

MOTION CONTROLLERS **NSERVO**



Nservo is a digital 2- or 4-axis (position and velocity) servo controller, with up to 20 kHz sample time. It is compatible with encoders or resolvers and provides a ± 10 VDC three-phase command to any amplifier. With 11 digital inputs, 8 digital outputs, 4 analog inputs, 2 analog outputs (in addition to the 8 analog outputs that drive the amplifier), and expandable I/O, Nservo will accommodate most system I/O requirements. As with the Ndrive series, only a single 4-wire cable is needed to communicate with the motion generator on the PC. Other features include limits, E-Stop, brake, auxiliary feedback input, high-speed latching inputs, and Ethernet.

Aerotech's Nservo complements the Automation 3200 system's digital drives, allowing an industry standard analog amplifiers to interface with Aerotech's digital drive network. Connected via the IEEE-1394 (FireWire®) communication bus, which provides deterministic behavior, auto-identification, and easy software setup from the A3200 software-based machine controller.

NServo Features

- Supports 2 (standard) or 4 closed-loop servo (position and velocity) axes

- Each axis has three-phase ± 10 volt outputs. Two outputs are driven directly by DACs and the third output will be a summation of the first two outputs to provide third phase generation for commutated motors
- Up to 5 channels of 32 MHz line driver quadrature encoder inputs
- 24-volt tolerant opto-isolated CW, CCW, home and drive fault inputs per axis powered by either an internal 5V or external power supply
- 24-volt tolerant drive enable output per axis (open collector transistor, single ended, polarity selectable)
- 11 digital inputs (8 optically isolated)
- 8 opto-isolated digital outputs (sinking and sourcing; 5-24V)
- Four 16-bit analog inputs; 2 are differential with x1, x2.5, x4, x10 input gains
- Two 16-bit analog outputs
- Opto-isolated PSO output (opto-coupled, open collector, differential)

— PRODUCT HIGHLIGHTS —

Supports 2 (standard) or 4 closed-loop servo axes

Each axis has three-phase ± 10 volt outputs to drive any amplifier

FireWire® enabled servo controller for simplified wiring

Software configurable for brush, brushless and stepper motor operation

Encoder or resolver feedback accepted

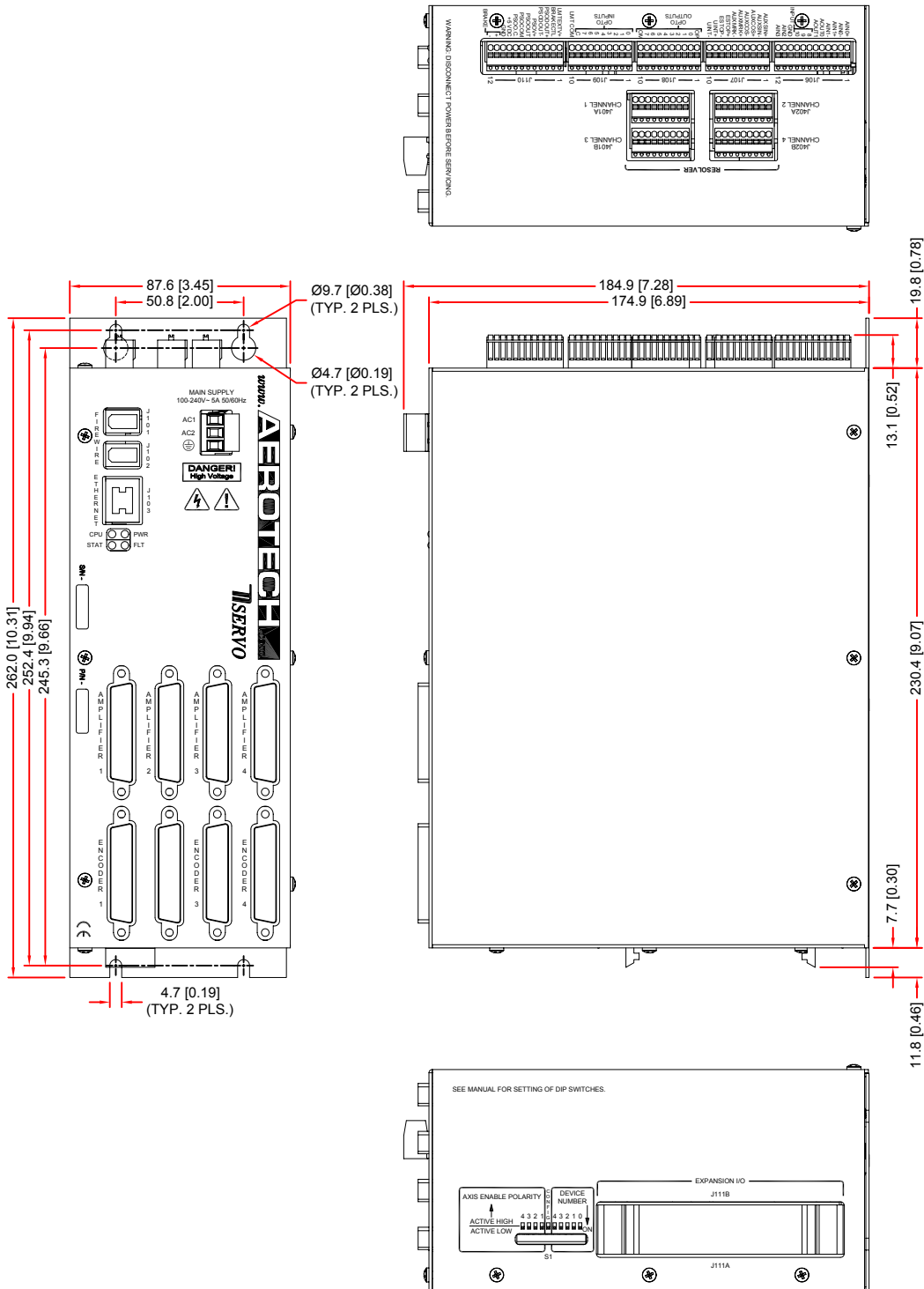
Connector options include terminal block and D connector

