Northwood Power Instruments Inc.

QuickSpecs

InterVolt Voltage KeyCard

Three-Phase Voltage Sag/Swell/Harmonics Analysis

Features

- ✓ **Records up to 750 Volts on Each of Three Phases**
- ✓ **Accuracy: 1% ±1 Digit**
- ✓ **True RMS Conversion**
- ✓ **Stores 1st through 15th odd Harmonics**
- ✓ **Self-Powered**
- ✓ **8 millisecond Sag/Swell Analysis**

Applications

- ✓ **Waveform Analysis**
- ✓ **Field Readouts**
- ✓ **Field or Office Programmable.**
- ✓ **Up to 2 Megabytes Memory on PC card**
- ✓ **Compact & Super Safe**
- ✓ **Easy-to-Use Data Trend ™ Software**

Voltage KeyCard Specifications	
Number of Channels	3 Transformer-Isolated channels (internally fused).
Measurements	RMS voltage and current for each channel.
Range	240 VAC / 600 VAC (+25% over-range) , 45 – 65 Hertz Auto Sensing.
Accuracy & Resolution	1% rdg. ±1 LSD., 0.1V (600 Volt Range), 0.1V (240 Volt Range)
Sample Rate	64 samples per cycle per channel (*sampling is continuous over storage period*). 250 µS / channel.
Memory	• 128K standard, 256K, 512K, 1 Meg, 2 Meg with optional memory card • Survey length is automatically assigned depending on storage rate and parameters measured.
Storage Interval	User selectable from 1 minute to 60 minutes.
Memory Treatment	Circular (wrap) storage when memory is full.
Trigger Method	User-selectable upper and lower threshold. Can be set to trigger on 1, 2, or 3 channels.
Parameters Measured	RMS Voltage (Avg, Min, Max), Frequency (line 1), Total Harmonic Distortion, 1st through 15th odd Harmonics, Out-of-Limit Events (Up to 800), waveform capture for each event.
Storage Modes	Any combination of min, max, average and harmonics.
Display	2 x 20 Characters, Alphanumeric
Power	Self-powered from line, or 6-volt internal rechargeable battery in the event of power failure.
Environmental	-40°C to 60°C, Humidity 0 - 90% non-condensing.
Communications	USB, RS-232 9600 Baud and/or via PCMCIA port.
Software Requirements	Data Trend for Windows, minimum of 4 Mb RAM, Windows 32Bits, 4 Mb of hard disk space, VGA display, mouse

Specifications subject to change without notice

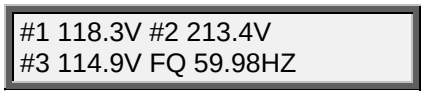
Small in Size, Big on Features, and Easy to Use !

Northwood's Voltage Keycard lets you hook up and begin high speed voltage recording with your *INTERLOGGER* in seconds. Proprietary mathematical algorithms to provide you with all the functions you'd expect from an instrument twice the size and cost. On-site programming and survey interrogation are available through the six-button front keypad. Access to the keypad can be controlled through password protection, preventing changes to the logger configuration.

Stand-alone Functions

The Voltage KeyCard can be used as a stand-alone instrument, or in conjunction with Data Trend software. In stand alone mode, The *INTERLOGGER* can provide you with a wealth of information:

- RMS volts for channel 1, 2 and 3
- RMS Min/Max and time of occurrence, for each channel
- THD Min/Max and time of occurrence, for each channel
- Free memory, number of events/waveforms recorded, and more.



