Infratek 31 Hand Held Power Analyzer

The **INFRATEK MODEL 31 HAND HELD, BATTERY OPERATED, SINGLE AND THREE PHASE POWER ANALYZERS** are valuable engineering tools designed to offer precision measurement on all types of signals including electronic drives.

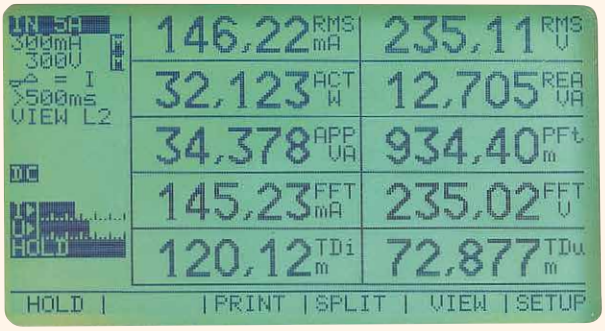
UNRIVALED FEATURES

- **Main Features**
  - 100 mA-50 A, DC to 300 kHz
  - 1 V-1000 V, DC to 300 kHz
  - 0.3 W-150 kW, no CT's required
  - Suitable for frequency inverter drives
  - Measures rms-, power-, and harmonic values
  - Line-to-line voltage, torque, efficiency
  - Harmonics 1-63, IEC1000-3-2
  - Data logging for dynamic processes
  - Accuracy grade 0.2%
- **Display Features**
  - Stores user defined configurations
  - Combined numeric and graphic fields
- **Processing Power**
  - Simultaneous measurements in 3 phase system
  - All data, including harmonics in real time
  - Efficient data transfer to computer
- **Interface**
  - RS-232
  - Operating software under Windows

LOW COST, EASY TO OPERATE

The Infratek **Model 31** hand-held **Power Analyzers** are sophisticated measuring instruments, single phase and three phase, designed for laboratory and field use. Unlike other instruments in this price range the **Model 31 Power Analyzers** are suitable for measurements on frequency inverter drives, light ballasts, and other electronically controlled loads. The wide frequency range, the high common mode rejection, and the fact that you can measure currents of up to 50A directly without having to use clamps guarantees excellent accuracy for all types of measurements.

The Infratek **31 Power Analyzers** are controlled by six menu soft keys M1 through M6, five cursor soft keys, and one power-on/off soft key. The operating procedure, to configure the display, to configure the interface, to set scaling factors, and to select the input, the ranges, and many more functions are self-explanatory. If you desire you can store your personal instrument configuration in nonvolatile memory and have the unit start-up with your personal configuration at power-on.
Efficient data processing makes simultaneous measurements in a three phase system possible. Three rms line voltages, rms line-to-line voltages, rms currents, power, power factor, minimum, maximum, harmonics of 3 currents and 3 voltages, and all derived quantities are determined from the same measurement interval (minimum 250ms). You have the choice to display phase values including wave forms or bar graphs, or you can display total and average values in the 3 phase system. You can also display the values of all three phases including their sums, and averages.
The Model 31 Power Analyzer includes a **data logging** mode to transfer data from a dynamic process to a personal computer for further analysis. Also, current harmonics according to **IEC1000-3-2** in a 3 phase system are determined. By means of the Infratek operating software simple pass-fail criteria are generated.