CE approved; follows the 2011/65/EU RoHS 2 Directive

- All I/O connections via easily removable connectors
- Two FireWire® ports
- Dedicated Emergency Stop sense input standard
- Internal power supply
- Equivalent software functionality (less current loop support) to the NDrive, NPaq, etc
- Software configurable for brush, brushless, and stepper motor operation
- 5 VDC, 500 mA user output power for encoder, limits, etc.
- Fail safe brake control output (open collector)
- Four auxiliary (U500/U600 compatible) open collector mode outputs
- High-Speed position latching input
- 48 bits of programmable I/O, user definable as input/output by byte
- Expansion connector for a four-axis R/D feedback module
- Optional Ethernet port
- CE approved, 2011/65/EU RoHS 2 Directive

Nservo Dimensions

Nservo-DB2/-DB4



Nservo Ordering Information

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NSERVO-DB2	2-axis drive interface board with 25-pin D-style encoder/drive connectors for analog amplifiers. Includes single or dual-phase current command, 8 digital inputs, and 8 digital outputs
NSERVO-DB4	4-axis drive interface board with 25-pin D-style encoder/drive connectors for analog amplifiers, piezo drives, or galvos. Includes single or dual-phase current command, 8 digital inputs, and 8 digital outputs
NSERVO-TB2	2-axis drive interface board with screw terminal encoder/drive connectors for analog amplifiers, piezo drives, or galvos. Includes single or dual-phase current command, 8 digital inputs, and 8 digital outputs
NSERVO-TB4	4-axis drive interface board with screw terminal encoder/drive connectors for analog amplifiers, piezo drives, or galvos. Includes single or dual-phase current command, 8 digital inputs, and 8 digital outputs
NSERVO-ENET-DB2	2-axis drive interface board with 25-pin D-style encoder/drive connectors for analog amplifiers, piezo drives, or galvos. Includes single or dual-phase current command, 8 digital inputs, 8 digital outputs, and Ethernet
NSERVO-ENET-DB4	4-axis drive interface board with 25-pin D-style encoder/drive connectors for analog amplifiers, piezo drives, or galvos. Includes single or dual-phase current command, 8 digital inputs, 8 digital outputs, and Ethernet
NSERVO-ENET-TB2	2-axis drive interface board with screw terminal encoder/drive connectors for analog amplifiers, piezo drives, or galvos. Includes single or dual-phase current command, 8 digital inputs, 8 digital outputs, and Ethernet
NSERVO-ENET-TB4	4-axis drive interface board with screw terminal encoder/drive connectors for analog amplifiers, piezo drives, or galvos. Includes single or dual-phase current command, 8 digital inputs, 8 digital outputs, and Ethernet

PSO Options

-DPSO	Dual Axis PSO
-TPSO	Triple Axis PSO
-OPTO2	Opto isolator for PSO, requires DPSO/TPSO option (<+15v, high speed, low current, 6N136)
-OPTO3	Opto isolator for PSO, requires DPSO/TPSO option (<+30V, low speed, low current, 4N33)
-OPTO4	Opto isolator for PSO, requires DPSO/TPSO option (TIL117-M, 40 KHz, 5-25VDC, 50 ma)

Resolver/Inductosyn Options

-RDP2-10K	Nservo 2 channel RDP-10K
-RDP2-7.5K	Nservo 2 channel RDP-7.5K
-RDP2-5K	Nservo 2 channel RDP-5K
-RDP4-10K	Nservo 4 channel RDP-10K
-RDP4-7.5K	Nservo 4 channel RDP-7.5K
-RDP4-5K	Nservo 4 channel RDP-5K

Resolver/Inductosyn Options

-RDP2-10K	Nservo 2 channel RDP-10K
-RDP2-7.5K	Nservo 2 channel RDP-7.5K
-RDP2-5K	Nservo 2 channel RDP-5K
-RDP4-10K	Nservo 4 channel RDP-10K
-RDP4-7.5K	Nservo 4 channel RDP-7.5K
-RDP4-5K	Nservo 4 channel RDP-5K

Upgrade Options

-UPGRADE	Upgrade from U500/U600 system
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Misc. Options

-LMT5V	Uses internal 5V supply to power limits and remove opto isolation
-SE	Single ended analog Input