

# DATALOGGER VW SINGLE-CHANNEL

**NEXAWAVE VIBRALOG**

## DATASHEET



## OVERVIEW

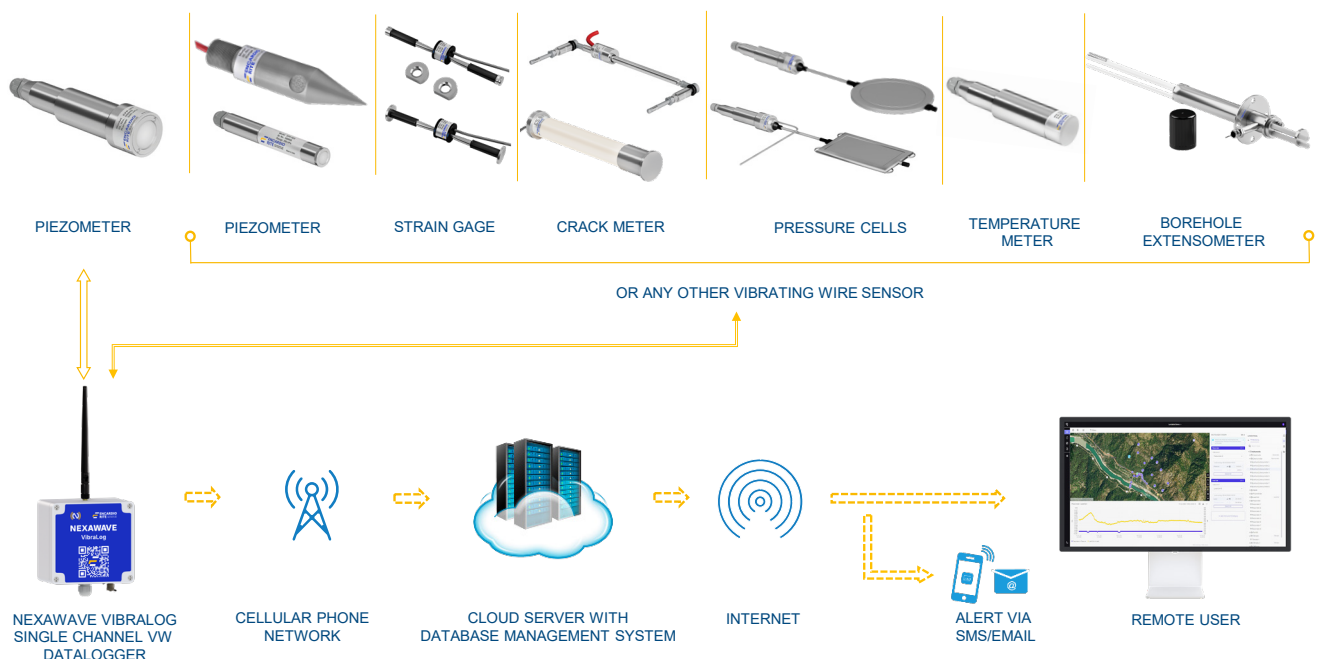
The NexaWave VibraLog is a single channel vibrating wire datalogger designed to collect data from any vibrating wire sensor with in-built thermistor. The frequency and temperature data from the sensor can be collected from a remote location, at re-configurable intervals - from 5 seconds to 168 hours. Note that as the primary power mode is battery-operated, higher measurement frequencies can drain the battery more quickly.

The Windows and Android based application software allows users to set sensor calibration coefficients, recording intervals, identification tags, and real-time clock time. Users can monitor readings and signal strength, manage data files, download data, perform data corrections, and export data files. The logger supports remote data transmission through an in-built GPRS/GSM modem, providing near real-time data access. Two-way communication facilitates remote configuration, system status updates, maintenance, diagnostics, and preventive actions without site visits.

This compact and rugged datalogger is suitable for various applications, offering accurate and reliable data collection with a wide operating temperature range, low power consumption, and multiple telecommunication options.

