PXI Express DAQ Modules Integrate Signal Conditioning

National Instruments today announced the company's first data acquisition (DAQ) modules with integrated signal conditioning for scalable, high-performance measurements on PXI Express. The new NI SC Express family delivers accuracy, high data throughput and synchronization for measuring strain gauges, bridge-based transducers, thermocouples and high-voltage analog inputs. PXI Express provides 250 MB/s of dedicated bandwidth for each SC Express module in the chassis, which helps engineers increase channel count without compromising sampling rates or data throughput. With a smaller footprint, simplified cable management and new software features for automatic synchronization, the SC Express modules are asserted to make it easy for engineers to set up and program high-channel-count sensor measurement systems.

The NI PXIe-4330 24-bit simultaneous bridge input module offers 0.02 percent accuracy and 25 kS/s per channel sample rate for high-performance strain, load, force and torque measurements. The bridge input module achieves high accuracy with a ratiometric design where the ADC references the excitation voltage. With the NI PXIe-4353 thermocouple module, engineers can measure temperatures with 0.30 °C accuracy on 32 channels. The isothermal terminal block minimizes error with a unique design that optimizes thermal conductivity, making it possible for the nearby cold-junction compensation (CJC) thermistors to accurately measure at the thermocouple junctions. The 32-channel thermocouple module can scale to a 544-channel system in a single chassis and thousands of channels when synchronizing across multiple chassis.

The increased accuracy and scalable platform make the NI PXIe-4353 module well-suited for precision measurements from a single channel to large systems for applications such as fuel cell testing and monitoring thermal chambers. The NI PXIe-4300 high-voltage isolated analog input module is the first analog input module from National Instruments that can measure up to 300 V with simultaneous sampling.

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512-683-0100, www.ni.com [1]

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