CAS Announces Compact Real-Time Data Acquisition and Control System

ADwin-Light-16 Real-Time 8-Channel DAQ System

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CAS Dataloggers has partnered with high-quality manufacturer ADwin to announce the ADwin-Light-16 Real-Time Data Acquisition and Control System, an intelligent real-time solution featuring analog and digital inputs and outputs, counters, and a microprocessor with local memory. These compact, low-priced solutions offer fast data acquisition and control in real-time under Windows, with different configurations and expansion modules which make these boards cost-effective for application-specific use. Based on one common design, available versions of the ADwin-Light-16 include a PCI plug-in board, a CompactPCI version, a EURO-size plug-in board, and an external USB or Ethernet system in a robust metal enclosure.

This lightweight system features 8 analog inputs, 2 analog outputs, 6 digital inputs, and 6 digital outputs, as well as 2 32-bit counters and a trigger input. An optional up/down counter is also available, as well as options for an additional DIO expansion, CAN and counter. Software calibration of analog inputs and outputs is also supported.

The ADwin-Light-16 also features an on-board 32-bit SHARC DSP processor with its own local memory handling system management, data acquisition, on-line processing and control of outputs. Processing of each measurement can occur immediately after acquisition. The ADbasic control language allows users to program mathematical operations and functions which are executed immediately after each sampling step, even at sampling rates as high as 100 kHz.

The ADwin software environment can be used under Windows (2000/XP/Vista/Win7) and Linux, or as a stand-alone data acquisition system. ADwin also has drivers for many of the popular programming environments including Visual Basic, Visual C/C++, LabVIEW/LabWindows, TestPoint and others. The ADwin system’s operation with the PC enables multiple PCs to communicate with the system concurrently—useful during program implementation and commissioning. Conversely, one PC can also access multiple ADwin systems, such as in a network for centralized monitoring of various applications.

When working with the ADwin-Light-16, users download the real-time operating system to the ADwin system via the Ethernet or USB communications interface. Then the ADbasic real-time processes can be loaded and started or stopped as required. Single values or whole data sets including measured or set-point values can be exchanged bi-directionally. The deterministic execution of the real-time processes is not affected by the communication between the ADwin system and the PC.
Real-time development is available with ADbasic and ADtools software. Designing a user interface, operators can perform in all common programming languages or development environments, defining the processing sequences executed on the ADwin-Light-16 hardware. ADbasic optimizes and compiles the program code on a simple mouse click--after being loaded on the ADwin system by ADbasic or a graphical PC user interface, the real-time processes execute independently. ADbasic contains the functions to access all inputs and outputs as well as functions for floating-point operations, process control, and communication with the PC. A library is provided which contains standard functions including filtering, various examples for counter use, closed-loop controllers, function generators, etc., which leads to a faster program implementation.

Additionally, by means of the easily configurable ADtools, users are able to display their real-time data either graphically or numerically to visualize process sequencings or to set input values via potentiometers, sliders or push buttons. Additionally, ADtools always provides the current status of the ADwin-Light-16 system resources.

For further information on the ADwin Light-16 real-time data acquisition and control system, other data acquisition systems from ADwin, or to find the ideal solution for your application-specific needs, contact a CAS Data Logger Applications Specialist at (800) 956-4437 or visit the website at www.DataLoggerInc.com.

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