MC 206 *Motion Coordinator*

The MC206 *Motion Coordinator* is based on Trio's high-performance 32-bit DSP technology, providing unprecedented computational speed, flexibility, and connectivity.

Advanced FPGA techniques enable 4 axes of stepper and servo circuitry plus a master encoder input to be enclosed in a compact DIN-rail mounted package.

An expansion connector is incorporated to add a fifth axis or any other optional Daughter Boards.

Up to 8 axes may be provided using the SERCOS Daughter Board.

User programs are written in Trio's established multi-tasking BASIC language using the powerful *Motion*Perfect development software.

Complex motion such as cams, gears, linked axes, and interpolation is made easy with Trio's comprehensive BASIC command set.

The MC206 has 16 opto-isolated digital I/O (8 in, 8 bi-directional). Ultra-fast high speed hardware registration inputs are available for each axis where highly accurate control is required for applications such as print and packaging lines.

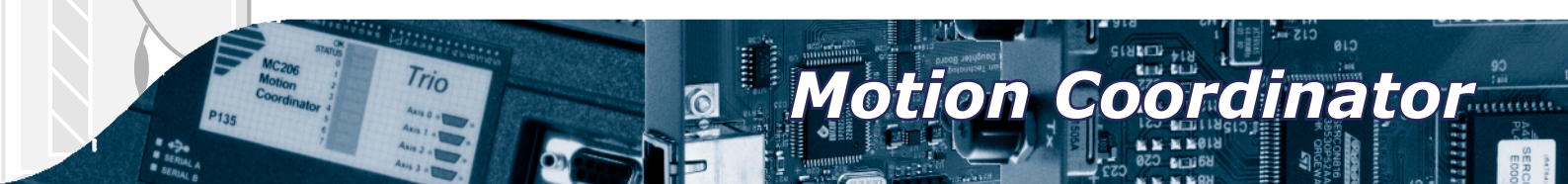
The I/O count can be expanded using Trio CANbus digital and analogue modules.

Trio's MC206 offers wide communications capability with 2 RS-232 serial ports, 1 RS-485 port, 1 TTL serial port, 1 USB port and 1 CAN channel as standard.

An adaptor is available to convert the TTL port to Trio's fibre-optic network.

A Memory Stick used with the MC206 allows the transfer of programs and data without a PC connection. This makes OEM machine replication and servicing a fast and simple operation.

- ***120 MHz 32-bit DSP processing power***
- ***Up to 8 axes of Servo or Stepper control***
- ***Trio's proven multi-tasking BASIC programming***
- ***Accepts Trio's Daughter Boards for unparalleled flexibility***
- ***Memory Stick for easy program loading and data storage***



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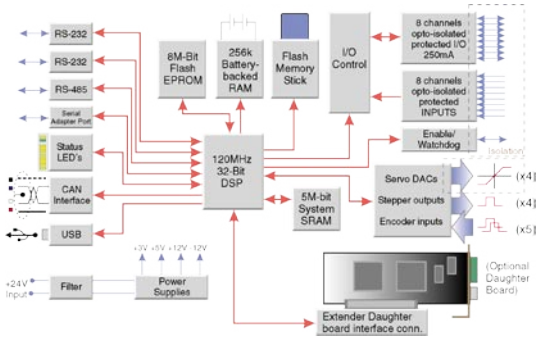

The MC206 has an 8-axis capability: 4 real axes of servo or stepper, 1 daughter board axis (optional), encoder follower input (axis 4), and 3 "virtual" axes. Any axis not used in hardware can be used as a virtual axis for camming, on-the-fly registration adjust, and linking motion.

The basic MC206 is supplied as a single axis servo or stepper unit. Any combination of servo or stepper axes may be pre-enabled to a maximum of four axes. Users may also upgrade at a later date by entering a special feature enable code (FEC).

FECs can be purchased from Trio distributors or direct over the world-wide web for larger OEMs by arrangement. All necessary DAC and stepper circuitry is installed and ready for use. Additional motion or other functions can be added using Trio's daughter boards.

Multi-Tasking TrioBASIC

All Trio ***Motion Coordinators*** are programmed in TrioBASIC, a flexible yet powerful and easy to use language. The MC206 runs up to 7 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.

MC206 Features and Specifications

Size:	107mm(H) x 182mm(W) x 53mm(D)
Mounting:	Compact DIN-rail mounting box
Weight:	325g
Operating Temp.:	0 to 45 degrees C
Control Inputs:	Forward/Reverse Limit, Datum, Feedhold
Communications Ports:	(2) RS-232 port 1200-38400 baud, (1) RS-485 port, (1) Serial adapter port, (1) USB 12Mbit, (1) CAN channel 1Mbaud
Position Resolution:	32-bit position count
Interpolation Modes:	1-5 axes (8 axes with optional SERCOS Daughter Board) Linear, Circular, Helical, CAM profiles, speed control, electronic gearboxes
Programming:	Pre-emptive multi-tasking Trio BASIC, maximum of 8 tasks (including 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 mnimum for all axes, 1msec default
Memory:	256k battery-backed user memory. Entire contents may be flashed to EPROM
Memory Stick:	Flash memory for program and project transfers to other MC206 controllers
Power Input:	24Vdc @ 600mA
Amplifier Enable Output:	N.O. relay contact rated 24Vdc @250mA
Digital Inputs:	(8) 24Vdc opto-isolated
Hardware Registration:	(5) high-speed position latched inputs (3usec)
Digital Outputs:	(8) 24Vdc opto-isolated sourcing, 250mA each
Encoder Inputs:	(5) with 6MHz edge rate
Analog Input:	(1) 10-bit 0-10Vdc general purpose
Analog Outputs:	(4) 16-bit +/-10Vdc for servo command or general purpose
Stepper Outputs:	(4) Differential Step outputs, 2MHz maximum rate
Direction Outputs:	(4) Differential outputs
LED indicators:	Power, Status, (8) user programmable I/O status
Connections:	Screw terminals, 9-pin D-shell (female)

Easy Expandability

Trio's *Motion Coordinators* take advantage of the Daughter Board concept.
Any one of the Daughter Boards can be plugged into a *Motion Coordinator* for additional servo and machine control, or other communication functions.
New Daughter Boards are continuously being added.

Distributed By:

Flexible Motion Control

- Interpolation up to 8 axes
- Circular Interpolation
- Helical Interpolation
- Cam Profiles
- Software Gearboxes
- Linked Movement
- Axis Superimposition
- Imaginary Axes
- Hardware Registration

Any Axis can run any move type

Trio Daughter Boards:

P200 - Servo with Encoder
P210 - Servo with Resolver
P220 - Reference Encoder
P230 - Stepper Output
P240 - Stepper with Encoder
P242 - Hardware PSWITCH
P260 - Analog Output
P270 - SSI Absolute Servo
P280 - Differential Stepper
P290 - (4)-axis CAN/CANopen
P291 - SERCOS
P295 - USB port
P296 - Ethernet
P297 - Profibus DP

Versatile Communications

Two RS-232 ports
One RS-485 port
One serial adapter port
Ethernet comms
(with optional daughter board)
Modbus comms
DeviceNET comms
Profibus comms (with optional daughter board)
Fibre-Optic port with adapter connector to other *Motion Coordinators* and Operator Keypad

EMC Compliant

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

Ordering Information

Product code: P135

TRIO MOTION TECHNOLOGY

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