

ELITEpro™

The **ELITEpro™** helps pinpoint electric usage and quantify consumption by measuring, storing, and analyzing Volts, Amps, Watts, Volt-Amps (VA), Volt-Amps reactive (VAR), Kilowatts (kW), Kilowatt Hours (kWh), Power Factor and harmonics; 144 different parameters. It can monitor up to four single-phase loads or two three-phase Delta loads, or one three-phase Wye load. It includes four channels of current (0-6,000 amps), and three channels of voltage (0-600V ac or dc). The **ELITEpro™** also offers some power quality features such as the ability to view voltage, current, and power waveforms. It will calculate harmonics from DC through the 63rd then report total harmonic distortion (THD), crest factor and peak voltage & current. The **ELITEpro™** can be mounted anywhere and with its wide range of recording interval's and a storage capacity of up to 100,000 records, is ideal for both short-term projects or long-term studies. Easy to use, Windows™ based software graphically displays recorded data, performs analyses and allows automatic, remote data collection via Internet, wired or wireless LAN systems, or telephone modems. Data is easily exported to popular spread-sheets and databases for special analyses. UL listed and available in weather-tight enclosure.

Typical applications may include:

- Load Profiling and trending for forecasting energy use.
- Sub-metering for accurate accountability to tenants, process lines, departments or entire buildings with kWh (usage), kW (demand) with peak data and time, real-time load in kW, per phase voltage and amperage display.
- Interval Data Recording for data sampling, recording and reporting.
- Measurement & Verification where baseline studies are required prior to upgrading then followed with a verification study to measure results.
- Energy Surveys enabling end users to determine demand profiles and manage energy costs and consumption.
- Demand & Power Metering when doing performance contracting and looking at the physical characteristics of delivered electricity.

Typical energy load applications:

- Building service entrance,
- Main or distribution panels,
- Heat pumps,
- Fans,
- Motors (VFD & VSD)
- Lighting loads,
- Chillers,
- HVAC,
- Arc furnaces,
- Generators,
- Compressors,
- Elevators and escalators,

Features & Benefits:

- Versatile . . . one instrument to measure single or three phase loads.
- Smart . . . measures kWh, kW, Volts, Amps, kVA, kVA_r, watts, VA, VAR, Power Factor, wave form capture & harmonics content.
- Programmable . . . user defined recording intervals of 3, 15, 30 seconds, 1, 2, 5, 10, 15, 20, 30 minutes, and 1, 12, 24 hours and the ability to select maximum, minimum, average, instantaneous, or all parameters.
- Powerful . . . expandable memory from 128kB (~25,000 records) to 512kB (~100,000 records) allowing for months of logging.
- Accurate . . . better than <0.5% accuracy.
- Communications . . . via direct RS232 hookup to PC, through internal modem allowing for remote communications via land lines or cellular networks including AutoPoll™ or AutoHost™ capabilities or through wired or wireless LAN systems and the Internet.
- Switchable Power . . . battery or auxillary power providing options in varying installations applications.
- Window Based Software Package . . . ELOG™ software for ease of programming, set-up, communicating, data retrieval and analysis. Various analysis and graphing features with easy exporting to any ASCII format data file like Excel.

- Clever . . . alarm capability to detect, download data and notify the user once predetermined high or low points are met within any measurement parameter.
- Quick and Easy Installation . . . installs within minutes and is equipped with strong magnetic strips for securing inside panels, disconnects or load centers. Hanging brackets included on weather-tight enclosure.
- Compact and Tough . . . made of heavy plastic, only 3" x 6" x 2" and just 12 ounces to easily fit inside panels for safety and convenience.
- Weather Beater . . . available in weather tight enclosure to meet stringent NEMA 4 applications.
- Acceptance . . . UL Listed for USA & Canada and CE compliance for Europe.

