

PRODUCT LINE - AUTOMATION & MOTION CONTROL FROM INDUSTRIAL INDEXING SYSTEMS

MOTION CONTROL SYSTEMS

EMERALD EMC-2100 AUTOMATION CONTROLLER

The Emerald EMC-2100™ is an open architecture, high-performance, multi-axis programmable automation controller for applications that demand close coordination of multiple servo axes, I/O and auxiliary equipment.

The Emerald Motion Controller is powerful enough to execute all the control functions required in OEM equipment, and can eliminate the need for additional control devices such as a PLC.

KEY BENEFITS

- Functions include indexing motion, positioning, complex motion trajectories, high-speed registration, electronic gearing, electronic cam shaping, software programmable limit switches, I/O responses, multiple timers and coordination through system networking.
- 64-bit risc processor core
- SERCOS, DeviceNet and Ethernet TCP/IP connectivity
- Real-Time Operating System (RTOS)
- RS-232, USB, Ethernet and DeviceNet ports
- Seven segment status display
- Master follower encoder interface port with a isolated high-speed capture input for registration
- Up to 512 addressible I/O points
- Failsafe watchdog timer with external contact terminals
- 24 VDC operation



REMOVABLE MEMORY

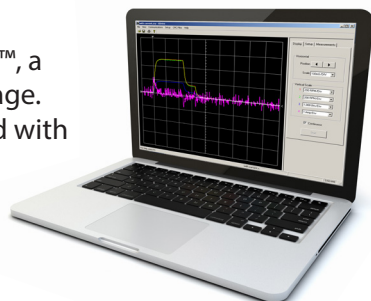
- Front panel SD card interface
- Application file or operating system downloads

NETWORK INTERFACE OPTIONS

- Emerald Servo Drives
- Full compliment digital and analog I/O
- Dual hydraulic servo valve control outputs to form position loops with Temposonic™ transducer feedback
- Analog position loop with encoder feedback
- Analog position loop with resolver feedback
- Resolver follower interface
- Analog VFD drive interface

EMERALD MOTION LANGUAGE (EML)

The EMC-2100 controller is programmed using the Emerald Motion Language™, a powerful BASIC-like language. Applications are developed with the Emerald Development Environment™ software in a project oriented Windows environment.



EMERALD MOTION LANGUAGE (EML)

- Easy to use BASIC-like language
- Powerful set of math, motion, I/O and networking instructions, compiled language for fast execution
- Software interrupt routine mapping to status changes
- Support for DeviceNet, SERCOS and Ethernet
- Configuration Manager for multiple controllers
- Editor/Compiler/Debugger/Watch windows

SOFTWARE FEATURES

- Fully certified SERCOS Interface with broad range of special function IDN's
- Lighting fast controller for demanding applications
- Indexing/positioning and timers
- Master slave ratio and electronic cams
- Programmable Limit Switch (I/O) functions
- User configurable for SERCOS drives or versions of the automation controller
- Advanced space-vector servo control algorithms

EMERALD INTELLIGENT SERVO DRIVES



Emerald series servomotors and drives bring cost-effective solutions to the automation market. The wide range of sizes, features-rich functions, and IIS' exclusive "Two Drives in One" philosophy make the Emerald Series the most versatile servo in today's automation market. The Emerald Servo Drive comes in 6 size ranges: 5, 10, 20, 40 and 60 Arms/phase @ 220 VAC and 50 and 25 Arms/phase @ 460 VAC. Emeralds servo motors are available from 400W to 25kW, 1500 to 6000 RPM rated speeds with KW and medium rotor inertia versions. Choose 16 kHz PWM for maximum performance and silent running, or 4/8 kHz for maximum power.

TWO DRIVES IN ONE

- Full featured drive on a SERCOS network
- 1½ axis programmable automation motor control/drive

For I/O, connect two Emerald 16 position I/O racks per drive. Add a multi-axis Emerald automation controller to configure the most powerful SERCOS multi-axis servo system available today.

E-DRIVE MONITOR, PC SOFTWARE TOOLS

- Motor parameter configuration
- Tuning and oscilloscope functions
- Torque, speed & current
- I/O states and analog I/O

HARDWARE FEATURES

- Analog I/O, one input & one PWM output
- Auxiliary encoder: ABZ RS422
- High-speed position trap for registration sensor
- 4, 8 or 16 kHz switching frequency
- Internal regeneration control
- High-speed DSP microprocessor
- USB port for easy interface to laptop PC
- RS232 port for operator interface
- Seven segment status display
- Internal regeneration control
- Watchdog timer
- CAN bus port for I/O

OPTIONS

- Resolver input
- Additional analog I/O
- Absolute encoder interface



Our servo motors are for complex environments such as food production, medical applications, oil refining, explosive liquid, dust and vapor atmospheres, and submersible assemblies.

Agency standards: UL, cUL, ATEX, IECEx and FDA (rated and certified).



