

Media release, February 21, 2024

EPOS4 Micro 2-axis + Micro CAN PLC motherboard for motion control

In the motion control space, the pursuit of maximizing functionality whilst minimizing size is often prioritized in various applications. Engineers often grapple with the challenge of adapting to stringent size constraints, necessitating the development of compact solutions without compromising essential functionalities.

maxon Group Australia developed the "2-Axis Programmable Motherboard" as a general solution to the provision of multi-axis motion control and programming capabilities, all within a remarkably compact form factor measuring 77 x 38 x 23 mm. At its core, this motherboard houses 2 x EPOS4 Micro 24/5 CAN (638328) positioning controllers and 1 x MicroMaster LT CANopen Master Controller, exemplifying the intelligent fusion of cutting-edge technology and space efficiency.

The EPOS4 Micro, a pivotal component of this motherboard, can control DC/BLDC motors up to 120W (360W momentarily). The motherboard ensures comprehensive motor-related connectivity options, including both axes' motor power, hall sensor, and encoder connectors.

Facilitating ease of programming and control logic implementation, the MicroMaster LT is programmable in C++ and is empowered with the EPOS4 library developed by maxon Australia, relieving developers from delving into the complexities of the CANopen specification. This intuitive library encourages a focus on application-specific control logic, thereby optimizing development time. The wireless connectivity features, including Wi-Fi and Bluetooth, further illustrate the benefits of this versatile motherboard. Additional information on the MicroMaster LT can be explored in the dedicated [article](#).

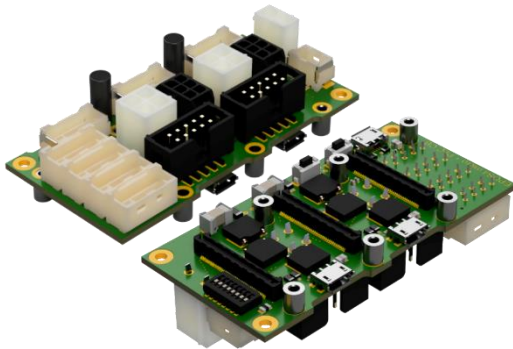
At a base level, the motherboard presents a standalone CAN bus configuration, where the PLC serves as the master and the two EPOS4 Micros function as slaves. For more expansive architectures, expanding the bus to accommodate additional slave axes is possible through connection to the CAN connector on the board, demonstrating scalability in design.

In terms of connectivity, the motherboard boasts an array of options, allowing seamless integration with peripheral sensors and devices. Notably, it provides 28 GPIO connections that are linked to the MicroMaster LT for logical control. The inclusion of 3 x digital inputs, 2 x high-speed digital IO (with the option to connect an SSI encoder), and 1 x digital output for both EPOS4 controllers further enhances the versatility of the motherboard. With wireless connectivity options including Wi-Fi and Bluetooth provided by the MicroMaster LT, the options are limitless in the pursuit of a higher-level system interface. Additional technical details can be found in the "2-Axis Programmable Motherboard Hardware Reference" provided

below this article. Engineering samples of the 2-Axis Programmable Motherboard are available for lead customers.

For those requiring tailored solutions, the maxon Group Australia engineering team stands ready to offer a range of services, including motherboard design and custom modifications, software programming and configuration, and comprehensive system design.

For additional information, please contact us at info.us@maxongroup.com or 508-677-0520.



2-Axis Programmable Motherboard

The Swiss specialist for quality drives

maxon is a developer and manufacturer of brushed and brushless DC motors, as well as gearheads, encoders, controllers, and entire mechatronic systems. maxon drives are used wherever the requirements are particularly high: in NASA's Mars rovers, in surgical power tools, in humanoid robots, and in precision industrial applications, for example. To maintain its leadership in this demanding market, the company invests a considerable share of its annual revenue in research and development. Worldwide, maxon has more than 3000 employees at nine production sites and is represented by sales companies in more than 30 countries.