

ARTISAN®
TECHNOLOGY GROUP

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

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

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

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *OMRON / Delta Tau Turbo PMAC2* at our website: ***Click HERE***

DELTA TAU

Turbo PMAC2 Ethernet Ultralite
Stand-alone MACRO Ring Controller

Product Description

PRODUCT DESCRIPTION:
The Turbo PMAC2 Ethernet Ultralite is a new MACRO ring controller capable of handling 32-axis of control in a convenient, stand-alone package. Communicating to the PC via Ethernet /USB/Serial, the controller provides simplified wiring to the UMAC MACRO, Geo MACRO Drives, MACRO peripherals and any other third party MACRO devices.

The Delta Tau Turbo PMAC2 Ethernet Ultralite high-speed 125 Mbits/sec transfer rate is capable of closing the current loop and servo loop across the MACRO ring, allowing the flexibility to choose distributed intelligence or centralized control through a fiber optic or twisted pair copper (RJ45 connector) ring.

This package also provides optional connectivity to different FieldBus networks such as CANopen, DeviceNet, ProfiBus and CC-link, a high performance system that delivers high speed, high resolution, single Ethernet cable connectivity and precise synchronization all at an affordable cost!

Turbo PMAC2 Ethernet Ultralite
38mm (1.5") W x 180mm (7") D x 230mm (9") H



BASE SPECIFICATIONS:
- 80 MHz DSP56303 Turbo PMAC CPU
- 128K x 24 SRAM compiled / assembled program memory
- 128K x 24 SRAM user data memory
- 1M x 8 flash memory for user backup & firmware
- 32K x 16 bank of dual-ported RAM
- Latest released firmware
- USB 2.0, Ethernet, and RS-232 communications
- (No on-board axis interface circuitry)
- Two channels supplemental interface circuitry each including:
  - One channel differential/single ended encoder input
  - One output command signal set, configurable as bpulse-and-direction or PWM top-and-bottom pair
  - I/O VDC DAC output in differential/single ended mode
  - Two I/O VDC 12 bit ADC channels
- Direct I/O interface port

OPTIONS:
CPU and Memory Options
- Opt 5C0: 80 MHz CPU, 256k x 24 SRAM, 1M x 8 Flash (Std.)
- Opt 5C3: 80 MHz CPU, 1M x 24 SRAM, 4M x 8 Flash
- Opt 5F3: 240 MHz CPU, 1M x 24 SRAM, 4M x 8 Flash

Interface Options
- Opt A: MACRO-ring fiber optic interface connector
- Opt C: MARCO-ring RJ45 interface connector
- Opt 2B: On-board 32K x 16 dual-ported RAM
- Opt 15F: ModBus Communication Protocol

MACRO Amplifiers:

3rd Party MACRO Amplifiers



Delta Tau's
Geo MACRO Drive



Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

DELTA TAU

Specifications and Features

Controller Hardware Specifications

80 MHz DSP56303 Turbo PMAC CPU
128k x 24 user SRAM compiled / assembled program memory
128k x 24 user SRAM user data memory
1M x 8 flash memory for user backup & firmware
32k x 16 bank of dual-ported RAM
Latest released firmware version
RS-232 serial interface
100 Mbps Ethernet interface
480 Mbps USB 2.0 interface
2-channels supplemental interface circuitry, each including:
1-channel differential/single-ended encoder input
1 Output command signal set, configurable as pulse-and -direction or PWM top-and-bottom pair
I/O VDC DAC output in differential/single ended mode
2 I/O VDC 12 bit ADC channels
Direct I/O Interface port

Motion Features

Trajectory Generation
- 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
- Altered destination on the fly
- Interactive jog moves
- Multi-move lookahead for velocity and acceleration limiting

Servo Loop
- 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
- Alternate 35-term "pole-placement" servo filter
- Alternate user-written high-level "Open Servo" algorithms

Commutation
- Sinusoidal commutation of AC servo motors
- Field oriented vector control of AC induction motors
- Digital current-loop closure with direct PWM output

Compensation
- Position compensation tables (1D & 2D)
- Torque compensation tables
- Backlash compensation
- Tool radius compensation

Safety
- Hardware and software overtravel limits
- Amplifier enable/fault handshaking
- Following error limits
- Integrated current limit
- Watchdog timer
- Program and communications checksums

Motion Features (continued)

Computational
- 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
- User-defined pointer variables to any registers

Coordination and Master/Slave
- User-defined coordinate systems for auto 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)
- User-written forward and inverse-kinematic algorithms for non-Cartesian geometries
- Electronic gearing (no programming required)
- Electronic cams with programmable profiles

Motion Program
- High-level programming language for up to 32 axes of control
- 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 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
- ModBus I/O control *

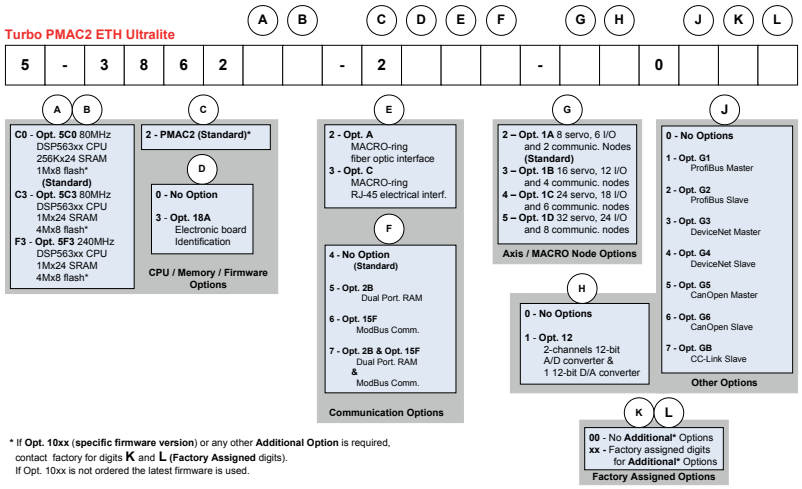
Fieldbus Gateway Options

- ProfiBus Master or Slave
- DeviceNet Master or Slave
- CanOpen Master or Slave
- CC-Link Slave

** Option or Accessory Required*

Warranty: 1-year from date of shipment on all Delta Tau Products

Turbo PMAC2 Ethernet Ultralite Ordering Part Number:



* If **Opt. 10xx** (**specific firmware version**) or any other **Additional Option** is required, contact factory for digits **K** and **L** (**Factory Assigned** digits).
If Opt. 10xx is not ordered the latest firmware is used.

Single Source Machine Control Power ~ Flexibility ~ Ease of Use
21314 Lassen Street Chatsworth, CA 91311 / Tel. (818) 998-2095 Fax. (818) 998-7807 / www.deltatau.com

NEW IDEAS IN MOTION...

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

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.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

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

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP