23°C ±5° (% of Reading)+ (% of FS)
20 mA	4 uA	0.03 + 0.06	0.03 + 0.06	0.03 + 0.06
100 mA	40 uA	0.0100 + 1.0	0.0100 + 1.0	0.0100 + 1.0
1A	40 uA	0.0400 + 0.06	0.0400 + 0.06	0.0400 + 0.06
2A	80 uA	0.1000 + 0.04	0.1000 + 0.04	0.1000 + 0.04

Notes:
DC measurements @ 10 PLC or 1 PLC with digital filtering
Accuracy of measurement is % of reading + % of Range

AC VOLTS (RMS), AC COUPLED, DAQ MODE

Range (RMS) (Except as noted)	Range (Vpk)	Resolution	Frequency and Accuracy [23°C ±5° (% of Reading) + (% of FS)]			
50 mV	100 mV	2 uV	Frequency	Accuracy 24 Hours	Accuracy 90 Days	Accuracy 1 Year
			3 Hz - 10Hz	0.5 + 0.28	0.5 + 0.28	0.5 + 0.28
			10 Hz – 20 KHz	0.2 + 0.28	0.2 + 0.28	0.2 + 0.28
			20 KHz – 50	0.26 + 0.3	0.26 + 0.3	0.26 +

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			KHz			0.3
			50 KHz – 100 KHz	0.75 + 0.33	0.75 + 0.33	0.75 + 0.33
			100 KHz – 300 KHz	4.15 + 0.75	4.15 + 0.75	4.15 + 0.75
0.5 V 5 V 50 V 300 V	1 V 10 V 100 V 450 V	20 uV 200 uV 2 mV 30 mV	3 Hz - 10Hz	0.35 + 0.03	0.35 + 0.03	0.35 + 0.03
			10 Hz – 20 KHz	0.05 + 0.03	0.05 + 0.03	0.06 + 0.03
			20 KHz – 50 KHz	0.11 + 0.05	0.11 + 0.05	0.12 + 0.05
			50 KHz – 100 KHz	0.60 + 0.08	0.60 + 0.08	0.60 + 0.08
			100 KHz – 300 KHz	4.0 + 0.5	4.0 + 0.5	4.0 + 0.5

AC CURRENT (RMS), AC COUPLED, DAQ MODE

Range (RMS) (Except as noted)	Resolution	Frequency and Accuracy [23°C ±5° (% of Reading) + (% of FS)]			
0.5 amp	40 uA	**Frequency**	**Accuracy 24 Hours**	**Accuracy 90 Days**	**Accuracy 1 Year**
		3 Hz - 10 Hz	0.30 + 0.04	0.30 + 0.04	0.30 + 0.04
		10 Hz – 3 KHz	0.10 + 0.04	0.10 + 0.04	0.10 + 0.04
		3 KHz - 5 KHz	0.14 + 0.04	0.14 + 0.04	0.14 + 0.04
1.0 amp	80 uA	3 Hz - 10 Hz	0.35 + 0.09	0.35 + 0.09	0.35 + 0.09
		10 Hz – 3 KHz	0.15 + 0.09	0.15 + 0.09	0.15 + 0.09
		3 KHz - 5 KHz	0.18 + 0.09	0.18 + 0.09	0.18 + 0.09

RESISTANCE

Range (ohms)	Open Circuit Voltage &Test Current	Resolution	Accuracy 24 Hours 23°C ±5° (% of Reading) + (% of FS)	Accuracy 90 Days 23°C ±5° (% of Reading)+ (% of FS)	Accuracy 1 Year 23°C ±5° (% of Reading)+ (% of FS)
100	6.9V, 1 mA	100 μohms	0.0020 + 0.0060	0.0080 + 0.0060	0.0100 + 0.0060
1000	6.9V, 1 mA	1 mohm	0.0025 + 0.0006	0.0085 + 0.0020	0.0105 + 0.0006
10K	6.9V, 100 uA	10 mohm	0.0020 + 0.0006	0.0080 + 0.0020	0.0100 + 0.0006
100K	12.8V, 10 uA	100 mohms	0.0030 + 0.0006	0.0090 + 0.0010	0.0110 + 0.0010
1 M	12.8V, 1 uA	1 ohm	0.0020 + 0.0006	0.0020 + 0.0010	0.0100 + 0.0010
10 M	7V, 0.7 uA //10 M ohm	10 ohms	0.0150 + 0.0006	0.0200 + 0.0010	0.0400 + 0.0010
100 M	7V, 0.7 uA // 10 M ohm	100 ohms	0.0800 + 0.0030	0.2000 + 0.0030	0.2000 + 0.0030

