

SOFTMC 703 by SERVOTRONIX

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



Modular real-time Linux-based software

- Servotronic multi-axis control algorithms

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
- Enable code IEC 61131 CODESYS
- Supports ROS

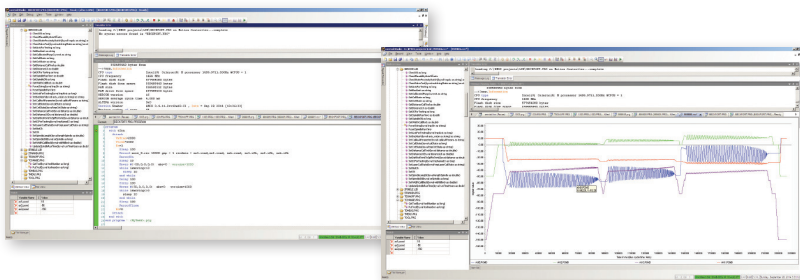
Extensive motion and robotics functionalities

- 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 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 Servotronic servo HMI Teach Pendant drives and motors
- Use softMI Human Machine Interface for machine controlling
- Use softTP Robot Teach Pendant for operational and programming tasks
- Use CDHD EtherCAT servo drives for high-performance and high-power servo systems
- Use stepIM EtherCAT integrated closed-loop stepper motors for cost-effective servo performance at the price level of a stepper system

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

Complete Motion Solution

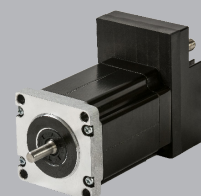


softMI
Human Machine Interface

softTP Tablet
Teach Pendant



CDHD2 servo drives with PRO2 rotary brushless servo motors



StepIM integrated closed-loop stepper motor

Motion

- Single-axis motion (move, jog)
- Group interpolation (move, circle)
- Blended motions
- Master-slave (camming, gearing)
- Pro les (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®

Order 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
E xx 706	EtherCAT – softMC 706 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
706	softMC 706 – I5, for 8 to 64 axes

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

