

SURVEYOR[®]

Dynamic Scanning Option

www.laserdesign.com

The Leader in 3D Laser Scanning Since 1987



FEATURE SUMMARY:

- **Input Frequency: 6 MHz**
- **Six Quadrature, 32-bit Channels**
- **Each Channel accepts two phased TTL or RS-422 signals plus an index signal**
- **All six channels can be latched based on a single trigger pulse from the RPS probe**
- **USB connection to PC- no need for additional PCI or ISA interface cards**
- **HUE can supply +5 volt power to each encoder channel or can pass power through from the motion controller**

Laser Design introduces next generation laser scanning with its Dynamic Scanning option. Previously, DCC operated laser-scanning systems read three-dimensional positioning information by accessing the machine's motion controller. While this approach provided accurate positioning information in point-to-point scanning mode, limitations in the communications speed of the controller restricted typical scanning throughput to about 4,000 points per second or less.

With its breakthrough Dynamic Scanning technology, Laser Design is now able to read positioning information directly from the encoders thereby allowing continuous scanning with data capture rates of up to 14,000 points per second while maintaining outstanding accuracy.

The Dynamic Scanning option consists of the Hydra USB Encoder (HUE), cabling and Surveyor Scan Control software (see separate software specification sheet). Dynamic Scanning is standard with Surveyor DS-Series and CS-Series systems as well as with Laser Design's CMM laser probe kit. It is also available as an upgrade option for older Laser Design scanners such as the Surveyor 1200.

Backed by a full one-year parts and labor warranty from the industry leader, Laser Design's Dynamic Scanning technology sets the standard for high-performance 3D laser scanning.

DYNAMIC SCANNING SPECIFICATIONS

The Laser Design HUE saves space and processing power inside the PC by performing the encoder latching electronics, encoder signal routing logic, and the power supply for the encoders. It communicates directly with the PC via standard USB connection.

HUE

There is no effect to the existing motion control system. The HUE is simply connected between the encoders and the existing motion control that allows it to listen to the current position without affecting the motion control.

Encoders and Counters

Six quadrature incremental encoder counters each having 32-bits of resolution accepts two phased, single ended TTL or RS-422 signals plus an index signal to track encoder direction and displacement. Each input is conditioned and synchronized to the HUE's internal clock. Unlike conventional counters, the counters do not accumulate errors when the encoder dithers or changes direction. The HUE supplies +5 volt power to each encoder channel or can be configured to allow power from the motion control system to pass through.

Laser Probe Support

The dynamic scanning option provides support for both the RPS probe line as well as the new SLP probe line.

Specifications

General	
Operating temperature	0 C to 70C
Number of Axis	Up to 6
USB Connection to PC	USB 1.2, 12Mbit rate
DB9 connection to Key Switch box	
DB9 connection to turbo laser card	
USB connection to SLP	
DB15 connections from encoders to HUE	
DB15 connections from HUE to motion control	
A/C Power Input- HUE	120 / 220 VAC
	60 / 50 Hz
	1 Ph
	.21 / .11 A

Encoder I/O	
Number of channels	6 quadrature, 32-bit
Input voltage	Two phased RS-422 or TTL
Input frequency (encoder counts/sec)	6 MHz
Digital filtering	
USB Hub	2 ports