



BXi™

Motion and Machine Controller

The BXi is an integrated motion and machine controller with internally powered servo drives. It features an expandable 100 Mbit Ethernet I/O system, scalable serial ports, and an object-based development environment. The BXi provides full *system-centric* machine control including control of servomotors, multi-axis robots, slides, notch aligners, and pod door openers. By unifying the control of the entire machine or module, the BXi maximizes throughput and reliability while minimizing total system cost and integration effort.

FEATURES

AUTOCALIBRATION® TECHNOLOGY — Eliminates time consuming robot teaching and lengthy robot replacement times. Using a variety of application specific methods, Autocalibration technology allows a robot to precisely locate tool points without the need for operator assistance.

CASSETTE MAPPING — The built-in BXi mapping algorithm can inventory wafers while also detecting cross slotted and double slotted wafers.

PREDICTIVE MAINTENANCE — Minimizes unscheduled downtime. Controller monitors machine mechanism calibration values and process loop performance, indicating in advance when machine maintenance should be scheduled.

e-DIAGNOSTICS — Enables remote monitoring, troubleshooting and data logging of an entire machine via a corporate intranet, or the internet. Allows for easy integration of information into enterprise software.

MODULAR SOFTWARE DEVELOPMENT — The BXi features a sophisticated development environment that reduces new software development by 95%. Typical semiconductor objects including robots, notch aligners, wafer cassettes and pod door openers are modeled in the BXi development environment, reducing the software effort to mainly application configuration and scheduling.

INTEGRATED PRE-ALIGNER — The BXi is plug and play compatible with Berkeley's BXpa integrated pre-aligner.



Controller Performance

- 64bit RISC processor
- Multitasking of servo control
- Expandable to 56 axes with networked controllers
- Internally powered servo axes, 80VDC, 5A cont, 10A peak

Controller Models

- 8 axis control/6 Internal Drives
- 6 axis control/4 Internal Drives
- 4 axis control/2 Internal Drives
- 8 axis control/0 Internal Drives
- 4 axis control/0 Internal Drives

Motion Control Features

- Point-to-point motion profile
- Trapezoidal & S-Curve Motion profiles
- Master/Slave axis control
- Auto tuning of servo & PID loops
- Torque, speed & position control
- General PID loop control
- Programmable Limit Switch

Internal Inputs/Outputs

- 14 Digital outputs, 24VDC configurable
- 32 Digital inputs, 24VDC configurable
- Pre-integrated E-stop circuit
- Pre-integrated drive power interrupt circuit
- Fully connectorized to reduce point-to-point wiring
- Fully expandable via BXi/o Ethernet modules

Connectivity

- 100MB OpenLink™ Ethernet Network
- Multi controller network - standard
- Windows NT interface
- SECSII/GEM
- Accessories:
 - Ethernet hub 4/8 Ch
 - Serial port module 2/4 Ch

Environmental

- Operating temp, 0-40°C
- 0-95% humidity, non-condensing
- Fully CE certified
- Passive cooling – standard
- Fan module – option

Power

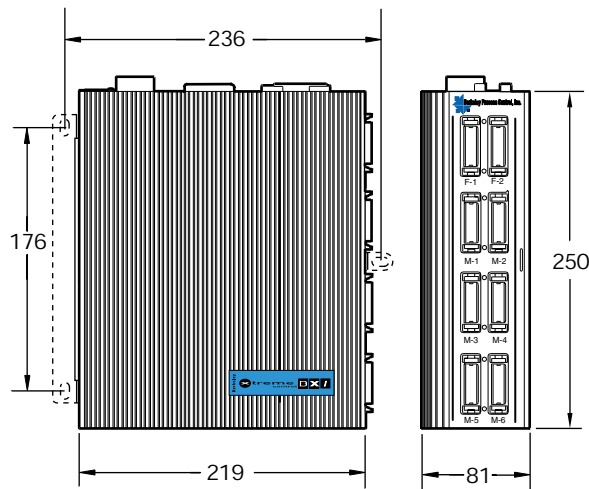
- 120-240VAC/1ph, 208/480 VAC 3ph
- Internal 24VDC optional power supply

Physical

- 250mm x 219mm x 81mm (9.8" x 8.6" x 3.2")
- Weight: 5kg (11lbs)
- Panel mount, back or side

Approvals

- UL
- CE
- S2-93A – option



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