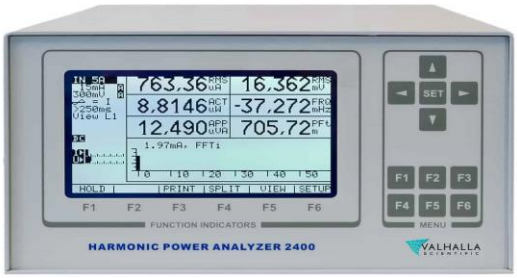
VALHALLA
SCIENTIFIC

Power Analyzer
2430-3S



High-performance precision in both single and three-phases: a wattmeter, oscilloscope, and power spectrum analyzer in one. The 2400 power analyzer measures, computes and displays critical power variables so you can concentrate on more efficient & reliable testing. The 2400 Series provides simultaneous, precise voltage and current measurements while monitoring and displaying the power parameters you need in the format that best fits your application.

Extraordinary Features

- The analyzer inputs are all galvanically isolated.
- Broad band DC-300kHz.
- Wide input range (0.3V – 1000V, 15mA – 40A).
- Exceptional common mode rejection for use in frequency inverter driven systems.
- The accuracy is 0.1% (0.05% versions are available).
- The bright LCD monitor displays up to 10 measured values in well legible 9mm high numbers.
- The Three-Phase Power Analyzer puts up to 32 measured values on the screen.

Technical Specifications

Voltage	8 ranges: 0.3 V, 1 V, 3 V, 10 V, 30 V, 100 V, 300 V, 1000 V	
	Frequency range	DC, 0.1 Hz – 1 MHz
	Crest Factor	3:1 at 50 % full scale (fs)
	Input Impedance	1 MOhm
	Common Mode 50 Hz/100 kHz	160 dB/100 dB
	Standard accuracy 23°C; rms, mean, rectified mean; 0.3V typical	Improved accuracy
	1 Hz-1 kHz ±(0.1 % rdg +0.1 % range)	±(0.05 % rdg + 0.07 % range)
	DC, 1 kHz-10 kHz ±(0.2 % rdg +0.2 % range)	
	10 kHz-100 kHz ±(0.3 %/ range + 0.04 % /kHz rdg)	
	100 kHz-300 kHz ±(0.3 %/ range + 0.04 % /kHz rdg), typical	
Current	13 ranges: 1.5 mA, 5 mA, 15 mA, 50 mA, 150 mA, 500 mA, 1.5 A, 5 A; 1, 3, 10, 30, 100 A	Max. 1 A, 5 A, 30 A, resp.
	Frequency range	DC, 0.1 Hz-300 kHz / 1 MHz
	Crest Factor	3:1 at 50 % full scale (fs)
	Common Mode 50 Hz/100 kHz	160 dB/120 dB
	Standard accuracy 23°C; 1 A-, 5 A-, shunt input 30 A input	Lowest ranges 1.5 mA, 15 mA,
	1 Hz-1 kHz ±(0.1 % rdg + 0.1 % rng) ±(0.1 % rdg + 0.1 % rng)DC, 1 kHz-10 kHz ±(0.2 % rdg + 0.2 % rng) ±(0.7 %	1 A: typical.
	rdg + 0.2 % rng)10 kHz-100 kHz ±(0.3 % range + 0.04 %/kHz rdg) ±(0.3 % rng + 0.5 %/kHz rdg), typ100 kHz-300 kHz ±(0.3 % range +	Improved accuracy 1Hz-400 Hz
	0.04 %/kHz rdg), typical	±(0.05 % rdg + 0.07 % range)
Power	104 ranges corresponding to the products V x A.	
	Frequency range	DC, 0.1 Hz-300 kHz
	45 Hz-65 Hz	PF= 0 to ±0.1 PF= 0 to ±1 PF= 0 to ±1 PF=1
	1 Hz-1 kHz	
	DC, 1 kHz-10 kHz 10 kHz-100 kHz(0.1 % rdg + 0.01 % range)	
	Add accuracy percentage figures of current and voltage,	
	+0.04 %/kHz PF	
Frequency	0.1 Hz-400 kHz, V triggered; Accuracy ±0.1 %.	
Computed Values	Accuracy; Reactive Power, Var=±(VA2-W2)1/2, Apparent Power: VA=Arms Vrms; Power Factor: PF=W/VA; Crest Factor: CF=Ap/Arms, Vp/Vrms:	Add accuracy percentage figures of values involved
	Form Factor: FF=At/Arms, Vt/Vrms; Impedance: Z=Vrms/Arms; Total Harm Dist: THD=(Irms2- Ifund2)1/2/Irms	in computation.
Integrator	Energy, Charge; Accuracy Wh, Vah, Varh, Ah; Basic accuracy of integrated quantity.	
Harmonic Analysis	Frequency range of fundamental 2.5 Hz-100 kHz	
	Range of harmonic	1-99
	Accuracy, Harmonic current and voltage	
	2 Hz-1 kHz ±(0.1 % rdg + 0.1 % range) 1 kHz-10 kHz ±(0.5 % rdg + 0.5 % range)	
	10 kHz.-100 kHz ±(0.7 % range + 0.1 %/kHz rdg), typical	
Display	Blue liquid crystal graphic display with FL backlight 64×120 mm; 128 x 240 pixels	
Power	AC, 50-400 Hz; Fuse: Power	85 V-240 V; 2 A, 15 VA
Dieletric Strength	Inputs to case or power supply Line input to case	2.5 kV/50 Hz/1 minute
	Input to Input	1.5 kV/50 Hz/ 1 minute 4 kV/50 Hz/1 minute
Dimension	H x W x D; Weight	150 x 235 x 320 mm; 4 kg
Options	IEEE-488-2, RS232, Centronics printer output	0-±5 V, accuracy 0.2 % 0-±5 V, accuracy 0.2 % 0-±10
	4 programmable analog outputs; single-, sum-, or average values 4 analog inputs 0-±5V, input impedance 200 kΩ	V accuracy 0.2 %
	4 analog inputs, 0-±10 V, input impedance 200 kΩ Rack Mounting Kit	
	Windows Operating Software 95, 98, 2000, NT, XP; transformer-motor testing	
1.5mA-1A Inp/ Shunt Input	1 A input Hi against ILo Shunt 1 A input, mA: 1.5, 5, 15, 50, 150, 500, 1500	1 A input: set scaling to 0.1 Shunt input: 60 mV
	Hi Shunt Lo Shunt input, mV: 60, 60Ö10, 600, 600VÖ10, 6000, 6000Ö10	corresponds to 1.0000 A
	Input impedance: 60k	