

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
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Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

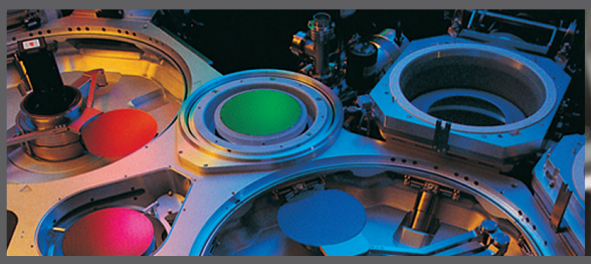
Custom engineering
so your equipment works exactly as you specify.

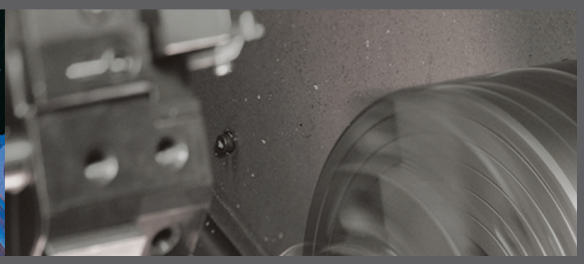
- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

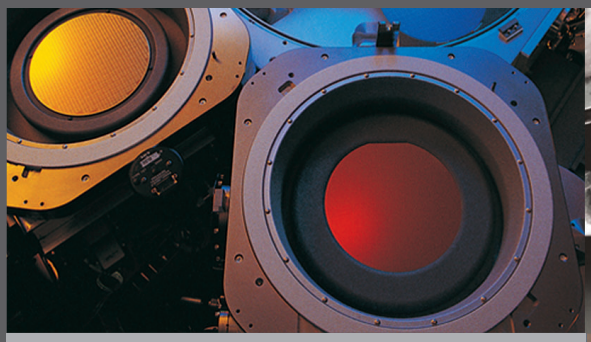
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POWER PMAC EtherLite

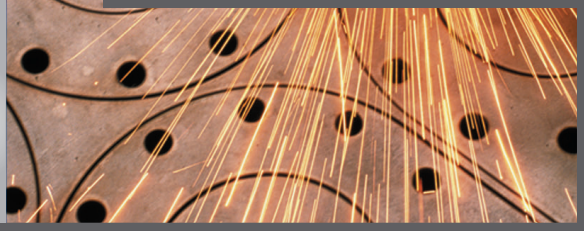








Up to 128 AXES OF CONTROL with the most power and flexibility of any controller on the planet



DELTA TAU

The Delta Tau Difference

About the Power PMAC The power and flexibility of the Power PMAC allows the integration of the Power PMAC EtherLite in virtually any kind of industrial motion control application.

Motor Servo Control

- Extremely fast update rates (Phase and Servo)
- Standard PID with full feedforward model
- Powerful automatic tuning and analyzer tools
- Analog, Pulse Width Modulated (PWM), Pulse Frequency Modulated (PFM), MACRO or EtherCAT Outputs
- Vibration suppression filters
- Multiple 7th order notch and low pass filters
- Adaptive control for varying loads
- Cascaded loops (force, height, camera auto-focus control)
- Support for custom-written commutation routines
- Support for custom-written servo routines
- Custom routines directly in C or from MATLAB®/Simulink®

Coordinate Systems / Forward and Inverse Kinematics

- Up to 256 axes of coordinated or independent motion
- Up to 128 independent coordinate systems
- Up to 32 independent axes per coordinate system
- Dynamic axes transformations (e.g. offsets, rotations, mirroring)
- Forward/Inverse kinematics for non-linear mechanisms
  - -User defined routines convert between tool tip coordinates and actuator positions
  - -Permits direct specification of tool tip path

Trajectory Generation - Motion Programs

- Auto-coordination of multiple sets of axes
- Linear, circular, rapid, position-velocity-time (PVT), LIN to PVT (curve fit), Spline move modes
- Seamless blending between linear, circular and PVT modes
- Automatic move until trigger (hardware input)
- True S-Curve accel / decel
- All move modes supported with user kinematics
- Dynamic multi-block lookahead with velocity/acceleration control and jerk limit
- Sub-millisecond segmentation time
- Negative feedrate for true motion reversal in lookahead
- Move block execution rate up to 10,000 blocks/sec
- G-code, M-code, and T-code ready
- Calculations and I/O synchronous to motion
- Tool radius compensation, 2D or 3D

