BOXBORO
systems

RibEye™ Measurement System for the Hybrid III – 50th Male

Features of RibEye System

- Multiple point measurement (up to 12 points at 10 kHz) - captures linear and oblique load conditions
- Multiple axis - capable of measuring X and Y axis position from each point
- Non-contact - no mechanical linkages between spine box and ribs
- Simple installation for light emitting diodes (LEDs) and light sensors
- Calibration of optical photosensors with precision fixture
- Can be integrated with existing data acquisition systems
- Can be controlled by RibEye software or data acquisition system manufacturers' software
- Meets SAE J211-1 (July 2007**)** and ISO 6487-2000 specifications

Measurement

- Accuracy = ± 0.2 mm typical; ± 1 mm maximum error
- X axis up to 85 mm of chest compression
- Y axis ± 90 mm from the center of the spine
- Z axis range from top rib to bottom rib
- Sample rate 10 kHz per LED measurement point
- Acquisition time: 30,000 ms (30 seconds) in DRAM, 2 seconds in flash memory (500 ms pre-trigger, 1500 ms post-trigger)

Temperature Range

- Maximum accuracy: 65º - 85ºF (18º - 29ºC)
- Operating range: 0º - 100ºF (-18 - 38º C)

Components

- 12 light-emitting diodes (LEDs), X and Y position data reported for all points
- 2 optical sensor heads (mounted to the spine box) derive the position of the LEDs
- Controller assembly mounted in the spine box
- LED connector blocks integrated into the optical sensor housings
- Interface box (power, trigger, communications and arming) located externally
- PC-based control software
- Communication requirement: 10/100 Mbs Ethernet (RJ45 jack)
- Power requirement: 12-36 VDC, 8.3W (collecting data, typical), 5.3W (idle), 12.3W (max)
- Existing spines can be easily modified to mount the RibEye system

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