TRIO H10-SERIES

HX10 Diagnostic Data Collector / Expert Analyzer

HA10 Vibration Data Collector / Field Analyzer

The experts' choice… Built for safety, durability, and performance in hazardous locations.

WATCHMAN™
PDM MONITORING SERVICES

The TRIO™ HX10 and HA10 data collectors provide a portable, HAZLOC-rated industrial vibration acquisition system for Class 1, Division 2 hazardous locations.

These vibration data collectors and diagnostic instruments are lightweight at 2.6 pounds and just 0.75 inches thick but are rugged enough to meet the IP-65 environmental rating and the stringent MIL-STD-810G standards for protection against dust, water, vibration, drops, extreme temperatures, and varying altitudes.

Designed for the demands of the field and ready to perform with a dependable large swappable battery, powerful quad-core processor, and brilliant ten inch touchscreen. TRIO H-Series data collectors are equipped with ExpertALERT™, our automated vibration diagnostic software that empowers your technicians to report results from the field.

TRIOs are loaded with **Windows® operating systems**, so the controller can be connected to your network or operate as a stand-alone instrument with the ability to load your office suite of productivity software for use in the field.

The HX10 and HA10 models can be connected to the **Azima DLI WATCHMAN™ Reliability Portal** for the best enterprise visibility for your condition based maintenance program.

When safety and performance are important, the experts turn to Azima DLI's TRIO data collection instruments.

Features include:

- HAZLOC-Rated for Class 1, Division 2, Group A, B, C, D, T4 A
- High-resolution, 10.1" touch LED Gorilla® glass display which is sunlight readable
- Responsive capacitive touch screen ensures better performance in outdoor environments
- Lightweight with high performance. Weighing only 2.6 pounds (1.5kg) the H-series offers a 6-hour standard battery or 13-hour extended battery
- Powerful Intel® BayTrail-M, 1.8 GHz, Quad-core processor with 128 GB SSD and 8 GB DDR3L RAM for ultra-fast performance
- Bluetooth® modular integration with the TRIO Data Processor (DP-2H) 4-channel acquisition device for safe, in-field operation
- 5 megapixel camera with LED flash gives users the ability to document their findings in great detail

For more information on TRIO data collectors please visit www.AzimaDLI.com

Azima DLI World Headquarters // 300 Tradecenter, Suite 4610 // Woburn, MA 01801 // USA
www.AzimaDLI.com // sales@AzimaDLI.com // (+1) 781.938.0707

AZIMA DLI

TRIO H10 SERIES

HX10 Diagnostic Data Collector/Expert Analyzer // HA10 Vibration Data Collector/Field Analyzer

HAZLOC COMPLIANCE SPECIFICATIONS

Controller:

- Ex protection type
- ATEX II 3G Ex ic IIA/IIC T5 Gc,
- ATEX II 3D Ex ic IIIB T90 °C Dc IP 54
  - » (IIA when using hand strap
- IECEx: Ex ic IIA/IIC T5 Gc, Ex ic IIIB T90 °C Dc IP 54
  - » (IIA when using hand strap)
- UL Class I Div. 2 Groups A, B, C, D T4 A

Data Processor:

- Class 1, Division 2, Groups A, B, C, D, T6
- Conforms to UL STD 61010-1 & ISA STD 1212.01
- Certified to CSA STD C22.2 Nos. 61010-1 &213

Triaxial Accelerometer:

- CSA: Ex ic IIC T4 Class I, Div.2, Groups A, B, C, D
- CSA: AEx ic IIC T4 Class I, Div.2, Groups A, B, C, D
- ATEX: Ex ic IIC T4 Gc, Ex nA IIC T4 Gc

SYSTEM OVERVIEW

- Triaxial vibration data collector
- Industrial Windows 7 Professional tablet PC controller
- Wireless, modular-designed data acquisition unit (TRIO DP-2H)
- Optional handheld laser tachometer (non-HAZLOC rated)
- Flexible carrying options
- HX10 includes embedded ExpertALERT (no host software required)
- HA10 includes embedded ALERT™ onboard analysis software (requires hosted ExpertALERT, ExpertALERT Cloud-subscription, or StandardALERT™)
- Sybase® 12 SQL database engine
- Survey File Transfer Exchange or optional ALERT replication for synchronization over multiple devices or ALERT systems
- Battery life up to six hours on the controller, 13 hours with extended option
- Ergonomic design for efficient and safer use over traditional data collectors
- 4-plane machine in-place balancing and advanced analysis options available

USER INTERFACE / DURABLE TABLET CONTROLLER

Physical

- Size: 10.7” x 7.76” x 0.75” (271.8mm x 197.2mm x 19mm)
- Weight: 2.6 lbs (1.5 kg)

