V-Logger Series for Vibrating Wire Sensors

V-Logger Series

The V-Logger Series is Slope Indicator's vibrating wire data logger product line. The 4-Channel and 8-Channel versions are identical in optional capabilities, including:

- Extended Battery Pack
- Serial Connection

Application

Used in small and medium sized projects, the V-Logger series collects and monitors data from Slope Indicator vibrating wire sensors, including:

- Piezometers
- Crackmeters
- Settlement Cells
- Temperature Sensors
- Strain Gauges
- Total Pressure Cells

Overview of Operations

The V-Logger Series is simple to use and set up takes only a few minutes.

Connect the logger to your computer and use Logger Manager software (a free download available at www.slopeindicator.com) to specify a start time and reading schedule.

On site, connect sensor signal cables to the logger (you can view readings in real time if you have a PC with you). Then close the logger and walk away. Power options include a single lithium D-cell battery if you plan on regular site visits, four D-cell batteries for extended life or cold weather installations, or, for remote sites, a rechargeable battery pack connected to solar panels.

To retrieve readings, you will need to visit the logger or outfit it with our radio or cellular modem options. Logger Manager saves readings in a text file, ready for direct import into your spreadsheet software.

After importing the file into your datasheet program, you have all the data needed for processing and plotting your data in a format that is easy to comprehend.

Advantages

Cost-effective: The four and eight channel options provide plenty of connections for many projects, and even multiple V-Loggers can be more cost effective than a single full size, centralized logger.

Simple to Use: Learn how to use your V-Logger in minutes, not hours. There are no programs to write and no switches to set.

Increased Accuracy: The V-Logger Series is now "Best in industry for VW logging accuracy"[1] due to a revolutionary new measuring technique.

Reliable: The V-Logger series is rated for temperatures from -40° to 85°C and the product is IP 68 Rated. Readings are stored in secure, non-volatile memory.

Spreadsheet Friendly: The Logger Manager software retrieves readings and applies calibration factors, if present, to generate data files that contain both raw and processed readings. Thus data can be used immediately in your spreadsheet software.

Improved Noise Reduction: The proprietary new reading method greatly reduces, and in some cases eliminates, outside interference from telecom or electrical sources. This provides cleaner, more reliable data for your project.

Longer Battery Life: The V-Logger Series uses lithium batteries and a unique algorithm for maximizing battery life and has the ability to use almost 100% of the battery's capacity.

Communication: The standard V-Logger utilizes a USB connection to communicate with a Windows PC, while the RS-232 version is designed to work with an external spread-spectrum radio, a cellular modem, or sensemetrics' Thread series. Please note that the RS-232 version requires external power and cannot be equipped with an internal battery.

1 Claims based on published datasheets. See www.slopeindicator.com for more information.

V-LOGGER MODELS

The standard V-Logger includes a USB interface cable and the RS-232 version includes an external cable with standard 9-pin connecton and power leads. The standard V-Logger is designed to be powered by a D-cell lithium battery, which can be purchased installed if shipped via Ground Service or can be sourced locally if the logger is to be shipped via air freight. The RS-232 version of the logger is designed to be externally powered by a 12V DC battery. The manual and software are available for download from www.slopeindicator.com

4-Channel V-Logger 52615140
4-Channel V-Logger with RS-232 52615248

8-Channel V-Logger 52615180
8-Channel V-Logger with RS-232 52615288

Accessories

Lithium D-Cell, Installed (3.6V,19 Ah) 52615122
Pole Attachment with 1" Pipe............52615130
Pole Attachment with 1.25" Pipe.......52615131
Pole Attachment with 1.5" Pipe.........52615132
Wall Mount 52615135

V-LOGGER OPTIONS

The following options can be added to a V-Logger. Select the datalogger model as well as the option model when ordering. Please note that the Extra Capacity Batteries and Rechargeable Battery pack are mutually exclusive.

Extra Capacity Battery:

The Extra Cap Battery option adds 3 additional lithium batteries for at least 10 years of battery life (9 years with 8 channels) with readings every 15 minutes in moderate temperatures or approximately 9 years battery life (5 years with 8 channels) in extreme cold weather.

For 4-Channel 52615104
For 8-Channel 52615108

V-LOGGER SPECIFICATIONS

Dimensions (default):

230 x 200 x 95 mm (9.1 x 7.9 x 3.7 inches).

Measurement Range:

Reads vibrating wire sensors operating in the range of 450-6000 Hz. Reads thermistors or RTDs in the range of -20 to 120°C.

Logger Resolution:

0.001Hz for vibrating wire sensors
0.1°C for temperature sensors.

Logger Accuracy:

±0.05Hz for vibrating wire sensors
±0.05°C for temperature sensors

Data Storage:

Stores 65,520 records per channel in secure, non-volatile memory. Each record includes a VW reading and temperature reading with time and date. When memory is full, recording either stops or continues by overwriting previous readings, starting with the oldest, depending on how the user set up the logger during installation.

Logger Settings:

Date, time, memory mode, and communication settings. Memory mode determines if logging stops when memory is full or if logging continues by overwriting earliest readings.

Logger Schedule:

Logger start time can be set to a specific date and time so that readings are synchronized with other loggers. Reading intervals can be specified by day, hour, minute, and second. Maximum interval is 1 year. Minimum interval is 15 seconds for the 4-channel logger and 30 seconds for the 8-channel logger.

Sensor settings:

Sensor ID, serial number, calibration factors, and sweep range for each sensor. Choice of thermistor or RTD for temperature channels.

Power (default):

One lithium D-cell battery provides power for 9 years for the 4-channel logger (over 6 years for the 8-channel logger) in moderate temperatures, assuming readings taken every hour.

Weatherproofing:

V-Logger is housed in an IP68 enclosure with cable glands for signal cable. Plugs are provided for unused cable glands.

Data Retrieval:

Readings are retrieved via USB cable (standard), a serial connection (optional) or wireless link (optional).