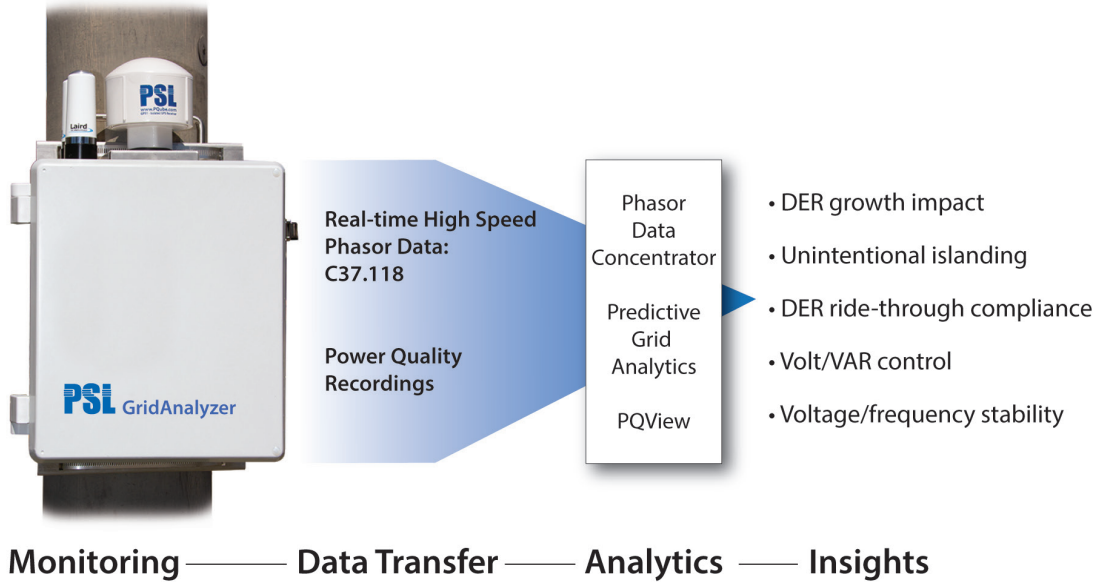


GridAnalyzer™



OVERVIEW

The growing penetration of Distributed Energy Resources (DERs) pose a threat to grid stability.

GridAnalyzer delivers real-time phasor data needed to maintain grid stability. Ultra-precise power quality monitoring helps to continuously verify DER connection compliance.

Gain more situational awareness of your distribution grid or micro-grid.

FEATURES

- Real-time C37.118 streaming and historical phasor data recording
- Complete power quality monitoring
 - Harmonics
 - Conducted emissions
 - Voltage sags, swells, interruptions
 - High frequency impulses

APPLICATIONS

- Monitor frequency and voltage control
- Explain unintentional islanding
- Monitor post commissioning ride-through
- Explain DER tripping cause

MEASUREMENT CHANNELS		
VOLTAGE CONNECTION		
Wiring Configuration	L1, L2, L3, N screw terminals (max torque 5 inch-pounds (0,6Nm))	
Measurement Range	3-phase delta, wye/star single-phase, split-single-phase	
Input Impedance	0 VAC ~ 750VAC L-N (0 VAC ~ 1300 VAC L-L)	
	4.8M Ω	
CURRENT CONNECTION		
CT Ratings	via external current transformer with voltage output screw terminal (max torque 2 inch-pounds (0,25Nm))	
Measurement Range	0.333Vrms, 10Vpk, 0 ~ 6000 Amps: 0.333V	
Input Impedance	3.5 crest factor	
	33.3k Ω	
PHASOR MEASUREMENT FUNCTIONS (PMU)		
Frequency Range	50Hz, 60Hz	
Sampling Rate	25,600 samples/s @ 50Hz and 30,720 samples/s @ 60Hz	
Accuracy	VA (per-phase, peak, and total)	
TVE (Total Vector Error)	Typical TVE $\pm 0,01\%$ Typical short-term TVE stability for differential measurements: $\pm 0,002\%$	
Accuracy ($\pm\%$ rdg $\pm\%$ FS)	$\pm 0,050\%$ (10VAC ~ 750VAC L-N) Typical: $\pm 0,010\%$ (120V ~ 600VAC L-N)	
Angle ($\pm\%$ rdg $\pm\%$ FS)	$\pm 0,010^\circ$ 1 Standard Deviation Typical: $\pm 0,003^\circ$	
MODES OF OPERATION		
ULTRA PRECISE MODE	Recordings to Internal Memory Streaming according to C37.118-2011 (both simultaneously)	
Parameters	3 voltage and 3 current phasors, frequency Active / reactive powers, power factor (recorded only)	
LOW LATENCY MODE	Using P-Filter* (streaming according to C37.118-2011) Using M-Filter* (streaming according to C37.118-2011) Latency: 50 ms typical	
Parameters	4 voltage and 8 current phasors, frequency, 4 analog channels Active / reactive powers, power factor (recorded only)	
POWER QUALITY ANALYSIS		
Sampling Rate	512 samples per cycle at 50 Hz / 60 Hz (applies to voltage, current, and analog channels) / 1MHz for HF impulses	
MEASUREMENTS		
Magnitude*	L-L, L-N, L-E, and N-E. RMS refreshed 1/2 cycle	
Frequency*	50 Hz, 60 Hz (400 Hz, or 16.67 Hz)	
Unbalance (negative and zero sequence)*	IEC, GB, and ANSI methods	
Flicker (Pinst, Pst, and Plt)*	IEC 61000-4-15	
VOLTAGE	Voltage Harmonic & Interharmonic*	Volt or %H1, IEC 61000-4-7 Class 1, order up to 50th
	Total Harmonic Distortion (THD)	%
	High Frequency Impulse (voltage)	Record transient pulses on one channel (L1-E, L2-E, L3-E, or N-E) at 4 MHz sampling, or all four channels at 1 MHz, range: ± 6 kV
CURRENT	Conducted Emissions (2 ~ 9 kHz)*	Volts for L1-E, L2-E, L3-E - spectrum resolution: 200 Hz
	(8 ~ 150 kHz)*	Volts for L1-E, L2-E, L3-E, and N-E - spectrum resolution: 2000 Hz
POWER	Magnitude*	RMS refreshed 1/2 cycle
	Unbalance (negative and zero sequence)*	IEC, GB, and ANSI cycle methods
	Harmonics & Interharmonics*	Amp, order up to 50th
	Total Demand Distortion (TDD) or Total Harmonic Demand Distortion (THDI)	Amp %
POWER	Total	Up to two (3-phase) loads
	Peak	Intervals: 1 sec, 1 min, or user defined (up to one hour)
	Reactive	VAR (per-phase and total)
	Apparent	VA (per-phase, peak, and total)
	Power Factor	TPF or DPF method (per-phase and total)
TECHNICAL SPECIFICATIONS		
Dimensions (L x W x D)	336.7 mm x 286 mm x 140.6 mm (13.26 in x 11.73 in x 5.53 in)	
Operating ENV	-20 ~ 65 °C, 5 ~ 95% RH (inside use), <2000 m above sea level (for EMC immunity, overvoltage, and other conditions, see full specs)	
Internal memory	2x32 GB	
Clock Synchronization	GPS mandatory for PMU, NTP, SNTP	
Communication	Ethernet port RJ-45, 10/100 (optional wireless and cell modem)	
Protocols	PMU streaming (C37.118-2011), recording files download (FTP and HTTPS)	
UPS (battery backup)	Up to 1 hour (configurable)	

* Meets or exceeds IEC 61000-4-30 Ed. 3 Class A