## FEATURES

- **Plug and play:** Easy sensor installation and configuration via intuitive set up; using USB to RS-232 Cable with laptop or Bluetooth with Android phone.
- **Two-way communication:** Allows remote configuration and management, significantly reducing field costs.
- **Extensive data storage:** Stores calibration coefficients, x-parameter units with data stored in engineering units. Each reading is date and time-stamped. The non-volatile flash memory is capable of storing up to 270,330 records.
- **Adjustable measurement intervals:** Programmable from every 5 seconds to every 168 hours, providing flexibility to meet diverse monitoring needs
- **Automatic alerts from datalogger:** Up to 3 alerts via SMS to a maximum of 8 recipients when data exceeds pre-defined thresholds or battery levels drop to 10% or 2%. This enables timely responses to critical events and maintenance needs.
- **Remote data collection and wireless data transmission:** Utilizes a GSM/GPRS modem for remote data transmission to central systems, requiring only a data SIM card for operation.
- **Local data retrieval facility:** Data can be downloaded directly to a laptop or PC in the field and transferred to other systems via USB or the Internet for further analysis.
- **Rapid sensor connection:** An onboard 5-pin connector ensures rapid sensor connection, making it ideal for unattended applications.
- **Infrastructure data intelligence platform:** Transmit data to a local or cloud server hosting the **Proqio** platform for 24/7 insights. **Proqio** enables efficient data processing, analysis and real-time visualization. Benefit from instant alerts for critical events and automated reports, supporting informed decision-making.  
Also compatible with any manufacturer's data management system for continuous monitoring.
- **Low power consumption:** Designed for efficient energy use to prolong battery life, ideal for extended stand-alone field usage.
- **Versatile power options:** Choose from battery, mains, or optional solar power (model ESP-12V1A). For remote sites, mains or solar power is advised.
- **Stand-alone usage:** Built to withstand harsh environmental conditions, ensuring reliable operation across diverse settings; suitable for unattended applications.



Typical scheme



# SPECIFICATIONS

## NEXAWAVE VIBRALOG (MODEL ESCL-12VT)

Input	Single channel; any vibrating wire sensor with inbuilt thermistor
Measuring range	VW frequency range 400-6000 Hz; Temperature: Thermistor type, Dale 1C3001-B3, temperature range -40 to +100°C
Accuracy	Frequency: $\pm 0.01\%$ of reading Temperature: $\pm 0.1^\circ\text{C}$ (excluding sensor inaccuracy) Real time clock: $\pm 1$ minute/month
Resolution	Frequency: 0.001 Hz Temperature: $\pm 0.01^\circ\text{C}$ Real time clock: 1 second
Scan interval	5 seconds to 168 hours
Data upload schedule	5 minutes to 168 hours
Memory capacity	FRAM (2-Mbit) & Flash Memory (64-Mbit); 3 Million data points
Communication port	RS-232 (standard) 115 kbps
Wireless modem	3G: EHS6 4G: ELS61-AUS, ELS61-EU, ELS61-US
Data Transfer	Via RS232; Via 3G/4G cellular network
Antenna	Built-in Antenna Optional external whip Antenna

Configuration & Data Retrieval	Laptop with Windows OS, using RS-232 or Bluetooth1 Mobile phone with Android OS, via Bluetooth1 FTP, using 3G/4G cellular network 1Note: Data transfer via Bluetooth requires add-on Bluetooth dongle for Datalogger
Remote configuration & data retrieval	Datalogger can be configured remotely by 2-way telemetry using 3G/4G cellular network
Operating temp. range	-30 to 70°C
Humidity	100 %
Power supply	2 x D size 3.6 V/19 Ah Lithium cells 2 x D size 1.5 V/15 Ah Alkaline cells 12 V external power (AC mains/ solar panels)
Battery Backup	>5 Years with 7.2 V Lithium Battery (with 4 scans/day and 1 upload/day) >3 Years with 3 V Alkaline Battery (with 4 scans/day and 1 upload/day)
Housing	Corrosion resistant weather proof polyester enclosure; IP65 protection
Box dimension	120 (L) x 122 (W) x 90 (H) (mm)

\*All specifications are subject to change without prior notice

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Dams



Mining



Tunnels



Transportation



Construction



Bridges



Landslides



Energy



Environmental Monitoring



Pipelines



Structural Health Monitoring



Smart Cities