PRECISION POWER PERFORMANCE



Industrial Indexing Systems, Inc



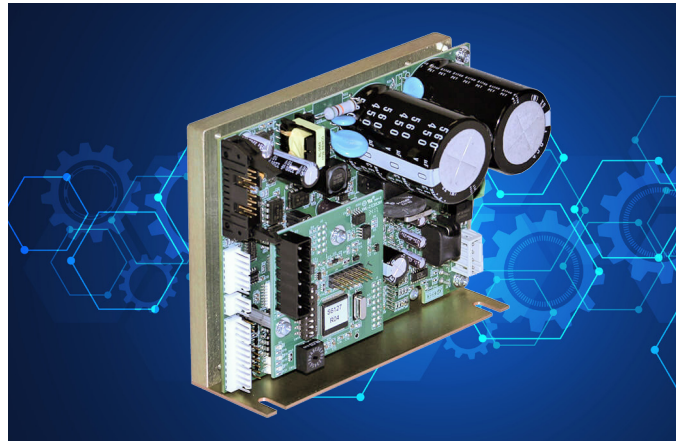
LUMINARY MOTION CONTROLLER

Designed with OEMs in mind, the Luminary Series packs a full feature list of control capabilities into a low cost hardware platform. The Luminary series LMC-400 includes multi-axis capability to control four Luminary Series drives with access to 36 I/O.

KEY FEATURES

- Four port drive hub: Interfaces to an option card installed on the LD-xxx drive.
- Eight general purpose digital inputs and four digital outputs, 24Vdc logic, optically isolated
- Digital inputs can also be configured for use as a master encoder input, registration marker input and position capture functions.
- All outputs can be controlled separately or synchronized to a master and configured as programmable limit switches.
- USB Serial (Port1) software development port
- RS-232 Serial (Port2) for terminals & touchscreens.
- Line input power: 100–265 Vac input range.

The Luminary Motion controller is programmed using Emerald Motion Language™ (EML), a powerful BASIC-like language. Application programs are developed with the Emerald Development Environment™ (EDE) software in a project-oriented Windows environment.



LUMINARY INTELLIGENT SERVO DRIVES

Luminary drives offer a low cost, high performance servo drive in applications such as x-y tables, actuators, roll feeders, or any requirement for true position, velocity and torque control. A cost-competitive alternative to stepper controls.

DRIVE FEATURES: LD-500 & LD-101

- Two Drive Sizes: 5.0 amp and 10.0 amp RMS continuous at 45°C
- Integral Power Supply: Line input voltage range: 100 – 240vac
- +/- 10v analog control input with sinusoidal drive output for smooth torque and velocity control
- Option cards for customizing drive communications and bypassing the analog control for digital control.
- Two and Four optically isolated 24vdc digital inputs
- Motor encoder input, 5vdc, quadrature, ABZ/UVW
- Repeater output of encoder feedback for interfacing to a simple analog position controller
- Optional: ISOCOMM1 – Communication interface for updating firmware and motor parameters
- For setting up motor/drive parameters and tuning the motor response to the load, an easy-to-use PC-based commissioning software (L-Drive) is available at no cost. Once set, the configuration firmware with the correct personality for the motor will reside on the drive board.



LUMINARY STEPPER MOTORS AND DRIVES

The Luminary Series Stepper drive packs a full complement of interface options. Analog velocity and torque control, digital encoder feedback, and digital input and output control points provide flexible design options needed by the OEM.

STEPPER MOTORS WITH SERVO PERFORMANCE

- Servo-level motion performance, and a full complement of interface options.
- Using integral encoder feedback, no loss of shaft position under peak torque conditions and quiet operation are benefits in many environments.
- Network with LMC-400 controller, and use Emerald Motion Language and EDE software tool kit for electronic cam motion, electronic gearing and programmable limit switch outputs for synchronized and coordinated motion profiles.

Check out our website for the latest product information at:
<https://www.iis-servo.com/>

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PL-21-MCS-10



PANEL SHOP CAPABILITIES

Our UL-certified panel shop can install systems on a panel, ready for integration into your equipment, or in an enclosure for factory floor installation. Standard IIS cabinets are NEMA-12 rated, with CE and custom enclosures also available on request.

Every enclosure is turnkey: accurately sized for your specific physical and mechanical specifications, wired to UL, JIC & CE standards with color-coded numbered wiring, fully tested in our lab before shipping, and supplied with documentation.

YOUR FULL-SERVICE AUTOMATION COMPANY

- In-house repair capabilities
- Full line of operator interfaces, from handheld keypad LCD units to color touch screen PCs with networking
- Cables cut to standard or custom lengths
- Position-sensing resolvers, encoders and magneto restrictive devices
- Custom and brake motors
- Automation system & software engineering services
- Exclusive supplier of Shibaura Machine Co. Ltd PLC motion modules
- Shibaura Variable Frequency Drives (VFD)

ABOUT IIS

Industrial Indexing Systems, Inc. has over 40 years of control system experience helping customers meet their automation goals. IIS is a supplier of automation system solutions specializing in servo motion control.

Our Applications and System Engineering staff provide expert guidance with system design and custom turnkey solutions for demanding applications.

OUR QUALITY MISSION

By consistently providing quality motion control products and services to our customers and committing to bring the necessary resources of people, training, and equipment to fulfill their orders, we build long-term relationships. Total Quality is the cornerstone of Industrial Indexing Systems' relationships with customers and suppliers.

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