Electric Automation Trends

DISCOVERED AT SPS-IPC-Drives 2011

The automation industry was in full force at SPS-IPC Drives 2011 with increased attendees and exhibitors (courtesy of SPS-IPC Drives).

SPS-IPC Drives 2011, which took place in Nuremburg, Germany in November, covered all components down to complete systems and integrated solutions in the electric automation industry. The trade fair and its adjoining conference provided information on products, innovations and current trends with products and services presented in control technology, IPCs, drive systems and components, human-machine-interface devices, industrial communication, sensor technology, industrial software, interface technology, electromechanical components and peripheral equipment. Trend topics for the exhibition included energy efficiency, safety and security, and industrial identification.

Approximately 56,321 visitors filled the halls to gather information on the latest products and solutions in electric automation (52,028 at the 2010 show). The exhibitor numbers increased as well with 1,429 compared to 1,323 in 2010. Here are a few of the products and technologies featured at the exhibition:

Moog Industrial Group. Moog offered its latest developments in hybrid solutions combining hydraulic and electric technology. The company displayed a prototype design concept for Electro Hydrostatic Actuation Systems (EHA). Moog's EHA can be utilized for applications that require high force, energy savings and advanced fail-safe functionality. Typical applications include actuation for wind turbine blades, gas or steam turbines, injection molding machines and metal forming presses. Moog's innovative EHA concept is a self-contained unit combining several high performance Moog products including a servomotor, hydraulic pump, servo valve, controller and software. Unlike an electric actuator, EHA technology requires no screws or gearing, and it differs from hydraulic actuators in that it requires no hydraulic piping. One important advantage is that all hydraulic and electric components are integrated in the actuator assembly. Moog's EHA design offers machine builders high energy efficiency and reliability, reduced envelope size, less wear on components and up to 40 percent less weight. For many applications such as wind turbines, the potential for hydraulic leaks is eliminated, thereby improving environmental impact.

Pepperl+Fuchs. The newly designed multichannel LB Remote I/O modules dramatically reduce the required space for analog I/O in the cabinet. Four-channel 20 mA analog inputs and outputs are 50 percent smaller than the previous modules, allowing for more I/O per backplane. This energy-saving design concept lowers the heat dissipation and increases reliability, and was on display at the Pepperl+Fuchs booth

The conference sessions at SPS-IPC Drives provided a platform for discussions between product developers and users (courtesy of SPS-IPC Drives).

during the exhibition. The multichannel remote I/O modules can be combined with single-channel modules for high-integrity applications and single-channel loop integrity where needed. Communication gateways can be upgraded to communicate with the new remote I/O modules, and the existing LB backplanes support the new modules. Each module has one diagnostic LED per channel, so on-site diagnostics can be easily identified.

The universal I/O module is a field-configurable, all-in-one multipurpose module. It accepts analog and digital inputs and outputs.

Nord Drive Systems. Energy-saving motors were on display at the Nord Drive Systems booth. Motors that have a greater efficiency than previous EFF2 motors, produce less waste heat, have a longer operating life than previous motors and enable "safety reserves" to be dispensed with due to the shift of the operating range or the safety range above the nominal rating. Additionally, the company featured its frequency inverter series SK 500E, a flexible modular system for automation. The development of the series does not concentrate on replacing traditional PMSM servo applications (permanent magnet synchronous motors) but rather places the emphasis on permanent magnet synchronous motors as energy saving motors for S1 applications. Where asynchronous motors are no longer adequate due to limitations in their dynamic characteristics, Nord now offers a solution which is compatible with the SK 520E/SK 530E, and uses permanent magnet synchronous motors for S1 applications. Features include: new microcontroller platform with higher performance and larger memory, open-loop and closed-loop operation of PM synchronous motors, integrated SPS functionality for the implementation of simple automation applications or technological functions.

For a full recap on the SPS-IPC Drives 2011 exhibition, visit *www.mesago.de*.