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DELTA TAU

# The Brick Motion Controller
## Embedded Turbo PMAC2

## Product Description

**PRODUCT DESCRIPTION:**
The new Brick Motion Controller is an open architecture controller utilizing the intelligence and capability of its embedded Turbo PMAC2. With the ability to store programs locally and its built-in PLC execution, it is suitable for virtually any kind of automation application. This tried and tested architecture allows for complete machine motion and logic control.

This product has 4 or 8 (optional) axes of analog +/- 10V filtered PWM (12-bit resolution) or pulse and direction outputs as standard. Options are available for dual true-DAC analog outputs at 18-bit resolution or Direct-PWM with current loop. Feedback with quadrature incremental encoders is standard. Options for sinusoidal, resolver or serial encoders are available.

The Brick Motion Controller provides a standard I/O capability of 16 inputs and 8 outputs at 12-24 volts fully protected and isolated with separate commons for each bank of 8 inputs. Outputs are rated for 1 ampere each and are thermal-fuse protected. Outputs can be current sinking or sourcing depending on use of common emitter or common collector connections. Additional I/O is an option (up to 64 inputs and 32 outputs). Also an option for up to four 16 bit analog inputs is available.

The Brick Motion Controller's functionality doesn't stop there, with features such as extensible I/O via ModBus TCP master or slave for third party HMI hardware. Our PC-based HMI package connected through USB 2.0 or Ethernet makes the Brick Motion Controller a powerful single source solution.

The controller is packaged in an 14.5"x3.5"x7.1 sized panel mount sealed enclosure, which is fully connectionized and easily connectable to the various machine elements.

**BASE SPECIFICATIONS:**
- 80 MHz DSP56303 CPU (120 MHz PMAC equivalent) (fast internal memory for 1st 15 axes servo & commutation)
- 128k x 24 SRAM compiled/assembled program memory (5C0) (for firmware, compiled PLCs, user-written servo & phase)
- 128k x 24 SRAM user data memory (5C0) (for motion & uncompiled PLC progs, variables, tables, buffers)
- 1M x 8 flash memory for user backup & firmware (5C0)
- Fully configurable via USB2.0 and Ethernet TCP/IP or RS-232 port.
- Operation – Standalone or PC
- Linear and circular interpolation
- 256 motion program capacity
- 64 asynchronous PLC program capability
- Rotating buffer for large programs
- 36-bit position range (± 64 billion counts)
- Adjustable S-curve acceleration and deceleration
- Set and change parameters in real time
- Torque, Velocity and Position control standard
- Eight thermal-fuse protected outputs (expandable to 16) rated for 0.5A @ 24VDC each (Flexible outputs allow for sinking or sourcing of current depending on whether the common emitter or common collector is used, in banks of eight)
- Primary encoder for each axis with TTL differential/ single-ended inputs with A, B quadrature channels and C index channel, 10 MHz cycle rate, and digital Hall-effect inputs



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