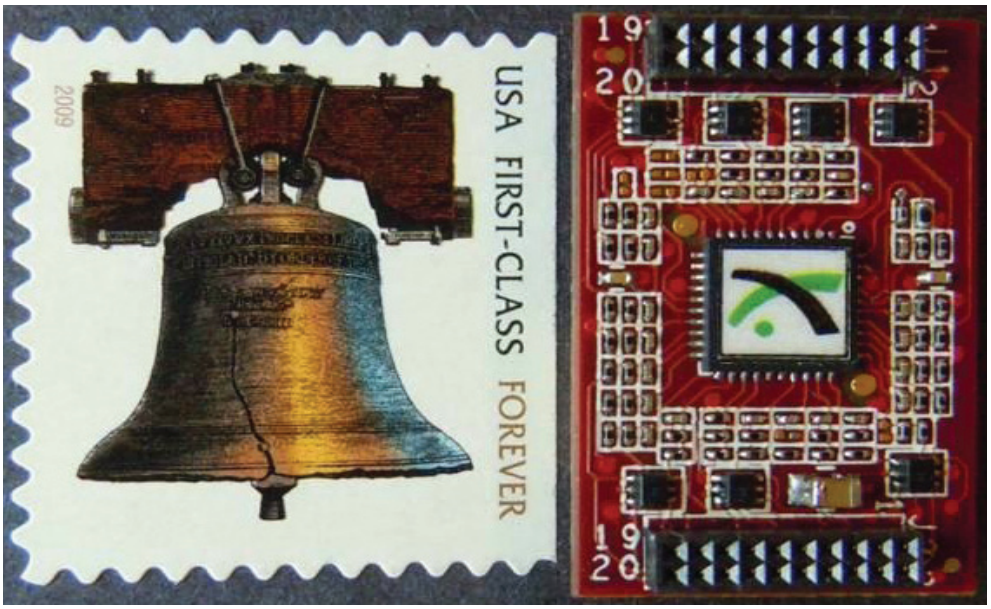
DATASHEET
Data Aquisitions Systems

The Informant™ Nano Recorder



Small, rugged data recorder for harsh environments

The Informant™ Nano Recorder is a small, rugged data recorder for harsh environment testing. It is designed to overcome the challenge of high shock and vibration environments while also being able to fit inside the existing packaging of electronic devices. Its 26.5mm x 16.5mm size make it an ideal solution for embedded monitoring of miniturized electronic systems.

The informant™ employs non-volatile memory and records 16 channels of digital data and 6 channels of analog data. It begins polling the analog and digital channels on the rising edge of the recorder's trigger input and at the user specified sample rate. The data recorder then writes the current sample to non-volatile memory only when there is a change in a digital channel or a significant change in an analog channel. The device will then continue to record events until the memory is full. The Informant™ has the capability to record up to 500 samples after the power input has been disconnected. In the event of a power loss it will begin recording where it left off within 3 ms of regaining power.

The Informant™ can help reduce the duration and cost of failure investigations by ensuring a reliable source of diagnostic data in a low-cost, small form factor package.

Key Features

- Tiny form factor
- 16 digital & 6 analog channels
- Non-volatile memory
- Triple redundant power inputs allow battery backup
- I/O can be shorted to ground or each other during operation without damage
- Three layers of ESD protection on inputs
- Data downloaded as .CSV file

Applications

- Monitoring, diagnostics, and failure analysis of electronic devices
- Data collection in high shock and vibration environments
- Crash testing
- Monitoring of industrial, commercial, and military electronics
- Monitoring of penetrating weapons

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The Informant™ Nano Recorder

Table 1: Specifications

Number of Channels	Analog	6
	Digital	16
Power Supply	Input voltage range	2.1 - 5.5 VDC
	Input power source	Battery or external source, 3 redundant diode ORed inputs
	Continuous current consumption	1.0 mA max (500 Hz sampling frequency)
	Peak current consumption	10.0 mA max during memory erase
Signal Inputs	Input voltage level	0 - 5VDC, limited by ESD protection
	Input impedance when configured for +5V signals	58.3 kΩ
	Input impedance when configured for +3.3V signals	1.02 MΩ
	Analog low-pass filter	Default: 6 dB/octave, f=241 Hz
	Digital low-pass filter	Default: 6 dB/octave, f=241 Hz
Signal Sampling	Default sampling frequency	500 Hz
	Sampling frequency range	6.7 to 593 Hz
	ADC resolution	8-bit
Data Storage	Maximum storage capacity	29.5 kB
	Maximum number of 12 byte records	2516
Serial Communications Interface	UART or I2C	Selected by populating resistors
	UART interface	Externally connected to a USB adapter
	UART baud rate	19200 baud
	I2C interface	Connected to I2C bus or external USB adapter
	I2C data rate	100k bits/s default, bus dependant
Dimensions	With connectors - L x W x H	26.5 mm x 16.5 mm x 6.0 mm
	Without connectors - L x W x H	26.5 mm x 16.5 mm x 5.1 mm
Input/Output Connection	Connection options	2 connectors or through hole wire pads
	Connectors	2 male or female, 1mm pitch, through hole
	Wire pads	Discrete wires or ribbon cable

