

DATApro™

The DATApro™ is a recording 4 channel data logger that is designed to measure, store and analyze up to 100,000 records of data from all types of sensors in most any environment like gas, water, electric, steam, HVAC, compressed air, solid or liquid waste, security, weather, or manufacturing process lines. The DATApro™ DATApro™ 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:

- Air Quality Monitoring to measure factors within workspace environments such as CO2, carbon monoxide, humidity, and temperature.
- Pulse Measurements for Flow Applications such as gas, water and/or steam.
- Pulse Counts for KYZ Meter Output to log consumption as measured with revenue meters.
- True RMS Current Reading for monitoring up to 4 branch circuits.
- Time of Use Monitoring for demand measurements.

Features & Benefits:

- Versatile . . . accepts 4 channels of current, 0-3000A or pulse count, or temperature.
- Smart . . . measures True RMS (current only).
- Programmable . . . user defined recording intervals of 3, 15,30 seconds, 1, 5, 15, 30 minutes, and 1, 12, 24 hours and the ability to select maximum, minimum, average, instantaneous, or all parameters.
- Powerful . . . with expandable memory from 128kB (~25,000 records) to 512kB (~100,000 records) allowing 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 with AutoPoll™ or AutoHost™ capabilities, or through wired or unwired LAN systems.
- Switchable Power . . . battery or line 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, and 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 within panels.
- 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.

Seven versions to select from:

- 4 Milliamp (to accept 4 channels of 4-20mA or 0-25mA inputs).
- 4 VDC (to accept 4 channels of 0-10Vdc inputs).
- 1T/3P (to accept 1 channel of temperature and 3 of pulse inputs).
- 2T/2P (to accept 2 channels of temperatures and 2 of pulse inputs).
- 4C (to accept 4 channels of current inputs up to 3000 amps).
- 4P (to accept 4 channels of pulse inputs).
- 4T (to accept 4 channels of temperature inputs).

DATApro™ Technical Specifications

Model 1T/3P: 1 Temperature & 3 Pulse Recording Channels

1 Temperature Channel ... -40 to +70 °C (-40 to 160 °F) Extended Range Sensors: -50 to +125°C

0.1 °C Resolution, Uses interchangeable, high-accuracy

Thermistors

3 Pulse Channels Interrupt driven, Maximum input frequency 10 Hz

Model 2T/2P: 2 Temperature & 2 Pulse Recording Channels

2 Temperature Channels . -40 to +70 °C (-40 to 160 °F) Extended Range Sensors: -50 to +125°C

0.1 °C resolution, Uses interchangeable, high-accuracy

Thermistors

2 Pulse Channels Interrupt driven, Maximum input frequency 10 Hz, ±1 Count Resolution

Model 4C: 4 Channel Current Recorder

4 AC Current Channels.... 0.05-6,000 Amps, Depending on Current Transformer, .01 A resolution

Current Transformers Uses voltage output CTs (0-333mV) for maximum safety. Compatible with the **ELITEpro**

Measurements True RMS using high-speed digital signal processing (DSP) techniques

Line Frequency..... 50 or 60 Hz

Harmonic Sensitivity..... 1st through 50th

Waveform Sampling..... 128 times per cycle

Model 4P: 4 Channel Pulse Recorder

4 Pulse Channels Interrupt driven, Maximum input frequency 10 Hz, Resolution ±1 Count

Model 4Vdc: 4 Channel Low Voltage DC Recorder

4 DC Voltage Channels.... 0-10 Volts DC, 0.01V Resolution

Model 4Ma: 4 Channel Milliamp Recorder

4 Milliamp Channels..... 4-20 mA or 0-25 mA inputs, 0.025mA Resolution

Model 4T: 4 Channel Temperature Recorder

4 Temperature Channels . -40 to +70 °C (-40 to 160 °F) Extended Range Sensors: -50 to +125°C

0.1 °C resolution, Uses interchangeable, high-accuracy

Thermistors

Specifications Common To All Models Of DATA^{pro}

Number of Channels 4

Measurements Maximum, Minimum, Average, Instantaneous (Temperature, Current, Milliamps and Volts DC), Count, Run-Time, Duty-Cycle, On-Time (Pulse/Digital)

Resolution..... 12 bit A/D (1 part in 4,096): 0.01 Amp, 0.1 °F or °C, 1 Count

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

Digital Sampling Rate 10 Hz Maximum, Interrupt driven

Accuracy Better Than 1% (<0.5% typical) exclusive of sensor error

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

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 **DATApro™**

The **DATApro™** has four connectors. On one of the two small ends of the logger 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. 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 internally and also to the logger ground which is the same as the ground pin on the RS-232 port. If the logger accepts more than one type of sensor, the location and type of sensor is indicated on the logger panel as follows: T = Temperature sensor; P = Pulse or digital sensor, C = Current transformer.

The other small end-panel of the logger has a DB-9 connector, which 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 9VDC power to the logger.

Minimum System Requirements For The **DATApro™**

Computer: IBM PC or equivalent

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

CPU: 486DX or higher processor (Pentium Class Recommended)

RAM: 16MB minimum (32MB recommended)

Hard Drive: 5MB minimum available

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

Serial Port: One Serial Port

Floppy Drive: One 3.5" floppy required for software installation. Consult factory for CD option