

softMC 703 Motion and Robot controller

Multi-axis motion control software and hardware package offering extensive programming capabilities for a variety of automation and robotics applications.



Scalable programming options for enhanced user exibility

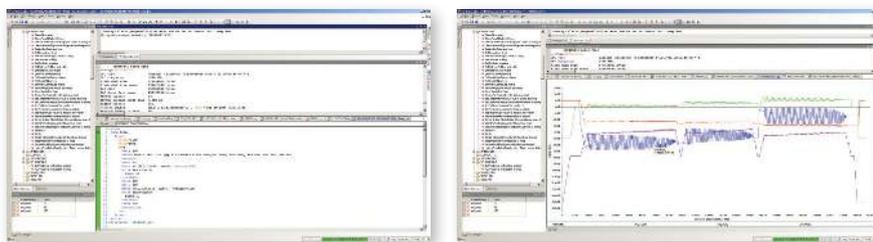
- Powerful, open, real-time programming language enables preemptive multitasking at user program level
- C/C++ user written module integration
- Supports ROS

Extensive motion and robotics functionalities

- Up to 64 interpolated axes
- Additional axes supported upon special request
- Single axis and synchronized axes motion
- Supports standard robot types such as DELTA, PUMA, SCARA, as well as other non-standard robotic kinematics such as traverse, scissors etc.

ControlStudio™ program development environment

ControlStudio™ is a free Windows-based integrated development environment, by Servotronix Motion Control, used for editing and debugging of the MC-BASIC program. A variety of machine and motion features are available, such as: task handling, text files editing, record graphs display, watch window, online tracking, etc.



Designed for the perfect system

- Create the motion system you need, using Servotronix HMI, drives and motors for high-performance and high-power servo systems.
- Add stepIM integrated stepper motors or servIM integrated servo motors for cost- effective performance in low voltage applications.

Key benefits

- Open, modular, and modern machine control environment
- Ethernet machine interface
- EtherCAT® motion bus
- Controls up to 64 interpolated axes
- Extensive capabilities for both standard and non-standard robotic kinematics
- Software core has been implemented in motion and robotic applications for over 30 years
- Customized software solution can be embedded into the hardware

Related products



softMI
Human Machine
Interface



CDHD2 servo
drives with RDHD2
servo motors



stepIM / servIM
Integrated
Motors

Motion

- Single-axis motion (move, jog)
- Group interpolation (move, circle)
- Blended motions
- Master-slave (camming, gearing)
- Profius (sine acceleration, trapezoidal, customized)
- Simulated motions (off-line program validation)
- Advanced stop and proceed mechanisms
- User selectable units (meters, inches, mm/s and rpm)
- On-the-fly motion control (immediate, velocity-override)
- 3D compensation table for correcting mechanical inaccuracies
- Conveyor tracking (pick-and-place from linear and rotary conveyers)
- Robotic kinematics for standard and non-standard types
- Advanced spatial interpolation for all kinematics
- Dynamic model (identification, online inverse dynamic)
- Real-time robot impact detection
- Multiple robots controlled by single controller
- Multi robot synchronization

Interfaces

- Machine: Serial, Ethernet TCP/IP, Modbus TCP/IP, OPC UA®
- Fieldbus: EtherCAT®

Ordering Information

		MC	-	E	08	-	704	-	0000
		softMC Motion Controller							
		Fieldbus							
E xx	301	EtherCAT – softMC 301 hardware							
C xx	301	CANopen – softMC 301 hardware							
E xx	703	EtherCAT – softMC 703 hardware							
C xx	704	CANopen – softMC 704 hardware							
		Number of Axes							
04, 06	4, 6 axes – softMC 301								
08, 16, 32, 64	8, 16, 32, 64 axes – softMC 7xx								
		Hardware Variants							
301	softMC 301 – ARM, for 4 to 6 axes								
703	softMC 703 – Atom, for 8 to 32 axes								
704	softMC 704 – Atom, for 8 to 32 axes								
		Option							
0EIP	Add-on EtherNet/IP gateway for softMC 301								

System

- Real-time Linux operating system
- Preemptive multitasking at user program level
- Integration with C/C++ user modules
- Position-based event generation using programmable limit switches, with microsecond resolution
- softMC-Basic language: Global and local libraries, user data structure, file system, error handling
- Integrated development environment: programming, software program management, diagnostic

Hardware

- CPU: 1.33 GHz Intel® Atom Bay-Trail-I E3825 dual-core processor
- RAM: DDR3L SDRAM 2GB Memory
- Storage: mSATA 2GB (internal)
- LAN: RJ45 port for host communications
- EtherCAT®: RJ45 port for real-time motion control
- AUX Ethernet: RJ45 port for teach pendant HMI and others
- 2 RS485 Serial ports

