Press release

Synapticon at SPS/IPC/Drives 2012

Custom Motor Control Solutions Through Embedded Building Blocks

Gruibingen (Germany), 23rd November 2012 – High-performance embedded modules for sensor data acquisition and actuator control are being presented by Synapticon GmbH at SPS/IPC/Drives 2012 (27th to 29th November 2012 in Nuremburg). The components, which are being presented on booth 560 in hall 7A, are part of the DYNARC platform for model-based development of distributed control systems. DYNARC provides system manufacturers and integrators with a modular system of electronic components and open-source software including development environment. This "modular" concept accelerates prototype construction and simplifies control tests using standardisation.

For example, the high-performance components flexibly integrate the power electronics needed to drive brushless DC motors with efficient real-time processors and communication modules. The units, which can be positioned directly at sensors and actuators due to the minimal space requirement, are suitable for the most demanding control tasks, such as the impedance control of multi-axle systems based on field-oriented torque control (FOC). As a result, the system is particularly well suited for use in service robotics or in demanding industrial automation.

Deal with complex automation tasks more easily

"Complex, intelligent and autonomous systems have previously been the domain of research, aeronautics and astronautics or defence technology. Through our range of standardised, modular hardware components, open-source software and a complete development environment, we are helping companies and developer teams in the fields of robotics and automation to considerably reduce their development and testing times, thus ultimately reducing their system costs," says Nikolai Ensslen, managing director of Synapticon GmbH.

The modules presented by Synapticon at SPS/IPC/Drives will enable drive manufacturers, system integrators and product developers to realise motor control electronics and motion control systems for demanding applications more quickly and cost-effectively in the future. Instead of having to completely redevelop each electronic control system or laboriously integrate a huge range of control equipment, Synapticon offers a selection of finished, combinable embedded modules, which can control motors through various available commutation and regulation types. From simple block commutation and speed control via encoder-based sinosoidal commutation and position control through to sensor-less, field-oriented commutation and control (FOC) with cascading position, speed and torque control, any manner of conceivable systems can be realised with the software modules of the platform.

Distributed real-time systems

At the same time, Synapticon offers developers the option of designing cohesive, distributed real-time systems which undertake the tasks of higher levels using hardware and software components of the DYNARC platform. Using processing modules with state-of-the-art XMOS processors, the programme code is executed directly and in parallel to the local sensor/actuator control, while being simultaneously linked with the rest of the distributed system transparently and synchronously. Various options from EtherCAT to WiFi are available to network the control nodes. In this way, complex and dynamic motion control systems can be realised in combination with intelligent and autonomous application functions without the use of PCs. DYNARC can be linked natively with internet services and is compatible with ROS (Robot Operating System), whereby integration with the existing software is child's play.

Visitors to the SPS/IPC/Drives 2012 can find out more directly from the specialists at Synapticon at booth 560 in hall 7A. More information about the products and DYNARC platform is available at www.synapticon.com.

Images available

The images below can be downloaded from the Internet in printer-friendly format:
http://www.htcm.de/kk/synapticon

Image source: Synapticon

Individual motor controls at the click of a mouse: With the Synapticon DYNARC platform, complex real-time sensor/actuator systems can be rapidly and easily configured, built, individually programmed and linked with internet services.
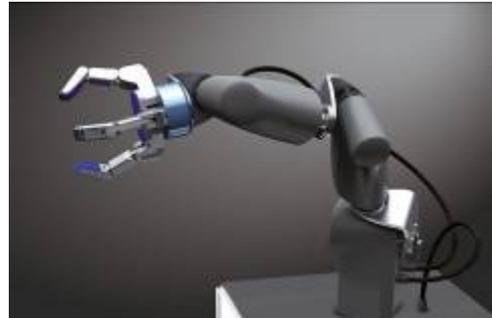

Image source: Synapticon

The DYNARC platform is typically used for robotic systems.

About Synapticon GmbH

Synapticon, established in 2010, is a young and international company based in Gruibingen, Baden-Württemberg, which develops innovative embedded systems to improve the robotics and automation technology of the future. Synapticon's DYNARC Distributed Computing Technology combines modular embedded hardware, model-based software engineering and a complete development environment to facilitate and accelerate the development process for manufacturers of complex products, machinery and facilities. Synapticon also operates as an engineering service provider.

Further information is available at www.synapticon.com.

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