ELITEpro™ Technical Specifications

3 Voltage Channels	0-600 Volts AC or 0-800 Volts DC, Higher AC voltages can be measured with a Potential (voltage) Transformer
4 Current Channels	0-333 mV AC or 0-600 mV DC, Corresponding to 0-6,000+ Amps depending on current transformer selected
Current Transformers	Uses voltage output CTs (0-333mVAC) for maximum safety. Compatible with DENT Instruments DATApro™ and Energy Logger CTs
Measurement Type	True RMS using high-speed digital signal processing (DSP)
Line Frequency	60, 50, or 400 Hz and DC
Harmonic Sensitivity	1st through 50th
Waveform Sampling	128 times per cycle
Measurements	Volts, Amps, kW, kVAR, kVA, and Power Factor Maximum, Minimum, Average, (All Parameters) also kWh, kVARh, kVAh, Ah
Harmonics	DC and Fundamental through 50 th (odd and even), Total Harmonic Distortion, Crest Factor, for both Current and Voltage.
Waveform Capture	Voltage, Current, Power
Accuracy	Better Than 1% (<0.5% typical) for V, A, kW, kVAR, kVA, PF exclusive of sensor error
Resolution	12 bit A/D plus sign (1 part in 4,096): 0.01 Amp, 0.1 Volt, 1 watt, 1 VAR, 1 VA, 0.01 Power Factor
Memory	128 kBytes standard (~25,000 readings), or 512 kB (~100,000 readings)
Memory Types	Ring (continuous, write newest over oldest), or Linear (stop when full)

Recording Intervals..... 3, 15, 30 seconds, 1, 2, 5, 10, 15, 20, 30 minutes and 1, 12, 24 hours

Indicators 2 LEDs: Green to signal when logging, Red to signal low battery

Communication

Direct RS-232 to PC via 9 pin null modem cable

Communication Rate ... 1200, 2400, 4800, 9600, 19200, 28800, 57600 baud

Modem..... Internal 1200, 2400, 4800, 9600, 14400 baud, auto-answer, auto-dial

modes

ELOG Software..... Programs Logger, Displays Current Metered Values, Retrieves Data

Data Formats ASCII and Binary

Power Internal Lithium Battery; For external power use a Listed (US/Canada) or

Certified (non-US) power supply rated 9 VDC minimum 150 mA and

marked 'Class 2,' 'Limited Power Source,' or 'LPS'

Battery Life ~3 years, LED indicator of low battery charge

Analog Sampling Rate 3 seconds on external DC power, 1 minute when on internal battery

Clock Crystal controlled internal Real Time Clock, 20 ppm (<1 min/month)

Mechanical

Operating Temperature . -7 to + 60 °C (20 to 140 °F)

Humidity..... 5% to 95% non-condensing

Enclosure..... Indoor: High Impact ABS Plastic, UL 94-V0 flame rating

Outdoor: Weather tight enclosure, Polycarbonate UL 94-V2 flame rating

Weight 0.4 kg (11 ounces) without modem

Dimensions..... 8 X 15 X 6 cm (3.2" X 5.9" X 2.4") Indoor Enclosure

Connections To The ELITE^{pro}™

The ELITE^{pro} has four wire leads for making temporary connections to voltage sources. On the end panel with the voltage leads there is a two piece, eight (8) pin phoenix connector where sensors are terminated. The section with the screws and wire

terminations may be removed by grasping both sides of the connector and pulling firmly away from the logger. Each pair of pins is a channel input as indicated on the logger. Of each pair, the left-most pin while facing the logger is the (+) or high side and the right-most pin is the (-) or low side. The 2nd, 4th, 6th and 8th pins are connected together and to the logger ground which is the same as the ground pin on the RS-232 port. The other end panel of the logger has a DB-9 connector that is the RS-232 serial port.

Two other connectors may appear on the long side of the logger. An RJ-11 jack provides access for a telephone line if the logger is equipped with a modem. A 3.5 mm jack is also provided to allow for connecting external DC power to the logger.

Minimum System Requirements For The *ELITEpro*[™]

Computer: IBM PC or equivalent

Operating System: Windows 95, 98, 2000, XP, NT 4.0 or higher

CPU: Pentium Class 100 MHz or higher recommended

RAM: 16MB minimum (32MB recommended)

Hard Drive: 5MB minimum available

Graphics: SVGA or higher resolution (800X600) required for Harmonic Analysis

Communications Port: One Serial Port or one USB Port (with adapter)

CD Drive: One CD or DVD drive required for software installation.