

2.2. SPECIFICATIONS


This section defines the performance of the Power Analyzer. The user must be aware that exposure of the Power Analyzer inputs to their maximum value for a prolonged time will result in additional measurement errors. These errors add to those given in the specification table.

5A input:	$(I^2 \times 0.004\%/A^2)$	for $t > 1$ minute per 10 minutes
30A input:	$(I^2 \times 0.0002\%/A^2)$	for $t > 1$ minute per 10 minutes
voltage input:	$(U^2 \times 0.0000003\%/V^2)$	for $t > 1$ minute per 10 minutes.

Operating the 5A input at elevated currents ($>4A$) will also affect the 30A input, and visa versa.
Operating temperature range: $15^{\circ}C - 30^{\circ}C$

SPECIFICATIONS

Voltage	Ranges	8 ranges 1-3-10-sequence: 0.3V, 1V, 3V, 10V, 30V, 100V, 300V, 1000V	Max 600 Vrms	
	Frequency range		DC, 0.1 Hz...300kHz	
	Crest Factor		4:1 at 50% full scale (fs)	
	Input Impedance		>1MΩ	
	Common Mode	50Hz/100kHz	155dB/95dB	
	Standard accuracy 23°C ±3°K; rms, mean, rectified mean; for 0.3V, 1 V range, input > 50% fs.		improved accuracy	
	1 Hz - 1 kHz	±(0.1% rdg + 0.1% range)	±(0.05%rdg+0.07%range)	
DC 1kHz - 10kHz	±(0.2% rdq + 0.2% range)	0.3V, 1V range typical		
10 kHz - 100 kHz	±(0.3% range + 0.04%/kHz rdg.)*			
100 kHz - 300 kHz	±(0.3% range + 0.04%/kHz rdg), typical	*0.3V range typical		
Current	Ranges, 10 ranges 1-3-10 sequence:	15mA, 50mA, 150mA, 500mA, 1.5A, 5A; 1, 3, 10, 30, 100, 300A.	Max. 5A, resp. 30A	
	Frequency range		DC, 0.1Hz-300kHz	
	Crest Factor		4:1 at 50% full scale (fs)	
	Common Mode	50Hz/100kHz	160dB/120dB	
	Standard Accuracy 23° ±3°K	5A-/Shunt input ¹	30A input ¹	improved accuracy 1Hz-400Hz
	1Hz-1kHz	±(0.1% rdg +0.01% range)	±(0.1% rdg + 0.1% range)	±(0.05% rdg + 0.07% range)
	DC, 1kHz-10kHz	±(0.2% rdg + 0.02% range)	±(0.9% rdg. = 0.2% range)	max. 4A, resp. 24A
10kHz-100kHz	±(0.3% range +0.04%/kHz rdg)	±(0.3% range.+ 0.5%/kHz rdg)	¹ For 2 lowest ranges, input	
100kHz-300kHz	±(0.3% range + 0.04%/kHz rdg), typical		> 50% fs	
Power	80 ranges corresponding to the products V x A.			
	Frequency range		DC, 0.1Hz-300kHz	
	Accuracy 23° ±3°K			
1Hz-1kHz	Add accuracy percentage figures of current and voltage input, and		PF = 0 to ±1	
DC, 1kHz-10kHz	add 0.04%/kHz of Vrms x Arms / PF		PF = 0 to ±1	

Frequency	0.1Hz-300kHz, A or V triggered: Accuracy $\pm 0.1\%$	
Computed values	Accuracy; Reactive Power, $\text{Var} = \pm(\text{VA}^2 - \text{W}^2)^{1/2}$; Apparent Power; $\text{VA} = \text{Arms Vrms}$: Power Factor: $\text{PF} = \text{W}/\text{VA}$; Crest factor: $\text{CF} = \text{Ap}/\text{Arms}$, Vp/Vrms ; Form Factor: $\text{FF} = \text{At}/\text{Arms}$, Vt/Vrms ; Impedance: $\text{Z} = \text{Vrms}/\text{Arms}$; Total Harm Dist: $\text{THD} = (\text{Irms}^2 - \text{Ifund}^2)^{1/2}/\text{Irms}$	Add accuracy percentage figures of values involved in computation.
Integrator	Energy, Charge: Accuracy Wh, VAh, Varh, Ah; Basic accuracy of integrated quantity.	
Harmonic Analysis	Frequency range of fundamental 2.5Hz-100kHz	
	Range of harmonic	1-99
	Accuracy, Harmonic current and voltage 2Hz-1kHz $\pm(0.2\% \text{ rdg} + 0.1\% \text{ range})$ 1kHz-10kHz $\pm(0.5\% \text{ rdg} + 0.5\% \text{ range})$ 10kHz-100kHz $\pm(0.7\% \text{ rdg} + 0.1\%/\text{kHz rdg})$, typical	
Display	Blue liquid crystal graphic display with FL backlight 64 x 120mm; 128 x 240 pixels	
Power	AC, 50-400Hz; Fuse: Power	85V-240V; 2AF/30VA
Dielectric Strength	Inputs to case or power supply Line input to case Input to Input	2.5V/50Hz/1 minute 1.5kV/50Hz/1 minute 4kV/50Hz/1 minute
Dimension	H x W x D; Weight	150 x 235 x 320mm; 4kg
Options	IEEE-488-2, Rs232, Centronics printer output 4 Analog outputs, Output impedance 100 Ω 4 Analog inputs, low range, input impedance 100k Ω 4 Analog inputs, high range, input impedance 200k Ω Rack mounting kit Humidity: KYG according to DIN 40040, max. 85% RH non-condensing	0 - $\pm 5\text{V}$ 0 - $\pm 5\text{V}$ 0 - $\pm 10\text{V}$
Shunt Input	 <p>open circuit Ranges in mV: 60, $60\sqrt{10}$, 600, $600\sqrt{10}$, 6000, $6000\sqrt{10}$ Accuracy: Same as 5A-input Input impedance: 200k; input of 60 mV corresponds to 1.0000A display.</p>	Max. 20Vrms