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Find the *OMRON / Delta Tau PMAC2-PC/104* at our website: *Click HERE*

DELTA TAU
Data Systems Inc.

NEW IDEAS IN MOTION CONTROL...

PMAC2A PC/104
8 Axis
Part Number: 4-3670xx-xx0x-0x00xx

ABOUT PMAC2A PC/104



The PMAC2A PC/104 provides up to 8 axes of control in the smallest form factor that Delta Tau offers, capable of Filtered PWM output, using the PMAC2 CPU.

FEATURES

HARDWARE FEATURES

- 40 MHz DSP563xx CPU (OPT-5AF 80 MHz 560xx equivalent)
- 128K x 24 internal zero-wait-state SRAM
- 512K x 8 flash memory for user backup and firmware
- Latest released firmware version
- RS-232 serial interface
- 4 channels axis interface circuitry, each including:
- 12-bit +/-10V analog output
- Pulse-&-direction digital output
- Quadrature encoder inputs A, B, C, channels with differential/single-ended drivers
- 4 input flags, 2 output flags at TTL levels
- 3 PWM top-and-bottom pairs (unbuffered)
- 50-pin IDC header for amplifier/encoder interface

34-pin IDC header for flag interface
- PID/notch/feedforward servo algorithms
- 1-year warranty from date of shipment

Servo Features

- Standard digital PID feedback filter
- Velocity, acceleration, and friction feedforward
- 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 and 2D)
- Torque compensation tables
- Backlash compensation
- Tool radius compensation

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 lookahead for velocity and acceleration limiting

Safety Features

- Hardware and software overtravel 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

OPTIONS

Processor and Firmware Options

- OPT-10 - Firmware version specification
- OPT-5AF - 40 MHz DSP56311 CPU
- OPT-5CF - 80 MHz DSP563xx CPU (160 MHz 560xx equivalent)
- OPT-5EF - 160 MHz CPU (320 MHz 560xx equivalent)
- OPT-6 - Extended-servo-algorithm firmware
- OPT-6L - Multi-block lookahead firmware
- OPT-8A - High-accuracy clock crystal (+/-25ppm)

Base Board Options

- OPT-12 - 2-channel on-board 12-bit A/D converter
- OPT-2A - PC/104 Bus Stack Interface

Connector Options

- Terminal Block 10-pin - 10-pin flat cable breakout board
- Terminal Block 34-pin - 34-pin flat cable breakout board
- Terminal Block 50-pin - 50-pin flat cable breakout board

ACCESSORY

Axis Interface Boards

- ACC-1P - Additional 4 Axis Interface, feedback & I/O, PC/104 stack board
- ACC-8ES - 4 Channel Analog Servo (16-bit) Interface, PC/104 stack board
- ACC-8FS - 4 Channel Digital Direct PWM, PC/104 stack board

Feedback Interface Boards

- ACC-1P - Additional 4 Axis Interface, feedback & I/O, PC/104 stack board
- ACC-28B - Analog+to Digital (A/D) Hi-Res Conversion Board
- ACC-51S - High Resolution Sinusoidal Interpolator, PC/104 stack board
- ACC-8TS - Interface to ACC-28B Hi- Res analog inputs, PC/104 stack board

Digital I/O Boards

- ACC-1P - Additional 4 Axis Interface, feedback & I/O, PC/104 stack board

- ACC-2P - High-speed Communications / Digital-I/O, PC/104 stack 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-65ETH - Modbus/TCP-IP OPTO (Sourcing 24in/24out)
- 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

Communication Interface Boards

- ACC-26A - Serial Communications Optical Isolation Board
- ACC-2P - High-speed Communications / Digital-I/O, PC/104 stack board

Power Supply

- ACC-2A - Power Supply - +/-15V 0.4 A & +5V HBAA-40W
- ACC-2B - Power Supply - +/-15V (0.8 A) & +5V HBAA-40W

PC/104 Accessories

- ACC-PC104 - PC-104 size COMPUTER

Cable Accessories

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

Demo/Test Accessories

- ACC-3P - 50-pin to 60-pin JMACH adapter board

Miscellaneous Accessories

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

Warranty

- ACC-22 - Extended Two Year Warranty

- ACC-2P - High-speed Communications / Digital-I/O, PC/104 stack board

SOFTWARE

Development Software

PMAC Executive Pro2 Suite

CNC Software

PMAC-NC Pro2 Runtime

Tools and Libraries

Power PMAC Communication library

Tools and Libraries

PMAC HMI Pro2 Designer

CNC Software

PMAC-NC Pro2 Designer

Tools and Libraries

PMAC HMI Pro2 Runtime

Development Software

Power PMAC IDE

MANUALS

PMAC2 User Manual - User Manual

EZ PMAC2A PC104 Setup - PMAC2A PC104 Quick Setup Manual

PMAC2A PC104 HRM - Hardware Reference Manual

Flex CPU - Hardware Reference Manual

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