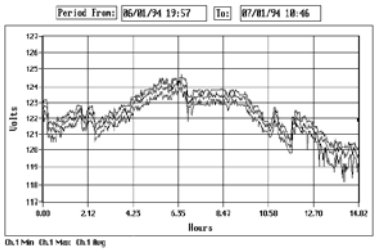
Sample display showing voltage on all 3 phases and line frequency

Self Powered, Rugged Utility-Grade Packaging

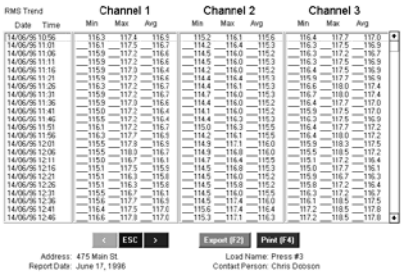
You'll never have to worry about finding a 120-volt outlet. The *INTERLOGGER* is powered by the line it is measuring; that's any voltage source between 85 and 750 volts. If the power should fail, the Voltage KeyCard has built-in rechargeable battery that will continue recording for 8 more hours. In addition, the internal clock is also backed-up by its own lithium button cell.

The *INTERLOGGER* comes in a completely waterproof, flame-retardant enclosure. All connections through the case are completely sealed. For safety, all voltage inputs are transformer-isolated. There are no exposed metal surfaces anywhere on the outside of the logger.

Data Trend Software

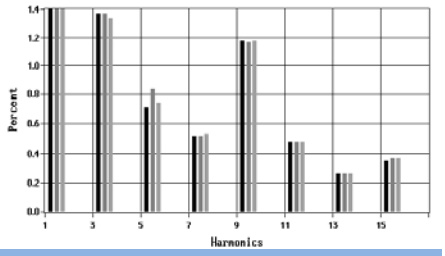


Data Trend ™ software is renown for its ease of use. Its ability to display up to nine values in the same graph window makes comparing waveforms simple. The infinite ZOOM graph makes it easy to take a closer look at any waveform or graph Frame the area with the screen cursors to identify the area to be expanded. You can also zoom using the Y-axis cursors. And for every graph or waveform, there is an accompanying data table, with the ability to export to an external file.

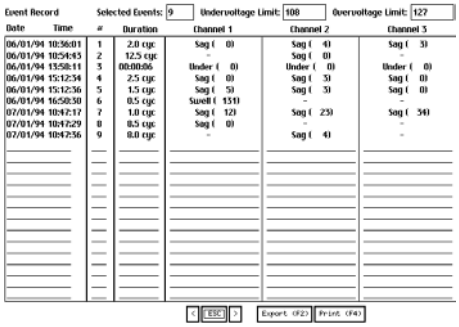


Harmonic Analysis:

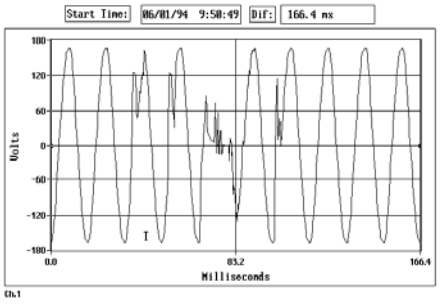
Many commonly used pieces of equipment (welding equipment, induction furnaces, computer power supplies) can generate harmonics (multiples of the fundamental frequency) that cause the voltage to deviate from a true sine wave. The presence of harmonics can lead to premature equipment failure, incorrect readings on watt-hour meters, decreased motor performance and —in extreme cases— serious damage to capacitors and transformers. The Voltage KeyCard can calculate the Total Harmonic Distortion (THD) and store a trend. When areas of possible concern are identified, you can use the detailed FFT snapshot recorded by the InterVolt at each storage interval. As a result, a complete analysis of the harmonics present can be made.



Out-of-Limit Analysis and Waveform Capture:



The Voltage KeyCard captures a maximum of 800 user-defined events with a duration of one-half cycle or longer. The start time, duration, and magnitude of the trigger condition are recorded. Events shorter than 120 cycles are recorded as sags or swells. Events longer than two seconds are recorded as under or over-voltages. Events are easily defined by user-selectable trigger levels. Trigger on 1, 2, or all 3 channels.



Description	Order Code
InterVolt Voltage KeyCard *Includes instruction manual*	MC07

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