



## Standard Features

- Highly integrated 10/100 Ethernet-based controller
- Supports Streaming and Stand-Alone modes of operation
- Powerful Remote API for interaction with the LEC-1 in Stand-Alone mode
- Leading-edge dual processor architecture
- FPGA / SoC for on-board real-time processing of vector and laser control
- 12 MB FLASH for local job storage
- Direct jumper configurable analog outputs for 2- or 3-axis scanning systems
- Industry standard XY/2-100 digital scan head control for 2- or 3-axis scanning systems
- Software selectable laser signal polarity and timing – requires no jumpers
- Industry leading laser control frequency up to 5 MHz with 100 ns pulse width
- 4 optically isolated Inputs and 4 optically isolated Outputs for external equipment control
- 4 optically isolated hardware interrupt Interlock inputs
- RS-422 digital quadrature inputs for Mark on the Fly encoder
- 3 RS-232 COM ports, software selectable to support Pendant interface, Remote API, and Intelligent motion control
- 2 USB host ports for FLASH disk access

## Lanmarker® Controllers – LEC-1

### *Bringing the power of networking to laser marking*

**Lanmark® Controls Inc.** is transforming the laser marking industry with its Lanmarker LEC-1 Embedded Controller. This next-generation product is a compact, completely integrated, Ethernet-based “smart” controller system for galvanometer-based laser scanning systems that eliminates the need for local computer control. Running its own WinLase Embedded Software, the LEC-1 offers local job storage and execution, a first in the industry. For customers, freedom from local PC connectivity translates into maximum flexibility for equipment location, increased productivity, and dramatically lower computer costs. It also means simplified management in distributed automation environments where one computer can manage an array of LEC-1 controllers attached to a network.

**The LEC-1 Embedded Controller** was designed with application flexibility in mind. The LEC-1 provides a range of options for job creation, loading, and control. Users can create and edit job content using Lanmark’s WinLase® LAN Laser Marking Software or a third-party package. Content can be downloaded onto the controller via a local area network or accessed via a USB memory stick. Local execution job control occurs through an Ethernet-based Remote Command API, or by an optional VGA user interface or optional handheld pendant.



for general inquiries about our products email us at :  
[info@LanmarkControls.com](mailto:info@LanmarkControls.com)



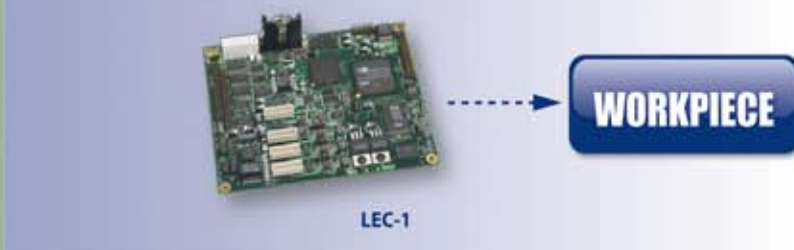
## Specifications

- Command resolution: 16 bits (-32768 to +32767)
- Analog outputs: X, Y, Z, differential with software configurable range: +/- 2.5 volts, +/- 5.0 volts, +/- 10.0 volts. Jumper configurable for additional range capability of +/- 1.5 volts, +/- 3.0 volts, +/- 6.0 volts
- XY/2-100 compatible protocol for X, Y and Z axes. Signal values at the analog axis outputs are reflected on the XY/2 data channels
- Laser signals: LASERENABLE, LASERON1, LASERON2, FPK, LASERMOD1, LASERMOD2, VISIBLEPOINTER, all software configurable.
- Laser outputs are 5 volt TTL compatible
- Laser signal resolution: 20 ns, in 100 ns steps
- Laser frequency range: 20 Hz to 5 MHz, software configurable
- 4 optically isolated user configurable inputs
- 4 optically isolated user configurable outputs
- 4 optically isolated Interlock inputs
- System status outputs: BUSY, MARKIN PROGRESS, ERROR and READY
- System synchronization input: STARTMARK
- Mark on the Fly: RS-422 digital quadrature inputs, A & B phases & Index. Can be applied to X or Y axis
- Ethernet 10/100 BaseT compatible
- RS-232: COM1, COM2, COM3, configurable for motion control, pendant or Remote API
- Electrical requirements: +/- 15-24 VDC @ 500 ma, + 5 VDC @ 4 A
- Dimensions: 127mm x 102mm x 32mm (5" x 4" x 1.25")

### Streaming Mode



### Stand-Alone Mode



### Key Benefits

- No PC required when running in Stand-Alone mode
- Ethernet connection allows simplified management of multiple laser systems in the same location
- Flexible architecture
- Highest marking quality
- Industrial Ethernet Connection

### Board Versions

- **Basic:** Streaming mode only
- **Standard:** Basic + Stand-Alone functionality
- **Advanced:** Standard + Mark On the Fly + Remote API streaming