

# TRIO® C10-SERIES



CX10 Diagnostic Data Collector / Expert Analyzer

CA10 Vibration Data Collector / Field Analyzer



- ✓ **BRIGHT**
- ✓ **RUGGED**
- ✓ **VISIBLE**

## TRIO® C10-Series puts performance in the hands of analysts.

The TRIO C10 features a durable and bright **10.1-inch, HD projected capacitive touchscreen with active stylus and rain and glove modes of use.** The new TRIO CX10 and CA10 Vibration Data Collectors / Field Analyzers are perfect for field professionals who need a powerful, full-screen platform in the plant.

Don't let the large screen fool you, this device is still slim and light! The **TRIO C10 is only 1.2" thick and just under 3 pounds**, but can still withstand harsh handling and tough industrial environments. TRIO C10 is IP65-rated and meets stringent MIL-STD-810G standards for protection against dust, water, vibration, drops, extreme temperatures and varying altitudes.

With **Windows® 10 Enterprise** installed, you are ready to connect the TRIO 10-Series to your network or operate as a stand-alone device, supporting your productivity applications and multiple language options.

TRIO is **WATCHMAN™** Portal-enabled and ready to connect to the hosted, WATCHMAN Data Center for unparalleled program visibility and infrastructure.

### FEATURES INCLUDE

- 10.1" LED Capacitive Touchscreen with active stylus pen, rain-mode or glove-mode operation.
- Get a full day of work-life with optional hot-swappable, 10600 mAh extended life battery.
- Powerful Intel® Quad-core N2930, 1.83 GHz Processor, 4GB DDR3 RAM, and 128 GB SSD for the ultimate performance.
- Modular Bluetooth® integration with TRIO DP-2 data acquisition hardware for simple and safe in-field vibration data collection.
- **Optional Total TRIO®** database hosting, included diagnostic software and feature upgrades, analytical second opinions, plus 3-years all-inclusive service and support included.

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# TRIO® C10-SERIES

Vibration Data Collector // Field Analyzer

## SYSTEM OVERVIEW

- Triaxial vibration data collector
- Industrial Windows 10 Enterprise 64-bit (CBB) tablet PC controller
- Wireless, modular-designed data acquisition unit (DP-2)
- Optional handheld laser tachometer
- Safe, flexible carrying options
- CX10 includes embedded ExpertALERT™ (term license)
- CA10 includes embedded ViewALERT™ onboard analysis software (requires ExpertALERT, StandardALERT™, or WATCHMAN™ Reliability Portal)
- Survey File Transfer Exchange or optional ALERT replication or WATCHMAN Sync Utility for synchronization over multiple devices or ALERT systems
- 4-plane machine in-place balancing and advanced analysis options available

## USER INTERFACE / DURABLE TABLET CONTROLLER

### Physical / Environmental / Durability

- Size: 10.8" x 6.7" x 1.2" (275mm x 171mm x 32mm)
- Weight: 2.9 lbs (1.3 kg)
- Operating: -20C to +60C; Storage: -40C to +70C
- Humidity: Spec to MIL-STD-810G, method 507.5, procedure II
- Altitude: 15,000 ft, MIL-STD-810G, method 500.5, procedure I
- 26 drops from 4', MIL-STD-810G, method 516.6, procedure IV
- IP65, IEC 60529 rated; water, sand, and dust protection

### Processor/Operating System

- Intel® Quad-core N2930 1.83 GHz Pentium® Processor
- 4 GB DDR3 system memory, 128 GB Solid State Drive (SSD)
- Genuine Windows 10 Enterprise CBB (64-bit)
- TPM v1.2 data security

### Battery

- Hot-swappable lithium-ion battery:
  - Standard Life: 5300 mAh capacity (39.32Wh)
  - Extended Life: 10600 mAh (78.44h)

### Communication

- Wireless LAN 802.11 ac, a/b/g/n 2.4 GHz and 5 GHz
- Integrated Bluetooth v4.0 LE / v2.1

### Inputs / Outputs

- Capacitive touchscreen, 1920x1200 resolution
  - Plus Active Pen, Rain Mode, Glove Mode
- RJ45 10/100.1000 LAN
- USB 3.0 port
- USB 2.0 IP65-rated port
- 9-pin serial IP65-rated RS-232 port
- IP65-rated VGA port
- IP65-rated DC power input port
- Speaker, audio / microphone jack
- 6 button keypad (power, menu, touch lock, home, F1, F2)
- Rear-facing 5.0 MP built-in camera with autofocus and LED flash
- On-screen QWERTY soft keyboard

## Inputs

4 simultaneous sampled, fully phase matched, ICP programmable  
Other Coupling: AC (for proximity probe connection)  
AC Input Voltage Range:  $\pm 10V$   
AC Bandwidth: 0.5Hz to 40kHz  
DC Bias/Gap Measurement:  $\pm 25V$  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, 5, 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: 0.5–25Hz, 0.5–40 kHz, 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  $\mu$ -volts per root Hz from 0.5-1000 kHz

### DC Measurements

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

### Analysis Capabilities

Dynamic Analysis: Overall, Spectra, Waveform, Phase and Speed  
Cross-Channel: Cross-power, Transfer 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

### Communications with Host Tablet PC/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 (4 hrs), 1.0A from USB wall adapter  
Battery Life: 8 hours between charges (continuous collection)

### Physical / Environmental / Durability

Dimensions: 6.18" x 3.62" x 1.81" (157mm x 92mm x 46mm)  
Weight: 1.0 lb (450 grams)  
Carrying options - Belt worn holster or shoulder worn soft pack  
Operating Temperature: -10C to +60C  
IP-65 rated; water, sand, and dust protection  
4' drop per MIL-STD-810G  
0 ~ 90% humidity per MIL-STD-810G  
Compliance: CE, ETL Listed, optional HAZLOC

## OPTIONAL DATA ACQUISITION / PROCESSOR (DP-2)

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