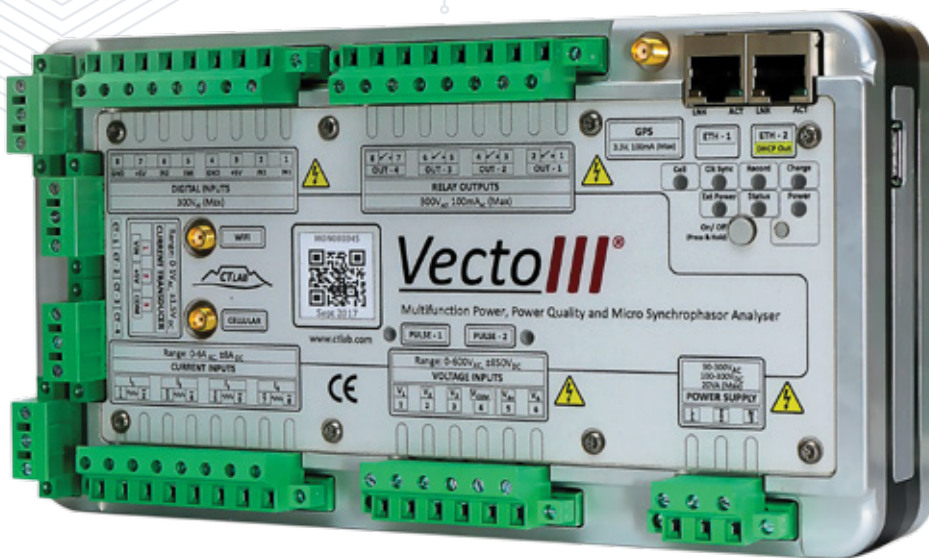


# VectoIII®

## Multifunction Power, Power Quality & Micro Synchrophasor Analyser

Provides real-time insight into the complex  
behaviour of electrical networks.



**The Vecto III® is CT LAB's top-end multifunction measurement platform.** The Vecto III® is intended to be used within distribution networks, facilities and plants. It is designed to be operated as part of a fleet of remotely installed instruments under control of a centrally hosted big data store called Osprey PRO®. Osprey PRO® is an online data collection, warehousing and visualisation system. Recorded data can be accessed in near real-time via a mobile friendly web interface that supports push notifications. **The Vecto III® can also be operated as a stand-alone device when using CT LAB's free support software called Osprey LITE®.**

**Power Analyser | Power Quality Analyser | Micro Synchrophasor Analyser  
Digital Fault Recorder | Modbus, DNP3, IEC61850 protocols**

# TECHNICAL SPECIFICATIONS

# VectoIII®

## VOLTAGE INPUTS

Number of channels	4 x differential (3/4 Wire + 4 <sup>th</sup> Diff)
Measurement input range	0-600V <sub>AC</sub> ±850V <sub>DC</sub>
Input impedance	> 1MΩ

## CURRENT INPUTS

Number of channels	4 x galvanically isolated
Measurement input range	0-6A <sub>AC</sub> ±8A <sub>DC</sub>
Max continuous current	10A <sub>RMS</sub>
3 sec Overcurrent withstand	50A <sub>RMS</sub>
VA burden @ 5ARMS	< 1VA
Galvanic isolation	1kV

## CURRENT TRANSDUCER INPUTS

Number of channels	4 x differential
Measurement input range	0-1V <sub>AC</sub> ±1.5V <sub>DC</sub>
Input impedance	> 200kΩ

## DIGITAL INPUTS

Number of channels	4 x galvanically isolated
Max voltage input	300V <sub>DC</sub>

## DIGITAL OUTPUTS

Number of channels	4 x galvanically isolated
Max voltage, current	300V <sub>AC</sub> , 100mA <sub>AC</sub>

## ACCURACY & BANDWIDTH

Overall accuracy	0.1% on reading (10%-100%)
Power frequency measurement range	DC, 40-60Hz, 50-70Hz
Harmonic & interharmonic bandwidth	1-64 <sup>th</sup> , 2-9kHz
Synchronised data sampling rate	500kHz
Fast transient capturing	>20μs
ADC Resolution	16-bit

## COMMUNICATION

Security	permanent 128-bit encryption
Ethernet	2 x Gigabit ports
WiFi	802.11 a/b/g/n/ac
Cellular (Optional)	Sierra Wireless HL series
PTP support	IEEE1588
POE Plus support	IEEE802.3at (30W)(48V)

## CLOCKS

Built-in GPS	U-Blox LEA-6T
GPS clock sync accuracy	±100ns (from absolute time)
PTP clock sync accuracy	±1μs (from absolute time)
NTP clock accuracy	±1ms (from absolute time)
Built-in clock accuracy	±1ppm (32 sec per annum)

## STORAGE CAPACITY

Flash storage capacity	8-Gbyte
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## POWER

Power consumption (max)	< 20VA
Supply voltage	90-300V <sub>AC</sub> , 100-300V <sub>DC</sub>
Supply frequency	DC, 42-69Hz
On-board battery	LiFePO <sub>4</sub>
Charge/discharge cycles (min)	2,000

## PHYSICAL

Electrical isolation class	Class IV
Dimensions	250 x 135 x 65 (L x W x H)
Mounting options	DIN rail & wall mount

## OTHER

Pulsed LED's	2 x user defined
USB2.0 expansion port (powered)	High speed (480Mbit)
Tricolour status LED's	7 x LED's

## Hardware Features

Revenue Grade Accuracy (Class 0.2)  
IEC61000-4-30 ED3.0 Power Quality (Class-A)  
Permanent ±100ns Clock Synchronisation  
Harmonic Linearization of External Sensors  
Current and Current Transducer Inputs  
500kHz Sampling Rate  
LiFePO<sub>4</sub> Battery with >2,000 Cycles  
Rugged Enclosure  
DIN Rail and Wall Mount

## Communication Features

IP Based Communication (Encrypted)  
DHCP and Fixed IP addressing on Eth1 Port  
DHCP Server on Eth2 Port  
POE Plus Support on both ports (IEEE802.3at)  
Built-In WiFi – (802.11 a/b/g/n/ac)  
Built-In Sierra Wireless Modem (Optional)

## Functional Features

XrossTrigger® Mechanism  
Supported by Osprey PRO® (Online big data Store)  
Free Osprey LITE® Support Software  
Prevailing Harmonic Amplitude and Angle  
Separate Import and Export Power Profiles  
EN50160 & NRS048 Reporting  
Online Flicker Emission Recording  
2kHz-9kHz Harmonics



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