Environmental

- Operating Temperature (non-Hazardous): -20C to +60C;
- Operating Temperature (Hazardous areas): -20C to +50C
- Storage Temperature: -30C to +70C
- Humidity: 30% ~ 90% (non-condensing)

Durability

- MIL-STD-810G (516.6, IV), Protection class IEC 60529
- IP65 rated; water, dust, water protection

Processor/Operating System

- Intel® quad-core BayTrail-M 1.8 GHz Processor
- 8 GB SODIMM DDR3L-1600 System Memory
- 128 GB MLC Solid State Drive (SSD), mSATA
- Genuine Windows® 7 Professional (64-bit)

Battery[1]

- Lithium-polymer battery: 5300 mAh capacity
  - » Battery capacity: up to 6 hours
- Optional Extended-life battery: 10600 mAh capacity
  - » Battery capacity: up to 13 hours
- Charging: 100-240V, 50-60Hz,/DC 19V

Communication

- Wireless LAN IEEE802.11ac a/b/g, n
- Integrated Bluetooth® 4.0

Inputs / Outputs

Under protective cover - for use only in safe area:

- 1 x Micro HDMI
- 1 x 30 pin Combo connection (Giga-LAN or RS232)
- 1 x USB 3.0
- 1 x Audio Combo connection (Mic in/Line Out)
- 1 x Power Jack (DC)
- 1 x Micro SD Slot

Keys:

- 1 x power, 1 x home, 2 x programmable
- function keys, 2 x volume keys

Cameras:

- Rear 5 MP camera + LED flash, Front 2.0 MP
- 10.1” Wide (LED backlit, 1920x1200)

Display:

- Bonded and Touch, 10.1”, 1920 x 1200 pixels

TRIO DATA ACQUISITION / PROCESSOR (DP-2H)

Inputs

- 4 simultaneous sampled, fully phase matched, ICP programmable
- Other Coupling: AC (for proximity probe connections)
- AC Input Voltage Range: +/- 10V
- AC Bandwidth: 0.5Hz to 40 kHz
- DC Bias/Gap Measurement: +/- 25V range for ICP bias voltage check and proximity probe gap measurement
- Measurements: Acceleration, velocity (by hw integration), bearing demodulation (accelerometers), and displacement (proximity probes)
- Gain Ranges: Gain steps 1, 2, 4, 10, 20, and 50
- Digital trigger input: External trigger, tachometer speed, ordered data (by phase-lock-loop)

Processing

AC Measurements

- ADC: 24-bit sigma-delta, simultaneous on four AC channel inputs, better than 104 dB dynamic range
- Sampling Rates: 64Hz to 102.4kHz
- Bandwidth Ranges: 0.5Hz-25Hz, 0.5Hz-40kHz, protected by anti-alias filters
- Data Block Lengths: 64 to 400,000 samples
- Spectral Lines: Up to 25,600
- Noise Floor: Less than 0.2 micro-volts per root Hz from 0.5 to 1000kHz

DC Measurements

- ADC: 16-bit multiplexed for bias voltage, process, and probe gap measurements, 0 - 10kHz Bandwidth

Analysis Capabilities

- Dynamic Analysis: Overall, Spectra, Waveform, Phase and Speed
- Cross-channel: Cross-power, Transform Function, Coherence, Phase and Magnitude
- Demodulation Function: Digital amplitude demodulator and Impact Demodulation for low speed detection
- Averaging: RMS, Exponential, Peak Hold, Order Tracking, Synchronous Time, and Negative Averaging
- Number of averages: 1–1000
- FFT Window Function: Hanning, Hamming, Rectangular, Flattop

Communication with TRIO Tablet Controller

- Wireless: Bluetooth v2.0 with EDR (1.5Mbps max)
- Wired: USB user port (includes data stream and remote power to DP)

Power

- Charging rate: 0.5A from USB PC input,
- 1.0A from USB wall power adapter (8 hrs)
- Battery life: 10 hours, normal use

Physical

- Dimensions: 6.18” x 3.62” x 1.81” (157 mm x 92 mm x 46 mm)
- Carrying options: Belt worn holster or shoulder worn courier bag
- Weight: 1.0 lb (0.45 kg)
- Operating Temperature: -10C to +60C
- Humidity: MIL-STD-810G
- Drop: 4 feet per MIL-STD-810G
- Sealing: IP-65; polycarbonate and nylon
- Compliance: CE, ETL Listed
- IP65 rated; dust tight, protected from water jet
- Class 1, Division 2, Groups A, B, C, D, T6

*Specifications are subject to change without notice

(1) Battery life varies by configuration, application, features utilized, and operating conditions. Maximum battery life decreases with time and use. Battery life estimated by average use.

Azima DLI World Headquarters // 300 Tradecenter, Suite 4610 // Woburn, MA 01801 // USA

www.AzimaDLI.com // sales@AzimaDLI.com // (+1) 781.938.0707