# Integrated Multimeter/Switching System

Keithley Instruments, Inc. announced its new Model 2750 Multimeter/Switching System, with a combination of channel count, cost per channel, and system performance that surpasses all other single-box measurement and control systems. This latest addition to the Keithley Integra Series has new mainframe features and plug-in module options that provide precision measurement and control in a single, highly integrated enclosure for either rack mounting or benchtop use. The Model 2750 mainframe combines five expansion slots and a growing family of 9 plug-in modules, and a 14-function 6 - digit DMM (with MIST traceable accuracy), allowing up to 200 channels of 2-pole (differential) switching and multichannel analog/digital I/O. The model 2750 is an affordable, high-performance alternative to separate DMMs and switch systems, dataloggers/recorders, VXI/PXI systems, and plug-in card data acquisition equipment.

Along with the Model 2750 mainframe, Keithley introduced three new plug-in modules: the Model 7709 6 x 8 Matrix Switch module, Model 7707 Multiplexer-Digital I/O module, and the Model 7701 32-Channel Multiplexer module. A total of nine different analog and digital I/O modules can be used with the Model 2750 to create highly flexible and cost-effective test platforms.

Hardware and software features simplify set-up and use of a Model 2750 system. For example, the D-shell connector kits save installation and maintenance costs by allowing fast, mass terminations to multiplexer modules with a ribbon cable. LabVIEW&reg, LabWINDOWS/CVI&reg and TestPoint&#153 drivers speed test application development.

With its tightly integrated DMM and switch system, the Model 2750 allows scan rates of more than 200 channels/second (up to 2500 readings/second), thereby reducing test times and increasing productivity. Moreover, the flexibility of its features and functions allows the Model 2750 to serve a wide range of industries and applications, such as production testing of electronic components, subassemblies and systems; accelerated stress testing, including HALT/HASS, ESS, and burn-in; process monitoring and control; and precision low-ohms measurements.

Because resistance testing is often required in electrically noisy production environments, the Model 2750 was designed for measurements from micro-ohms to megohms using the offset compensation method. By expanding the measurement ranges, the Model 2750 can address applications normally reserved for more expensive and complex micro-ohm meters. This makes the Model 2750 an ideal choice when performing mission-critical or micro-ohm measurements on connectors, harnesses, airbag squibs, sensors, semiconductors, or other low-ohm devices. Also, a built-in 20 mV clamp protects sensitive DUTs form voltage breakdown during ohms measurements and enables &quotdry circuit&quot testing that prevents metal oxide breakdown on electrical contacts.

Built in signal conditioning on the Model 2750 mainframe can handle inputs up to 1000V/3A(300V/1A with the plug-in modules). The five expansion slots and nine different input modules provide the flexibility to vary channel count from 20 to 400 (single-ended), apply a stimulus to devices under test (DUTs), route signals, control

system components, and make measurements with 14 different DMM functions. Robust digital I/O on the input modules can be used for triggering the Model 2750, handshaking with other automation equipment and providing alarm limit outputs. High performance features on the mainframe, such as per-channel programmable scan lists, a 110,000 point memory buffer, built-in signal conditioning and scaling, and several math functions enable the user to optimize system throughput in many automated test applications. Communication with a PC can be through either a GPIB or RS-232 interface.

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