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Find the *Entek IRD DataPAC 1500* at our website: *Click HERE*

dataPAC™ 1500
Portable Data Collector/Analyzer

dataPAC 1500 is part of Entek's complete range of monitoring products and services to all industry segments worldwide. The dataPAC 1500 is a fully featured portable data collector / analyzer designed in a small lightweight package that monitors the condition of equipment found in many process industries such as power generation, petrochemical, pulp and paper, and primary metals. This easy-to-use instrument features high frequency range and true zoom capabilities normally only found in high-priced, bulky real-time analyzers. The dataPAC 1500 collects field data, including vibration information and process variables, with a frequency range of 10 CPM - 4,518,000 CPM (0.18 Hz – 75.3 kHz). It also includes true zoom capability, screen capture and print utilities.



The dataPAC 1500 utilizes the latest advances in analog and digital electronics including digital signal processing (DSP) and the industry's highest resolution A/D converter to provide both speed and accuracy in the data collection process. The instrument incorporates a large, VGA-resolution screen for easy reading and comprehensive data presentation. Online context-sensitive HELP is built into all applications so they are easy to use and require minimal training. The dataPAC 1500 accepts industry standard Type I or Type II PC memory cards to provide both unlimited and reliable data storage, and is powered by long-life, rechargable, easily removable Ni-Cad battery cells.

Ensuring Equipment Integrity

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BENEFITS

High Speed Data Collection minimizes the time spent in walking routes in hostile plant environments. Additionally, it allows more data to be taken to facilitate pinpoint, root cause analysis.

Easy-to-use Operator Interface permits a quick start with only minimal training. With context-sensitive help, the user quickly gains confidence in selecting functions and features and setting parameters to achieve fast, accurate data collection.

Full Frequency Analysis and True Zoom Measurements allow up to 12,800 lines standard FFT from 10 CPM to 4,518,000 CPM (0.18 Hz to 75.3 kHz) and true zoom to 3,600,000 CPM (60 KHz). SPIKE ENERGY SPECTRUM™ with a choice of 6 high pass filters is also built-in to accurately pinpoint faults in rolling element bearings.

Unlimited Storage Capacity is available through the use of industry-standard PC cards. Cards can be used for route definition and data storage. Multiple routes can be loaded into the instrument, and a memory card utility allows quick overview and control of the data storage on card.

Off-route Data Collection allows the user to easily deviate from the predefined route for data collection. With this capability, additional data can be easily collected and stored with normal route data for better analysis of difficult machinery problems.

Advanced Analysis Features include phase measurement, time synchronous averaging, buried shaft triggering and true zoom, for the most powerful machinery analysis.

Optional Startup / Coastdown feature provides the user with full analysis capabilities for transient vibration conditions.

Optional Two-Plane Balancing feature adds two-plane balancing to the standard single-plane program including both dynamic and static couple solutions. Both strobe and reference balancing are supported.

Optional Frequency Response Function (FRF) capability allows the user to determine the natural frequencies of rotating machinery for better accuracy and consistency of vibration analysis. The FRF module can calculate and display any of the six typical frequency response functions.

FEATURES

Packaging

Ergonomically styled case and keyboard layout with IP54 splash resistance. The instrument features a fully graphic Windows-based interface with online context-sensitive HELP.

- Size: 8.0" x 9.75" x 2.5" (20.3 x 24.8 x 6.4 cm)
- Weight: 5.0 pounds (2.27 Kg) for complete portability
- Display: LCD supertwist, backlit, 640 x 480 pixels (VGA), 5.25" x 4.0" (13.3 x 10.1 cm) viewing area
- Keyboard: Right, left-handed operation, five function keys with tactile feedback (metal snap dome), plus LED and audio annunciator

Power

Powered from 6 internal "C"-size Ni-Cad batteries, with external charger. Easy-to-change battery packs, and a memory hold-up circuit ensure no loss of internal memory during the change. Incorporates advanced interrupt-driven power management for extended use (> 6 hours) of battery life on a full charge. A battery conditioner eliminator is available.

Environment

Designed for use in non-incendive environments varying from 32º to 140º F (0º to 60º C) and 95% non-condensing humidity. Designed and tested in compliance with EC 92 standards for RFI, EMI and ESD. 0º to 140º F (-18º to 60º C) storage.

