



Applied Test Resources

PM0830

Multiple (8) Four Quadrant High Power Source

The PM0830 consists of eight fully independent four-quadrant power sources. Two of the channels are capable of supplying up to 30 V/500 mA each. The remaining six channels are capable of supplying up to 30 V/50 mA each. The PM0830 has a measurement range capable of measuring voltages up to 1000V.

The PM0830 uses an onboard controller, which relieves the system CPU of performing many functions necessary for the module operation. The result is higher efficiency of the 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 PM0830 to obtain the repeatability of using 20 to 50 measurements and averaging the results, with a single measurement.

The PM0830 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*	
Maximum Output Voltage	±30 V	Maximum Voltage	±30 V
Maximum Output Current	500 mA, Channels A & B 100 mA, Channels C - H	Maximum Current	500 mA, Channels A & B 100 mA, Channels C - H
Maximum Power Dissipation	25 W combined total	Input Impedance	1 Meg Minimum
Programming Resolution	14 Bits	Measure Resolution	16 Bits
Current Ranges	Channels A - H, 1 mA Channels A & B, 500 mA Channels C - H, 100 mA	Current Ranges	Channels A - H, 1 mA Channels A & B, 500 mA Channels C - H, 100 mA
Voltage Ranges	100 mV 1 V 10 V 30 V	Voltage Ranges	100 mV 1 V 10 V 30 V
Accuracy		Accuracy	
Current	±(0.1% of Range + 50 nA) for 1 mA Range ±(0.1% of Range + 300 nA) for 100 mA & 500 mA Range	Current	±(0.1% of Range + 50 nA) for 1 mA Range ±(0.1% of Range + 300 nA) for 100 mA & 500 mA Range
Voltage	±(0.05% of Range + 100 uV)	Voltage	±(0.05% of Range + 100 uV) for 100 mV to 30 V Ranges ±(0.1% of Range + 10 mV) for 1000 V Range
Settling Time	<1 ms	Acquisition Time	250 us
Range Change Time	1 ms	Range Change Time	1 ms
Programming Time	20 us	Programming Time	20 us
Connect Time	1 ms	Connect Time	1 ms

*All specifications are subject to change without notice.
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