Programmable Logic Control (PLCs)

- Access to all registers
- Trigonometric, transcendental, vector and matrix functions
- 64-bit floating-point architecture optimized math
- Executive functions for standalone operation
- Data gathering of up to 128 hardware/software registers per servo cycle
- Program in PMAC Script
- Program in ANSI C:
  - -Real time with preemptive kernel routines
  - -General purpose routines
  - -MATLAB®/Simulink® Embedded Coder® generated code

Compensation Tables

- Position/torque compensation tables in 1D, 2D, or 3D with rollover and mirroring options
- 1st/3rd order interpolation between points every servo cycle
- Up to 256 compensation tables (64K each)
- Support for superimposed compensation table results
- Backlash compensation, fixed or in tables

Hardware Position Capture and Compare

- Specialized circuitry tying encoder counts to digital I/O
- I/O on exact count (w/sub-count interpolation) at any speed (within 10 nanoseconds)
- For probing, registration, measurement trigger, laser firing

Gantry Control

- Follower motor(s) executes leader's trajectory
- Automatic skew removal on homing
- Automatic gantry cross-coupling servo correction

Electronic Gearing and Cams

- Powerful master/slave techniques
- Position following (gearing) requires no program for motion
- External time base (cam) keeps full trajectory flexibility (non-returning, limited reversal, e.g. moving web application)
- Up to 256 cam tables (16k points each)
  - Position/torque profile(s)
  - Returning, forward/reverse travel
  - Extremely precise synchronized outputs

The Power PMAC EtherLite

The Power PMAC EtherLite is a compact and cost-effective product designed for control through industrial networks and fieldbuses. The network interface can be configured with Delta Tau's MACRO fiber optic or electrical network and/or EtherCAT electrical network, as well as with one of various fieldbus options.

The Power PMAC EtherLite is a dedicated controller for driving real-time motion (servo) and I/O networks. The controller communicates to a host PC via Ethernet, or operates standalone, while providing a single-wire connection to any MACRO and/or EtherCAT drives, I/O or other peripheral devices.

The Power PMAC EtherLite utilizes the intelligence and capabilities of Delta Tau's 7th and latest generation controller, the Power PMAC, a general-purpose embedded computer running under a hard real-time Linux OS with a sophisticated motion and machine control application built in. The software PLCs, programmable in C and/or PMAC script, and built-in motion programs allow for complete machine logic control.

Capable of controlling up to 128 axes and thousands of I/O points, the Power PMAC EtherLite employs the motion and software features of the Power PMAC Family in systems with highly distributed network hardware from vendors of your choosing, resulting in a "Motion Solution" with unparalled performance capabilities.

For large systems where networked connections are important to simplify wiring:
Power PMAC EtherLite



Power PMAC Etherlite (pictured here)

Control Through Industrial Network/Fieldbus Connectivity

CONTROL EVERYTHING

Delta Tau's Open Architechture Platform provides complete flexibility to choose multiple types of fieldbuses, enabling you to create a system perfect for your application.

Fieldbus Connectivity

Servo
- MACRO (Master/Slave)
- EtherCAT (Master)

I/O
- EtherNet/IP (Scanner/Adapter)
- EtherCAT (Master/Slave)
- Profibus-DP (Master/Slave)
- DeviceNet (Master/Slave)
- CANopen (Master/Slave)
- Open Modbus (Master/Slave)
- CC-Link (Slave)
- PROFINET IO RT (Controller/Device)