Inputs / Outputs

- Single data channel, constant current interface standard, +/- 10 volts engineering units (EU), providing for vibration inputs and process inputs (temperature probe is optional)
- Reference input channel, supports a variety of externally powered TTL compatible inputs including photocells, electromagnetic transducers, or Entek's LaseTach™

Frequency

- Frequency Response: 10 CPM to 4,518,000 CPM (0.18 Hz to 75.3 kHz) non-integrated; 21 CPM to 4,518,000 CPM (0.36 Hz to 75.3 kHz) integrated
- Frequency Ranges: 42 ranges between 600 CPM and 4,518,000 CPM (10 Hz and 75,300 Hz)
- Frequency Resolution: Up to 12,800 lines
- GSE Corner Frequencies: 100, 200, 500, 1000, 2000, 5000 Hz

Amplitude Range / Resolution

- 18-bit A/D converter is incorporated for a solid 96dB dynamic range
- Auto-ranging capability sets full scale in 1, 2, and 5 increments
- Last hardware range is stored for each measurement to improve measurement speed

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Supported Measurements
- Acceleration
- Velocity
- Displacement
- G Spike Energy (GSE)
- Temperature
- Thrust or axial position
- DC voltage
- AC voltage
- AdB, VdB
- Phase (1x – 99x)
- Speed
- Time synchronous FFTs
- Time synchronous waveforms
- Amplitude vs RPM (optional)
- Startup / coastdown FFT waterfall plots (optional)
- Nyquist plots (optional), speed profiling plots (optional)

Signal Processing

A wide range of options are available and controllable by the host software including:
- RMS, peak, peak-to-peak, and DC meter types
- Linear, exponential, RMS, and peak-hold averaging
- FFT processing (Hanning, Hamming, Kaiser-Bessel, Flat Top, and Rectangular Window)
- 12.5 kHz real-time data collection and processing rate
- Time-domain data collection
- Automatic amplitude ranging

Advanced Analysis Features
- Time waveform analysis: Sampling interval 5.2 µS-39.1ms, 64-32768 samples per waveform
- True zoom measurements: Resolution up to 60 kHz with variable frequency spans from 20 Hz – 1000 Hz. Zoom frequency resolution from 100 -12,800 lines
- Units: Selectable english, metric, and decibel
- Frequency bands: Unlimited with multiple alarms

Phase
- Livetime (absolute) phase measurement in degrees (1 X RPM filtered amplitude) in range from 60 CPM to 600,000 CPM (1 Hz to 10000 Hz).
- Phase measurements at multiples of reference input (up to 99X reference input).

Reference Trigger
- Supports both internal and external triggers
- Positive or negative slope
- External trigger – leading edge or railing edge
- Free run, automatic or normal
- Pre and post processing

Self Checks
- The bias voltage on the attached transducer can be checked at each measurement to ensure that no electrical problems exist along the signal path
- Factory calibration constants are routinely checked against a standard input signal and retained in EEPROM
- Internal self-test and calibration signal. Every two hours during data collection with full calibration check against stored calibration constants every 24 hours

ACCESSORIES

Standard Accessories
- Battery charger (P/N 37133)
- Neck strap for instrument (P/N 36986)
- Ni-Cad battery pack (2 required) (P/N 37173)
- Operator manual (P/N 39436)
- Memory card kit (2 meg rechargable PC card) (P/N 36429)
- Carrying case, hard shell (P/N 37132)



- Communications kit (P/N 37432) including 9-pin M to 9-pin F cable (P/N 34752), 9-pin M to 25-pin F adapter (P/N 34640), and 9-pin F to 25-pin M cable (P/N 33234)
- Leatherette instrument cover (P/N 38939)

Optional Acccessories
- General Purpose accelerometer kit (P/N 39107)
- Low frequency accelerometer kit (P/N 37426)
- High frequency accelerometer kit (P/N 39455)
- Triaxial accelerometer kit (P/N 39459)
- Two-plane BNC balancing kit (P/N 39468)
- Two-plane Lemo balancing kit (P/N 39466)
- Startup / coastdown kit (P/N 39882)

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- Frequency Response Function (FRF) kits: 0.3 lb impact hammer, accessories and key, (P/N 43047); 3 lb impact hammer, accessories and key, (P/N 43048)
- Additional Ni-Cad battery pack (2 required) (P/N 37173)
- Battery conditioner / Power supply (P/N 37407)
- Temperature transducer and cable (P/N 37431)
- External battery charge device (P/N 37427)
- Additional rechargable PC memory card kits (card and sleeve): 2 M (P/N 36429) and 4 M (P/N 36431)
- Strobe light kit (P/N 39581)
- Lasetach kit (P/N 39463)
- Phototach kit (115V) (P/N 39475)
- Phototach kit (230V) (P/N 39507)
- Lemo connector to BNC adapter (P/N 36976)
- Card reader to host PC (internal) (P/N 37393)
- Input extension cable, 25 ft. (P/N 37135)
- dataPAC non-glare screen cover (P/N 39053)
- Lasetach 198F (battery operated) (P/N 37949)

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