MC 302-K *Motion Coordinator*

The MC302-K *Motion Coordinator* fits within Kollmorgen Servostar™ Digital Drives to provide an easy to use 1½ axes motion controller with sophisticated motion control features. The module simply clips into the S600 option slot and is powered by the drive.

Based on Trio's latest high-performance 32-bit ARM technology, the MC302-K offers 64MHz performance in a compact package.

User programs are written in Trio's established multi-tasking BASIC language using the powerful *Motion*Perfect development software. Storage is accomplished in a 120k byte user program memory.

Complex motion such as cams, gears, linked axes, and interpolation is made easy with Trio's comprehensive BASIC command set. Additional BASIC commands make it easy to setup and control the drive features and parameters.

The MC302-K has 12 opto-isolated digital inputs and 8 opto-isolated digital outputs built-in. In addition users can directly access the digital and analog I/O provided by the drive.

A wide communications capability is available with a CAN interface for DeviceNet and an RS232 port for HMI with Modbus RTU support. Additional I/O can be provided using Trio CAN 8 Analogue and CAN16-I/O Digital Modules.

- ***Sophisticated, Easy to Use, Drive Motion Systems***
- ***1½ Axes of Servo & Synchronisation Encoder***
- ***Additional Virtual Axis in Software***
- ***Trio's Proven Multi-Tasking BASIC Programming***
- ***DeviceNet and CANopen Communications***
- ***64 MHz 32-bit ARM Processing Power***

Preview Data Sheet
specifications subject to change

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Drive Integration

A simple "plug-in" operation, the MC302-K occupies the Kollmorgen Servostar's™ option slot. The module is closely integrated into the drive via a high speed dual port ram interface. The user is given BASIC keywords DRIVE_READ, DRIVE_WRITE, DRIVE_CLEAR, DRIVE_STATUS and DRIVE_RESET to setup and control the drive during operation.

MC302-K Features and Specifications

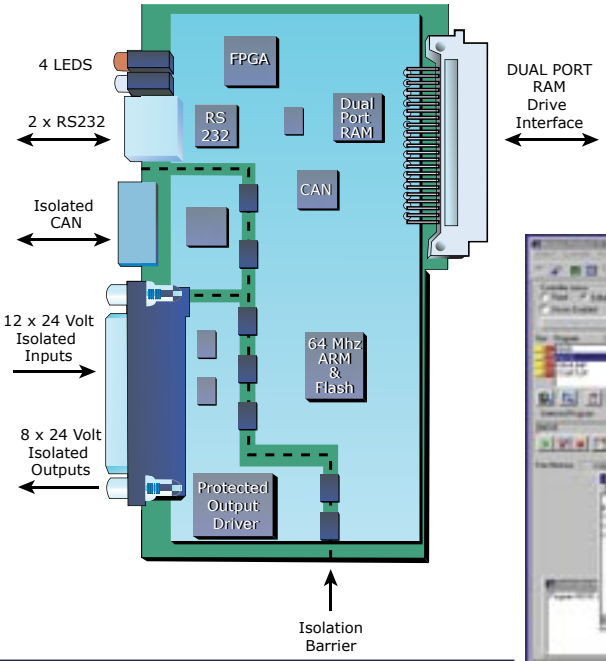
Size:	95mm x 140mm x 20mm
Mounting:	Plug-in card for S600 Option Slot
Weight:	90g
Operating Temp.:	0 to 45 degrees C
Control Inputs:	Forward/Reverse Limit, Datum, Feedhold Assignable
Communications Ports:	CAN interface for DeviceNet, I/O expansion using Trio I/O modules, alternative CAN protocols, etc. 1 x RS232 port for HMI with Modbus RTU + 1 for programming
Position Resolution:	32-bit position count
Synchronisation Encoder:	Via drive auxiliary encoder port
Interpolation Modes:	1-3 axes, Linear, Circular, Helical, CAM profiles, speed control, electronic gearboxes
Programming:	Pre-emptive multi-tasking Trio BASIC, maximum of 3 programs + command line interface
Speed Resolution:	32 bits. Speed/Accel/Decel may be changed at any time. Moves may be merged for continuous contoured motion
Servo Cycle:	250usec
Memory:	120kb user memory. Programs and data can be stored into 16M bit flash EPROM
Power Input:	Supplied by ServoStar Digital Amplifier: 120mA @ 5v
Digital Inputs:	12 opto-isolated + 5 opto-isolated drive inputs
Digital Outputs	8 opto-isolated + 2 opto-isolated drive outputs
Analog I/O	2 x 16 bit inputs + 2 x 16 bit outputs from drive

Multi-Tasking TrioBASIC

All Trio ***Motion Coordinators*** are programmed in TrioBASIC, a flexible yet powerful and easy to use language.

The MC302-K runs up to 3 application programs concurrently using pre-emptive multi-tasking.

The command interface ">>" also runs concurrently allowing read-back of variables and parameters from the ***Motion Coordinator*** while programs are running. User programs and System software are stored in flash EPROM.



Flexible Motion Control

- Interpolation up to 3 axes
- Circular Interpolation
- Helical Interpolation
- Cam Profiles
- Software Gearboxes
- Linked Movement
- Axis Superimposition
- Imaginary Axes
- Registration

Any Axis can run any move type

Versatile Communications

- 2 x RS232 Serial Port
- Isolated CAN Interface
- MODBUS Communications
- DeviceNet/CANopen Comms

MC302-K Accessories

- P315 CAN 16 I/O Module
- P325 CAN 8 Analog Module
- P350 RS232 Serial Cable
- P672 Tech. Reference Manual

EMC Compliant

- BS EN61000-6-2 (1999) Industrial noise immunity.
- BS EN55022 (1995) Industrial noise emissions.

Ordering Information

- Product code: P164

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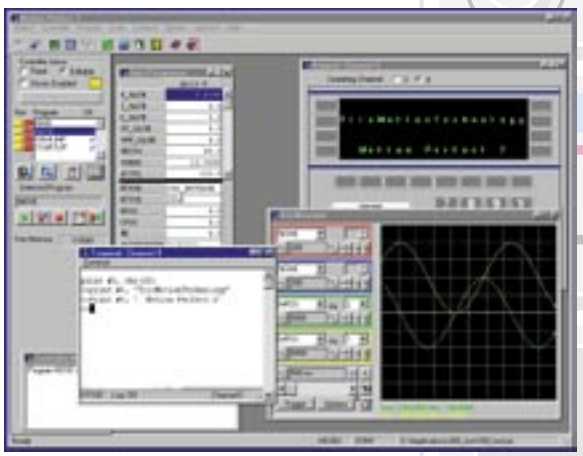

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