

VECTO 3

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



The grid-monitoring edge computer



VECTO 3 streams data to the system's monitoring & control platform, VECTO Grid OS, available on all smart devices.

VECTO GRID **OS**
REAL-TIME DATA
VISUALISATION

VECTO 3 is a state-of-the-art electrical monitoring and control system that delivers an unprecedented view of power grid performance.



Installed at each node on the grid from points of generation to mini-sub level, the VECTO 3 is an edge computer capable of analysing over 9,000 electrical parameters on the device. Through advances in waveform technology, VECTO 3 offers a view of the entire network in real time.



GPS synchronised to within 100ns

Simplify decision-making on your power grid investments



Detailed record of power performance

Grid-wide, real-time monitoring of over 9,000 electrical parameters



On-device data analysis

High resolution data is rated and profiled on the VECTO 3 before streaming to the cloud

TECHNICAL SPECIFICATIONS

VECTO 3

VOLTAGE INPUTS

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

CURRENT INPUTS

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

CURRENT TRANSDUCER INPUTS

Number of channels	4 x differential
Measurement input range	0-1V _{AC} ±1.5V _{DC}
Input impedance	> 200kΩ

DIGITAL INPUTS

Number of channels	4 x galvanically isolated
Max voltage input	300V _{DC}

DIGITAL OUTPUTS

Number of channels	4 x galvanically isolated
Max voltage, current	300V _{AC} , 100mA _{AC}

ACCURACY & BANDWIDTH

Overall accuracy	0.1% on reading (10%-100%)
Power frequency measurement range	DC, 40-60Hz, 50-70Hz
Harmonic & interharmonic bandwidth	1-64 th , 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 _{AC} , 100-300V _{DC}
Supply frequency	DC, 42-69Hz
On-board battery	LiFePO ₄
Charge/discharge cycles (min)	2,000

PHYSICAL

Electrical isolation class	600V Class II
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
LiFePO₄ 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 VECTO Grid OS®
Prevailing Harmonic Amplitude and Angle
Separate Import and Export Power Profiles
EN50160 & NRS048 Reporting
Online Flicker Emission Recording
2kHz-9kHz Harmonics

Contact Details:

South Africa

CT LAB South Africa
+27 21 880 9915
info@ctlab.com
www.vectosystem.com

Australia

+61 39 450 1500
info@ctlab.com
www.vectosystem.com

Belgium

+32 (56) 90 31 08
info@karybel.be
www.karybel.be

Canada

+1 416-849-2299
info@omniverter.com
www.omniverter.com

Germany

+49 7156 162 9200
info@ctlab.com