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Enlarge

PMAC VME

8 Axis +/-10V Output Controller with VME Bus Interface

Part Number: 400-602203-10x

The PMAC-VME offers high performance capabilities to the robust and highly expandable VME bus format. Providing up to 8-axis of control in velocity or torque mode.

Features | Options | Accessories | Manuals

Hardware Features

- 20 MHz DSP56002 CPU
- 128k x 24 1 wait-state battery-backed SRAM
- 128k x 8 PROM memory for firmware storage
- 2k x 8 EEPROM memory for setup variable backup
- Latest released firmware version
- RS-422 serial interface, VME bus interface
- 4 channels axis interface circuitry, each including:
- 16-bit +/-10V analog output
- 3-channel (A, B, C) differential/single-ended encoder input
- 4 input flags, 2 output flags
- Interface to external 16-bit serial ADC
- Display, control panel, muxed I/O, direct I/O interface ports
- Buffered expansion port
- Clock crystal with +/-100 ppm accuracy
- PID/notch/feed-forward servo algorithms
- 1-year warranty from date of shipment

Software Features

- **Trajectory Generation Features**
  - Linear interpolation mode with S-curve accel/decel
  - Circular interpolation mode with S-curve accel/decel
  - Rapid point-to-point move mode
  - Cubic B-spline interpolation mode
  - Cubic Hermite-spline (PVT) interpolation mode
  - Automatic move-until-trigger functions with hardware capture
  - Interactive jog moves
  - Optional multi-move look-a-head for velocity and acceleration limiting
- **Servo Features**
  - Standard digital PID feedback filter
  - Velocity, acceleration, and friction feed-forward
  - 2nd-order notch/low-pass filter
  - Gains changeable at any time
  - Programmable input, integrator, and output limits
  - Optional 35-term “pole-placement” servo filter
- **Commutation Features**
  - Sinusoidal commutation of AC servo motors
  - Vector control of AC induction motors

- Digital current-loop closure with direct PWM output (PMAC2)

- **Compensation Features**
  - Position compensation tables (1D & 2D)
  - Torque compensation tables
  - Backlash compensation
  - Tool radius compensation
- **Safety Features**
  - Hardware and software over-travel limits
  - Amplifier enable/fault handshaking
  - Following error limits
  - Integrated current limit
  - Encoder loss detection (some versions)
  - Watchdog timer
  - Program and communications checksums
- **Computational Features**
  - Real-time multi-tasking operating system
  - 48-bit floating-point math for user programs
  - Trigonometric and transcendental functions
  - Automatic type-matching of different variable types
- **Feedback sensor types that can be processed**
  - Digital quadrature encoders
  - Sinusoidal encoders, interferometers
  - Resolvers
  - Potentiometers
  - LVDTs, RVDTs
  - Parallel-format encoders, interferometers
  - MLDTs
  - Serial absolute encoders (e.g. SSI)
- **Coordination and Master/Slave Features**
  - User-defined coordinate systems for automatic coordination of axes
  - Separate coordinate systems for independent motion of axes
  - Multi-motor axis support (e.g. gantries)
  - Dynamic axis transformations (e.g. offsets, rotations, mirroring)
  - Electronic gearing (no programming required)
  - Electronic cams with programmable profiles
- **Motion Program Features**
  - High-level programming language
  - Automatic sequenced execution of moves
  - Calculations and I/O synchronous to motion
  - Axes programmed in user engineering units
  - Motion values as constants or expressions
  - Automatic coordination of multiple axes
  - Ability to execute G-code programs
- **PLC Program Features**
  - Execution asynchronous to programmed motion
  - I/O control as in hardware PLC
  - Executive functions for standalone applications
  - Safety and status monitoring
  - Servo gain scheduling
  - Data reporting functions
  - Access to all registers in controller

Additional Axes

OPT-1V - 4 additional channels axis interface circuitry

OPT-7V - Plate mounting for standalone applications

Communication Options

OPT-2V - On-board 8Kx16 Dual Ported RAM

Processor and Firmware Options

OPT-10 - Firmware version specification

OPT-5AF - 40mHz CPU

OPT-5CF - 80 MHz CPU

OPT-5CL - 80MHz DSP56303 CPU (8Kx24 internal memory)

OPT-5EF - 160 MHz DSP563xx CPU

OPT-6 - Extended-servo-algorithm firmware

Base Board Options

OPT-0 - Removal of VME interface (for standalone applications)

OPT-14 - Replacement of flag opto isolators with socketed shunts

OPT-15 - V-to-F Converter to use Control Port Analog Input

OPT-16 - 16K x 24 battery-backed parameter RAM

OPT-8A - High-accuracy clock crystal (+/-15ppm)

Connector Options

OPT-3V - Extended VME front plate for additional 5 connectors

Additional Options

OPT-3VG - Enclosed plastic PLC style front plate

Axis Breakout Boards

ACC-8D - 4 channel breakout board, monolithic terminal block, IDC headers

ACC-8P - 4 channel breakout board, monolithic terminal block

Feedback Interface Boards

ACC-28A - 4 Channel Analog-to-Digital Converter Board

ACC-28B - Analog-to-Digital (A/D) Hi-Res Conversion Board.

Digital I/O Boards

ACC-14V - 48 Digital Inputs/Outputs Board

ACC-34AA - 32 Inputs and 32 Outputs Optically Isolated, I/O board

ACC-34B - 32 Inputs and 32 Outputs for Opto-22™

ACC-35A - Thumbwheel Port Differential Line Driver, Local

ACC-35B - Thumbwheel Port Differential Line Driver, Receiver

ACC-36P - 16-Channel 12-Bit A/D Converter Board

ACC-76 - 32 Inputs and 32 Outputs for SNAP I/O from Opto-22™

ACC-77 - 64 Inputs module for SNAP I/O from Opto-22™

Servo Interfaces Boards

ACC-24V - 4 Channel PMAC VME Bus Axis Expansion Board

ACC-51P - x4096 High-Resolution Sine Wave Encoder Interpolator

ACC-70P - Tamagawa Encoder Interface Board

Communication Interface Boards

ACC-26A - Serial Communications Optical Isolation Board

Power Supply

ACC-2A - Power Supply - +/-15V 0.4 A & +5V HBAA-40W

Cable Accessories

ACC-21F - Cable 50-pin card-edge to 34-pin IDC header for PMAC (1) JOPT connector

ACC-21FH - Cable for PMAC JOPT Connector

ACC-21G - Cable 50-pin card-edge to 50-pin IDC header

ACC-3D - 3-meter (10 ft) RS-232 or RS-422 flat cable, DB-25 to IDC-26

Miscellaneous Accessories

ACC-1LS - Lithium Battery

ACC-40 - On-site 2-Day Field Service and Training

Display Accessories

ACC-12A - 40x2 LCD Backlit Display

ACC-12C1 - Vacuum Fluorescent Display Unit

ACC-12D - Display Port Transmitter

Warranty

ACC-22 - Extended Two Year Warranty

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