

ImpedoDUO[®]

Dual Power Quality Analyser

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



The Impedo DUO contains two independent, but time synchronised Power Quality Analysers. The multi-touch colour LCD enables users to configure the device and view real-time data without the use of a laptop or PC. The Impedo DUO[®] is intended to be used within distribution networks, facilities and plants where formal Ethernet communication is present. 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 Impedo DUO[®] 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

ImpedoDUO®

VOLTAGE INPUTS

Number of channels	8 x differential (3/4 Wire + 4 th Diff)
Measurement input range	0-600V _{AC} ±850V _{DC}
Input impedance	> 1MΩ

CURRENT INPUTS

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

CURRENT TRANSDUCER INPUTS

Number of channels	8 x differential
Measurement input range	0-1V _{AC} ±1.5V _{DC}
Input impedance	> 200kΩ

DIGITAL OUTPUTS

Number of channels	6 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
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)	< 30VA
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)

OTHER

Expansion ports	2 x USB2.0 (480Mbit) (powered)
Display #1	Multi-touch colour LCD
Display #2	OLED Display

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)

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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