



Applied Test Resources

PM0650

Floating 6-Ch Integrated Power Source

The PM0650 is a sophisticated 6-channel power source providing 3 different supply requirements:

- * 2 channels capable of continuous 50V/2A
- * 2 channels capable of pulse 50V/2A
- * 2 channels capable of continuous 50V/50mA

The pulse channels provide voltage pulses with duration control 10us to 100ms, and measures current. The combination of capabilities provides a versatile solution on fulfilling the wide range of requirements on testing a device. The PM0650 may be floated up to $\pm 1500V$ to facilitate HV isolation test of devices where outputs may be connected directly to line voltages.

The PM0650 operates with an onboard controller, which relieves the system CPU of performing many functions necessary for module operation. The result is higher efficiency of CPU and faster execution of the module commands. All measurements use the "Zero Time/Average" (ZTA) circuit (patent pending) that allows for a measurement time of less than 250 us to the full 16-bit resolution. ZTA enables the PM0650 to obtain the repeatability of using 20 to 50 measurements and averaging the results, with a single measurement.

The PM0650 implements a calibration method called Hardware Error Correction (HEC) (patent pending). This method performs a full calibration, correcting errors for every code, as opposed to the more traditional two-point calibration of offset and gain correction. This method uses no CPU time, which accelerates the forcing and measurement functions.

SPECIFICATIONS

Force Mode Specifications*		Measure Mode Specifications*	
Continuous Channels	A, B, C, & D	Continuous Channels	A, B, C, & D
Maximum Output Voltage	$\pm 50 V$	Maximum Voltage	$\pm 50 V$
Maximum Output Current	$\pm 2 A$ – Channel A, B $\pm 50 mA$ – Channel C, D	Maximum Current	$\pm 2 A$ – Channel A, B $\pm 50 mA$ – Channel C, D
Programming Resolution	14 Bits	Measure Resolution	16 Bits
Current Ranges	1 μA , 50 μA , 1 mA, 50 mA, 500 mA and 2 A for A, B only	Current Ranges	1 μA , 50 μA , 1 mA, 50 mA, 500 mA and 2 A for A, B only
Voltage Ranges	50 mV, 0.5 V, 5 V, 10 V, 50 V	Voltage Ranges	50 mV, 0.5 V, 5 V, 10 V, 50 V,
Current Accuracy	$\pm(0.1\%$ of Range + 100 μA)		$\pm(0.1\%$ of Range + 100 μA)
Voltage Accuracy	$\pm(0.05\%$ of Range + 200 μV)		$\pm(0.05\%$ of Range + 200 μV)
Pulse Generators	PG1, PG2	Pulse Generators	PG1, PG2
Maximum Output Voltage	$\pm 50 V$	Maximum Output Voltage	$\pm 50 V$
Maximum Output Current	$\pm 2 A$	Maximum Output Current	$\pm 2 A$
Current Ranges	500 mA, 2 A	Current Ranges	500 mA, 2 A
Voltage Ranges	5 V, 50 V	Voltage Ranges	5 V, 50 V
Current Accuracy	$\pm(0.1\%$ of Range)	Current Accuracy	$\pm(0.1\%$ of Range)
Voltage Accuracy	$\pm(0.05\%$ of Range)	Voltage Accuracy	$\pm(0.05\%$ of Range)

Timing Specifications

	Minimum	Maximum	Resolution	Accuracy
Pulse Width	10 ns	1000 ms	1 us	$\pm 2000 ns$
Delay	10 ns	1000 ms	1 us	$\pm 2000 ns$
Period	10 ns	1000 ms	1 us	$\pm 2000 ns$
Count Pulse	1	1000**	1	N/A
Trigger Modes	Immediate External Software			

*All specifications are subject to change without notice.

**If any more than 1000 pulses are required the continuous option may be used

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