SPECIFICATIONS

Voltage	7 ranges: 1 V, 3 V, 10 V, 30 V, 100 V, 300 V, 1000 V		
	Frequency range: DC-100 kHz	Coupling: AC/AC+DC	1 Hz-100 kHz / DC-100 kHz
	Crest Factor 3:1 at 50 % full scale	Common Mode 50 Hz/100 kHz	130 dB/70 dB
	Built-in star point network 500 kΩ	Maximum Input: Hi to Lo/Lo to case	1000 V/600 V
	Accuracy 23° ±3 °C; rms, rdg=reading 1 Hz-1 kHz ±k(0.1 % rdg ±0.07 % range) 1 kHz-10 kHz ±k(0.3 % rdg ±0.2 % range + 0.02 % /kHz rdg) 10 kHz-100 kHz ±k(0.05 %/ kHz rdg + 0.3 % range)		Accuracy Grade: k=2
Current	10 ranges: 100 mA, 300 mA, 1, 3, 10 A; 1, 3, 10, 30, 100 A.		Clamp: 1 A-1000 A
	Frequency range DC-100 kHz	Coupling: AC, AC+DC	1 Hz-100 kHz / DC-100 kHz
	Crest Factor 3:1 at 50 % full scale	Common Mode 50 Hz/100 kHz	150 dB/100 dB
	3 A input: 3 A cont./10 A 5 s; 50 A input: 40 A cont./50 A 20 s.		RI=30 mΩ/3 mΩ
	Accuracy 23° ±3 °C; rms, rdg=reading, rng=range 50 A/Clamp Input / 3 A Input 1 Hz-500 Hz ±k(0.1 % rdg + 0.1 % rng) / ±k(0.1 % rdg + 0.1 % rng) 500 Hz-2 kHz ±k(0.6 % rdg + 0.6 % rng) / ±k(0.8 % rdg + 0.8 % rng) 2 kHz-10 kHz ±k(0.8 % rdg + 0.8 % rng)* / ±k(2 % rdg + 1 % rng)* 10 kHz-100 kHz ±(0.1 %/ kHzrdg + 0.8 % rng)* / ±(0.1 %/ kHzrdg + 2 % rng)* Lowest range multiply percentage figures by 2. *typical		Accuracy Grade k=2 Currents L1, L2, L3 in direction for positive power.
Power	70 ranges corresponding to the products of V x A.		DC-100 kHz
	Accuracy 23° ±3 °C; 50 A/Clamp Input, 3 A Input 1 Hz-1 kHz Add accuracy percentage figures of current and voltage input 1 kHz-100 kHz Add accuracy percentage figures of current and voltage input, add ±2 % (1-PF)/ kHz of range		PF = 0 to ±1
Computed Values	Reactive Power: Var = $\pm(VA^2 - W^2)^{1/2}$; Apparent Power: VA=ArmsVrms; Power Factor: PF=W/VA; Crest Factor: CF=Ap/Arms, Vp/Vrms; Maximum: Ap, Vp; Minimum: -Ap, -Vp; PtP: Maximum - Minimum; Impedance: Z=Vrms/Arms φ; Total harm.Dist., THD1=$(Irms^2 - Ifund^2)^{1/2}$/Irms, THD2=$(I_2^2 + I_3^2 + \ldots I_n^2)^{1/2}$/Irms.		Add accuracy percentage figures of values involved in computation.
Mechanical Values	Total Input Power, Nm/s; Output Power to load, Nm/s; Torque at axis of rotating machine, Nm; Speed, rpm; Efficiency: Eta = Output Power / Input Power		Synchronous machines only.
Harmonic Analysis	Frequency range of fundamental 4 Hz-9 kHz		Harmonic 1-63
	Accuracy: harmonic current and voltage, same as rms current and rms voltage		
	Computed Values: harmonic power; harmonic phase angle (power factor); harmonic impedance.		Add accuracy percentage figures of values involved in computation.
Frequency	2 Hz-50 kHz; A; V: ±0.1 %		
Integrator	Energy, Accuracy Wh, Vah: Basic accuracy of integrated quantity		
Data Logging	Output values, speed, and duration is programmable; maximum speed: 10 values from a 3-phase system in 150 ms.		Range of signal frequency 5 Hz to 400 Hz
Current Harmonics	Current harmonics in a 3-phase system are determined according to **IEC1000-3-2**		
Display Power/Battery Dielectric Strength Dimensions	Display: Blue liquid crystal graphic display with FL backlight Charger: AC, 50-60 Hz, 115/230 V, 0.2 AF, 10 VA; sealed Lead gel battery, 6 hours Dielectric Strength: Current inputs to case; Voltage inputs to case; Line input to case Dimensions: H x W x D		58x108mm; 128x240 pixels 3 kV; 2 kV; 3 kV 50 Hz/1 min 75x160x245mm; 1.5kg
Options	RS-232 Interface Windows operating software Current clamps 0-400 A / 0-1000 A		

Distributed by:

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