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
- Servotronix multi-axis control algorithms embedded in a qualified off-the-shelf industrial PC

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

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.

ControlStudioTM program development environment
ControlStudioTM 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 Servotronix 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 or CANopen servo drives for high-performance and high-power servo systems
- Use stepIM CANopen integrated closed-loop stepper motors for cost-effective servo performance at the price level of a stepper system

Complete Motion Solution
- softMI Human Machine Interface
- softTP Teach Pendant
- CDHD servo drives with PRO2 rotary brushless servo motors
- StepIM integrated closed-loop stepper motor

Key benefits
- Open, modular, and modern machine control environment
- Ethernet machine interface
- Support EtherCAT® and CANopen® motion buses
- 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 customer’s hardware
Motion
• Single-axis motion (move, jog)
• Group interpolation (move, circle)
• Blended motions
• Master-slave (camming, gearing)
• Profiles (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
• Real-time robot impact detection
• Multiple robots controlled by single controller
• Multi robot synchronization

Interfaces
• Machine: Seria,: Ethernet TCP/IP, Modbus TCP, OPC UA®
• Fieldbus: EtherCAT® or CANopen®

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, Ie system, error handling
• Integrated development environment: programming, software program management, diagnostic

Hardware
• CPU: 1.86 GHz Intel® Atom™ N2800 dual-core processor
• RAM: 1 GB 1066 MHz DDR3
• Storage: CompactFlash® card slot
• Ethernet: RJ45 port for host communications
• EtherCAT®: RJ45 port for real-time motion control

Customization capabilities
• softMC software embedded in other industrial PC platforms
• Customized software designed per customer’s hardware

Order Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Item</th>
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<tbody>
<tr>
<td>FW-MC03-CODESYS</td>
<td>IEC 61131 CODESYS for softMC 3</td>
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<td>FW-MC07-CODESYS</td>
<td>IEC 61131 CODESYS for softMC 7</td>
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<td>FW-MC03-TPH0701</td>
<td>softTP Web Server for softMC 3</td>
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