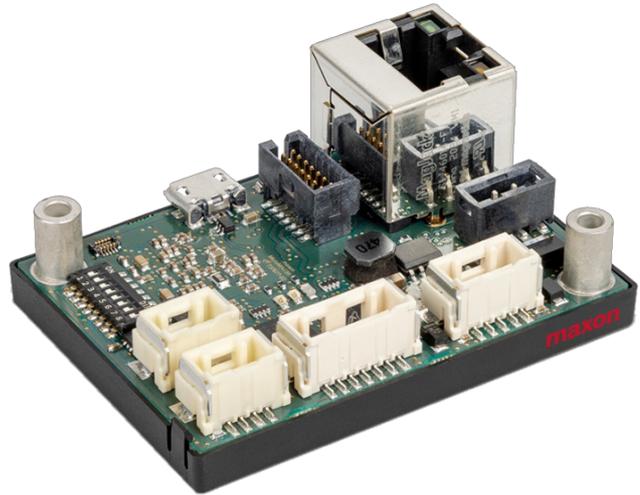# CAN *Newsletter Online*

MOTION CONTROLLER

Optimized for multi-axis synchronization

The Micromacs6 developed by drive specialist Maxon and motion control solution specialist Zub is a compact multi-axis controller with two CANopen interfaces.

The free-programmable real-time controller without power stages has been pared down to the bare necessities, without losing any familiar Macs functionalities. It is able to autonomously control one to six axes and has two independent CAN interfaces, as well as an Ethernet interface. The device can be used as a CANopen managing device for controlling of company's Epos drives. In parallel, the unit communicates with a higher-level system to handle axis coordination in the system.

As an added feature in the company's motion controllers, the Micromacs6 supports the BLE (Bluetooth low energy) add-on option. The latter provides a wireless interface to all CANopen network nodes and is used for service and support via a specific smart device application. The license-free ApossIDE (integrated development environment) is an automation software for programming the Macs series controllers. Complex positioning and synchronization functions can be executed with commands in C programming language.

Micromacs6 can be used as a CANopen managing device for controlling of company's Epos drives (Source: Maxon, Zub)

The controller was developed for applications requiring multi-axis systems such as autonomous shuttles, equipment manufacturing, or sub-autonomous systems. It can be deployed in an existing solution to reduce the workload of an existing higher-level controller or to replace it completely. The device can also be used to integrate additional motion functions into a system. A real-life example is the autonomous, repetitive processing of motion profiles in laboratory and test applications, including data logging, or complex, jerk-optimized and synchronized motions of multiple axes. Another example is the control of complete kinematic modules for Scara (selective compliance assembly robot arm) or delta robotics applications. In principle, the controller is used wherever two or more axes work together synchronously or multiple axes are positioned, and the axis drive alone is no longer sufficient. In comparison to a Raspberry Pi or an Arduino solution, the advantage of the Micromacs6 usage is the hard real-time, or the capability to provide a guaranteed response to an event within the given time frame, stated the manufacturer.

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