GE
Measurement & Control

Portable Data Collector

For lower maintenance and more uptime in surface applications

The Portable Data Collector extends the functionality of GE Energy's System 1* software platform to include trending, storage, display, and analysis of "offline" data collected with the Snapshot* family of portable data collectors. The benefits gained from periodic monitoring of less-critical machinery and fixed assets with portable data collectors are well known. Substantial savings are realized when corrective work is directed by asset condition, which allows advance planning and scheduling of maintenance activities. With System 1 and the Portable Data Collector, "balance-of-plant" assets can now be monitored, managed, and correlated with process data and asset information from online sources—and with a common environment and display.

### How Does Portable Data Collector Work with System 1?

The data collection routes and measurement points that are configured using System 1 are downloaded to the portable data collector. Various parameters (such as vibration, phase, speed, process data, infrared temperature) and manual entry data (such as gauge readings and inspection data) are sampled and stored in the data collector. The collected data is then uploaded to the System 1 database for trending and analysis where it enjoys the full benefit of System 1's advanced capabilities—such as intelligent alarming, decision support, and remote access.

Benefits

• Optimized maintenance strategies, effectiveness, and activity

• Reduced maintenance costs through advance planning of corrective work

• Controlled costs by detecting problems early and minimizing damage

• Improved Root Cause Diagnostics of asset unreliability

• Reduced risks to safety and environment

Capabilities

• Ethernet connectivity to Snapshot* for Windows® CE

• Infrared data port connectivity to Snapshot IS

• Acceleration enveloping for early fault detection

• Integration with The Bearing Expert™ roller element bearing library and database

• Automated data analysis and advisories

• Network access for multiple users
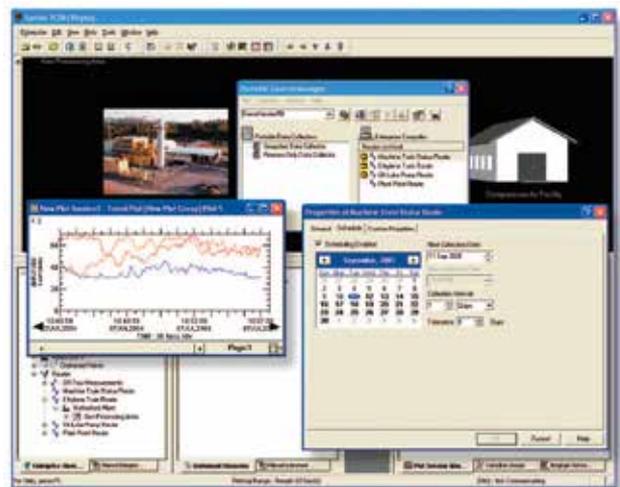
What Devices Does the Portable Data Collector Support?

Portable Data supports Snapshot for Windows CE, Snapshot IS, and Snapshot Clipboard:

Snapshot for Windows CE. Features two fully functional channels and a third channel for phase and speed input. Snapshot for Windows CE is powerful enough for a rotating machinery engineer, but with an intuitive user interface. At less than 4 lbs (1.7 kg), it is one of the lightest and easiest to use portable data collection tools on the market.

Snapshot IS (intrinsically safe). A portable vibration and data collector with hazardous area approval. At just 1.5 lbs (680 grams) and a convenient palmsized package, Snapshot IS has two inputs: a dynamic signal input for asynchronous waveform capture/display capabilities and a speed/phase input.

Snapshot Clipboard. Optional software that runs on numerous off-the-shelf, low cost Pocket PC devices. Manually entered meter and gauge readings, inspection data, and free-hand notes are collected with the Pocket PC, then uploaded to the System 1 database for permanent storage, trending, and analysis.

Acceleration Enveloping

Snapshot CE and Snapshot IS both feature acceleration enveloping of vibration signals to provide advanced warning of potential failures and enable more proactive maintenance planning. Acceleration enveloping is a powerful signal processing technique used to enhance acceleration signals, which allows early detection of small vibration level changes indicative of roller element bearing faults, gear wear, and other malfunctions such as cavitation. Acceleration enveloping is highly applicable to most rotating machinery in a portable data program, since roller element bearings are frequently used in these equipment classes.

Embed Knowledge using Decision Support*

Tight integration of Portable Data with System 1's Decision Support enables intelligent alarms and notifications, and customization of knowledge-based rules. Decision Support allows you to embed knowledge and rules in System 1, and use that embedded intelligence to automatically analyze collected data—spectral content, waveform shape, trends, rate-of-change, alarm statuses, and any other data attribute. This enables Actionable Information*—in the form of "what happened," "where," "when," "how bad is it," and "what should be done about it"—to be automatically sent to personnel who can take action to affect equipment operation and maintenance planning.

Measurements Supported**

- mm/s2, g (0-pk and rms)
- mm/s, in/s (0-pk and rms)
- Ìm, mil (pp)
- Integrated velocity
- Integrated displacement
- Direct amplitude
- 1X and 2X vectors
- Rotor region and prime spike filters
- Gap
- Temperature
- Proportional voltage
- Speed (10 to 100,000 rpm)
- Phase
- User-definable low-, high-, and band-pass filtersI

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