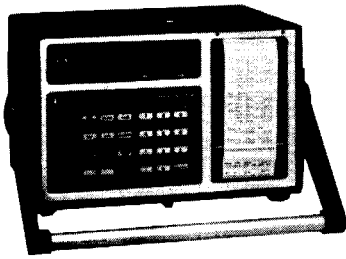# DRANETZ | INDUSTRIAL PRODUCTS DIVISION

DRANETZ TECHNOLOGIES, INC.

SERIES 808 — ELECTRIC POWER AND DEMAND ANALYZER

A single instrument that provides all measurements needed for reducing electric power costs.

- Analyze electric energy and demand usage.
- Develop electrical energy management programs.
- Establish continuous monitoring to maintain efficient energy consumption.
- Submeter plant areas, buildings and equipment.
- Troubleshoot plant power systems for intermittent problems.
- Displays and prints Volts, Amps, PF, KW, KWH, KVA, KVAR, demand, projected demand, time and date.
- Easy to connect to single-phase, three-phase and pulse generating systems.

The new Dranetz Series 808 Electric Power/Demand Analyzer is a unique instrument that will supply you with the information you need to achieve the greatest reductions in your electric bill.

Capable of making virtually every measurement needed for energy management, the Series 808 provides instantaneous readings or will operate automatically for up to six months unattended. The Series 808 is easily connected to the main incoming power panel, at different points in the distribution system, or directly to specific high energy loads. Measurements can be taken from single and three phase AC power lines or pulse initiator equipment (such as your electric meter).

The Series 808 will be invaluable to large electric power users in every segment of cost reduction programs. It is truly the ideal instrument for analyzing electric usage.

- Performs the following measurements on individual phases and full WYE and DELTA three-phase configurations: Volts, Amps, KW, KWH, PF, KVA, KVAR, demand, time and date.
- Prints all significant data at the end of each day or at operator's command.
- Dynamic data display for continuous reading of any variable.
- Connects to standard PT's, CT's, and pulse generating electric meters.
- Measures demand on operator-selected fixed intervals (1 to 120 minutes) or sliding intervals (5 to 60 minutes).
- Prints up to four highest demands on daily and month-to-date basis; can be internally or externally synchronized.
- Prints all demands exceeding operator-set threshold values.
- Prints brownout data whenever voltage drops below pre-set level.
- Tamper-proof—locks-in settings by key; software code prevents unauthorized printouts and displays.
- Optional communications capability enables remote operation for low cost energy management.

SPECIFICATIONS

OUTPUTS

Measured Parameters (single and three phase)

	VOLTAGE (VOLTS)	CURRENT (AMPS)	POWER (KW)
Type	True RMS Volts	True RMS Amps	True Instantaneous Power
Basic Range (k = 1.0)	60 - 600 Volts	0.5 - 10 Amps	30 - 6000 Watts
Range with k Factor (Corres. to PT and CT ratios)	0.06 - 500 Mega Volts	0.001 - 10 Mega Amps	0.001 Watts - 999.9 Tera Watts*
Accuracy	±0.4% of Reading ±0.1% of f.s.	±0.4% of Reading ±0.1% of f.s.	±0.8% of Reading ±0.2% of f.s.
Frequency Range	20-500 Hz (rated accuracy at 20-100 Hz, reduced accuracy at other frequencies)		

* Tera = 10^{+12}

Computed Parameters (single and three phase)

	APPARENT POWER (VA)	IMAGINARY POWER (VAR)	POWER FACTOR (PF)	DEMAND (Dm)	ENERGY (WH)
Method	Volt-amps (VA)	Volt-amps reactive (VAR)=$\sqrt{VA^2-W^2}$ Provides magnitude and sign	$\frac{Watts}{Volt-amps}$ (PF) Provides magnitude and sign to indicate leading or lagging PF	Avg. Demand in period (KW, KVA or KVAR)	Summation of $\frac{Watt\ Min}{60}$ (WH)
Range (k=1.0)	30-6000 VA	30-6000 VAR	0.00-1.00 lead or lag (independent of k factors)	0.001 Watts- 999.9 Tera Watts	0.001 WH- 999.9 Tera WH
Range with k Factor (Corres. to PT and CT Ratios)	.001 VA- 999.9 Tera VA	.001 VAR- 999.9 Tera VAR			
Accuracy	±0.8% of Reading ±0.2% of f.s.	Dependent on power factor	±0.02 Typical (±0.04 Max.)	±0.8% of Reading ±0.2% of f.s.	±0.8% of Reading ±0.2% of f.s.

INPUTS

Analog

	VOLTAGE	CURRENT
Number	One, Two, or Three	One, Two or Three
Type	Differential voltage for 3 phase Wye or Delta or up to 3 single phase with common neutral	Individual differential voltage for use with a Dranetz isolated CT termination, or a Dranetz clamp on CT
Range	60-600 Volts RMS (Autoranging)	5-200% of full scale (Autoranging)
Input Impedance	Phase: 10 Megohms, 3.3 Megohm to neutral	200K Ohms each lead to ground
Common Mode Voltage	500 V peak @ 350 V RMS to ground 300 V peak @ 600 V RMS to ground	±5 Volts peak to ground lead
Ground Leakage Current	0.5 ma, with all inputs at 600 V RMS to ground	Not applicable
Scaling	Keypad entered scale factors	Keypad entered scale factors

Pulse

Initiator Pulse: Accepts pulses from revenue meters; scale factor set through keypad; three-wire pulse inputs 12-48 volts DC, optically coupled; duration 0.2 ms minimum on time, 0.5 ms minimum off time.

External Sync: Synchronizes demand interval to external systems; 12-48 Volts DC, optically coupled, pulse duration 0.5 ms-0.5 sec.

DISPLAYS AND PRINTOUTS

Displays on Command (Continuously):

Volts, Amps, VA, VARS, PF, KW, KWH, date, time (updated once a second) demand accumulation (KW, KVA or KVAR), energy rate (KW Min.), and projected demand (updated once a minute.)

Prints on Command:

Prints parameters as defined above.

Setup: Prints all mode selections and setup data.

Demand Summary: (Including PF, date and time of occurrence.) Four highest daily demands, four highest billing period demands to date, energy used daily, and energy used this billing period to date.

Status: User may select number of channels, Volts, Amps, KW, KVA, KVAR, PF and demand projection (or all of them). Includes date and time of printout.

Automatic Printouts:

Scheduled: Prints demand summary and status as defined above at three user selectable print times plus midnight. Monthly summary at the end of billing period.

Demand Limit: At end of each demand interval if the demand (KW, KVA or KVAR) exceeds user selected percent of demand limit (10% increments). Status printout can be included.

Energy Rate: At the end of each minute if the energy for that minute exceeds the preset limit.

Low Limit: Prints date, time and channel identification, if any measured voltage drops below the user preset limit.

Paper Low: Prints when less than 20 feet of print paper remains.

Power On: Prints when unit is initially energized.

Auto Standby On/Off: Prints date and time unit automatically switches to or returns from standby mode due to low operating voltage.

Set Standby On/Off: Indicates date and time when unit is placed on or off standby by user.

FOR FULL INFORMATION, CALL OR WRITE FOR BULLETIN 808.

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