NEWS RELEASE
July 2009

Trio's modular MC464 provides drive, Fieldbus and programming flexibility with 64-bit power

- New modular motion and machine controller range has flexible choice of drive interfacing, Fieldbus and programming options
- High speed processor allows higher machine performance for improved throughput and precision

As the latest and most advanced addition to Trio's *Motion Coordinator* family, the new **MC464** is a multi-axis motion and machine controller featuring a high performance 64-bit processor in a modular design that provides OEMs and automation system integrators with a flexible choice of servo and stepper drive interfacing combined with a wide selection of Fieldbus protocols - plus programming flexibility that includes Trio's own **Trio BASIC** or industry standard IEC 61131 runtime.

The panel or din-rail mounting MC464 range features a central controller module with I/O, status display, SD card memory expansion, axis synchronisation and programming ports that combine with a selection of half- and full-height expansion modules to allow motion systems of up to 64 axes with ample machine I/O and Fieldbus alternatives.

The MC464 features the advanced 64 bit, 400 MHz MIPS processor with 200 Mhz DDR memory providing faster and more precise program execution with double floating point maths, a 64-bit integer position register, and an extremely fast servo loop update rate capability. These factors combine for 125 µsec servo cycle times providing the means for precise smooth motion with significantly enhanced dynamic performance bringing benefits such as faster production throughput, increased quality and improved parts accuracy.

A wide choice of axis expansion modules includes two Flexible Axis Interfaces for 4 or 8 axes with 16-bit DAC outputs and 6 Mhz encoder feedback. Flexible Axis Interfaces can be combined to provide up to 24 independently configured discrete wired axes for linear or rotary servo motor drives, open loop steppers, hydraulic and piezoelectric drives, with support for SSI and EnDat absolute encoders.

In addition, dedicated third-party drive interfaces are available for Panasonic's Real Time Express™ (RTE), SERCOS II and Control Techniques' SLM. Up to 64-axis network capability is available with RTE and SERCOS whilst SLM offers 42-axis control. An EtherCAT module with

64-axis capability is also in the advanced design stage and will be launched shortly. All axis expansion modules are plug & play compatible and may be mixed for maximum flexibility, allowing the user to decide the very best drive technology for the application.

Each axis expansion module type features additional digital and analogue machine I/O with full axis mapping and a complement of high speed registration inputs to realise tight synchronisation for high performance motion applications including electronic gearbox, flying shear, and circular/helical interpolation etc.

For factory communications, Trio has selected the Anybus® CompactCom interface and designed its own module device offering machine builders and OEMs maximum flexibility and cost optimisation for Fieldbus interfacing. A comprehensive selection of Fieldbus and communications modules are available including, Profibus, DeviceNet, CANopen, Modbus-TCP and -RTU, CC-Link, USB, Bluetooth and many more. The MC464 main controller also includes built-in communication interfaces including EtherNet/IP, CANopen, DeviceNet slave, Modbus-TCP and -RTU and Trio I/O.

For setting up, commissioning and running diagnostics, Trio's *Motion* **Perfect** provides a fully scalable single programming environment across all of Trio's *Motion Coordinator* range. The MC464's programming flexibility includes TrioBASIC, G-code and IEC 61131 Runtime. The TrioBASIC multitasking programming language has been developed over 20 years to provide straightforward yet powerful programming for complex automation control and combined motion applications including communication functionality for HMI and SCADA interfacing. Multi-tasking capability for the MC464 includes 2 fast tasks such as high speed encoder position registration in addition to 18 standard tasks. The combination of Trio BASIC and SD card memory capability provides the means for total application scalability, allowing the simple transfer of programs and configuration parameters across machines, helping to reduce development and machine production timescales.

The IEC 61131-3 programming option is a full function PLC programming system using standard PC based tools for Ladder Diagram and Structured Text which may be further enhanced with Instruction List, Function Block Diagram and Sequential Function Chart programming.

The runtime kernel is integrated into 16 additional tasks on MC464, allowing multiple PLC tasks to be run with full access to all MC464 I/O and distributed I/O on axis expansion cards. The IEC 61131 program also provides PLC simulation capability and has access to all Trio motion commands, axis parameters and Trio VR/Table memory.