DC VOLTAGE MEASUREMENT, DAQ MODE

Range	Resolution	Accuracy 24 Hours 23°C ±5° (% of Reading)+ (% of FS)	Accuracy 90 Days 23°C ±5° (% of Reading)+ (% of FS)	Accuracy 1 Year 23°C ±5° (% of Reading)+ (% of FS)
100 mV	4 uV	0.06 + 0.06	0.06 + 0.06	0.06 + 0.06
1 V	40 uV	0.06 + 0.03	0.06 + 0.03	0.06 + 0.03
10 V	400 uV	0.06 + 0.03	0.06 + 0.03	0.06 + 0.03

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100 V	4 mV	0.06 + 0.03	0.06 + 0.03	0.06 + 0.03
300 V	40 mV	0.06 + 0.10	0.06 + 0.10	0.06 + 0.10

FREQUENCY MEASUREMENT	
Frequency Range1	1 Hz to 500 KHz
Input Voltage*	20 mV to 300 V
Resolution (offset ppm)	0.33 (1 second gate time) 3.33 (100 mSec gate time) 33.3 (10 mSec gate time)
Accuracy	100 ppm of reading + offset ppm

* Input amplitude must be at least 20% of FS and input amplitude must not exceed specified volt – hertz product.

ENVIRONMENTAL AND PHYSICAL SPECIFICATIONS	
?Safety	Complies with IEC 61010-1, CAT II 300 V, pollution degree 2
EMC	Complies with EN61326-1
Calibration	Calibration is performed at the factory using NIST traceable instrumentation. All calibration constants are stored on-board in non-volatile EEROM. Calibration can be performed by any calibration laboratory with the appropriate equipment.
Temperature Range	Operating: 0 °C to +50 °C Extended operating range: -20 °C to +70 °C Storage: -20 °C to +70 °C storage
Relative Humidity	Operating: 80% at 40 °C Storage: 95% at 40 °C
Power (max)	+5VDC, 2.3 A +3.3 VDC, 255 mA +12 VDC, 16 mA -12 VDC, 25 mA
Connectors	(4) Banana jacks: Hi: Voltage, 2 W Ω Lo: Voltage, Current, 2 W Ω Sense Hi: Current, 4 W Ω Sense Lo: 4 W Ω 7-pin DIN: Trigger in, Trigger out, Trigger Gnd

Note: Specifications are subject to change.
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ORDERING INFORMATION

GX7600_1	9 Slot Smart 3U PXI Express Master Chassis w/DVD-RW & Hard Disk Drive
GX7610_2	9 Slot Smart 3U PXI Express Slave Chassis
OPTION : CONTROLLER (FOR MASTER CHASSIS, SELECT ONE)	
GX7944-2162048	3U PXIe Single-Slot controller, 2.16GHz Core2Duo, 2GB RAM, 1GB/S System Bandwidth
OPTION : BUS EXPANDER (FOR SLAVE CHASSIS, SELECT ONE)	
MXIe1-Express	MXI-Express Interface Kit (PCIe I/F Card, PXIe I/F Card, 3-Meter Cable). 192MB Throughput
MXIe1-Express-L	Laptop (ExpressCard) to PXIe (X1) Interface Card Kit, Includes 3 Meter Cable
ACCESSORY	
GX97600	Rackmount kit for GX7600 & GX7800 chassis
GX97111	3U Blank Panel, 1-Slot wide
GX97112	3U Blank Panel, 2-Slots wide
SERVICES	
GX97909	8 & 9-Slot PXI Chassis Installation/Integration Service (includes 2nd year warranty & blank panels)
OPTION	
GX7xxx-400Hz	115VAC/400Hz Input Power Option for any Marvin Test Solutions PXI Chassis