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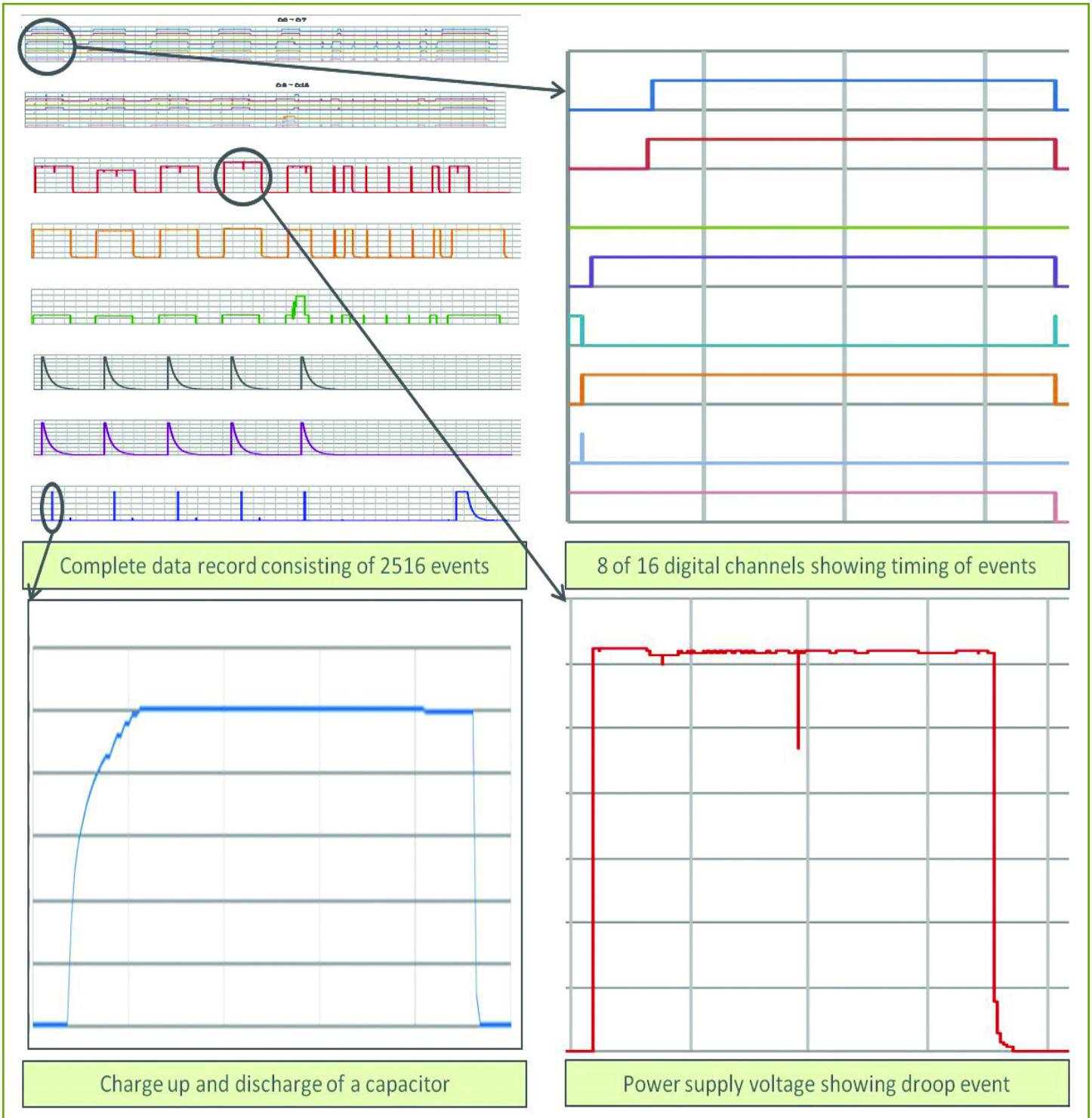
FIGURE 1: Typical Analysis Scenario



While the data record above is 800 seconds long, the maximum record length can be over 9 hours; this is possible because The Informant™ Nano Recorder only stores a set of data if one of the signals change.

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About Excelitas Technologies

Excelitas Technologies is a global technology leader focused on delivering innovative, customized solutions to meet the lighting, detection, energetic, frequency standards and high-reliability power needs of OEM customers.

From aerospace and defense applications to industrial, safety and security, medical lighting, analytical instrumentation, and clinical diagnostics, Excelitas Technologies is committed to enabling our customers' success in their specialty end-markets. Excelitas Technologies has approximately 3,000 employees in North America, Europe and Asia, serving customers across the world.

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