Programming Languages

- PMAC Script
- ANSI C
- G-Code

Programming Tools

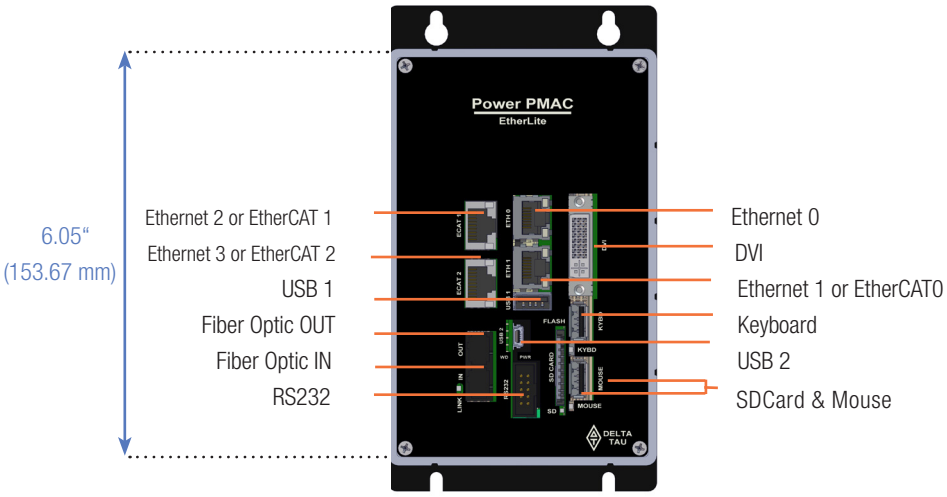
- MATLAB®/Simulink® Embedded Coder® generated code
- Epics

Hardware / OS

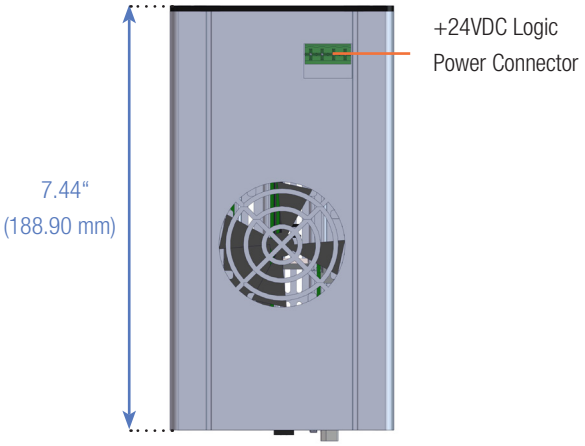
- Up to 1.2 GHz Single/Dual Core
- Full real-time Operating System (Linux OS w/ real-time kernel)
- Full file management system (programs, data, files, etc.)
- Dedicated controller runs in the RT Linux environment
- Full 32/64-bit architecture
- Hardware 64-bit double precision floating point math
- Support for large memory
  - Up to 16 GB Flash
  - Up to 4GB DDR3 active memory with error correction
  - 8MB NOR flash for Kernel and Bootloader
  - Interface for SD Card
  - Interface for USB 2.0 Devices (Hard drive, USB Stick, Keyboard, Mouse, etc.)
- 2 ethernet 1Gbps ports
- Built in USB2.0 Interface
- Optional 4x PCI Express (PCIe) port
- Optional Direct Video Interface (DVI Output)
- DVI output, 2 extra USB ports

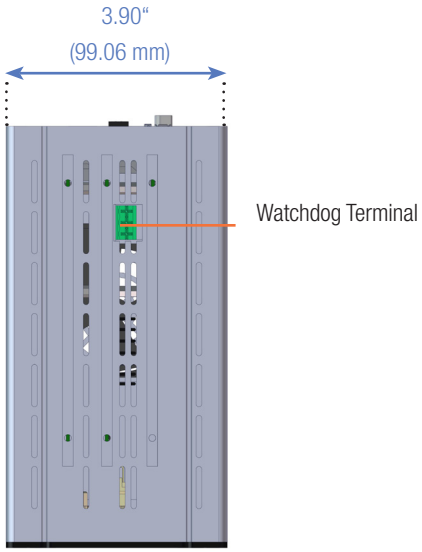
Power PMAC EtherLite Connector Layout

CONNECTOR LAYOUT
Fiber Optic MACRO Version



Top View





Bottom View

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you can also find us on...

Worldwide Support



Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

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We're here to make your life easier. How can we help you today?

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