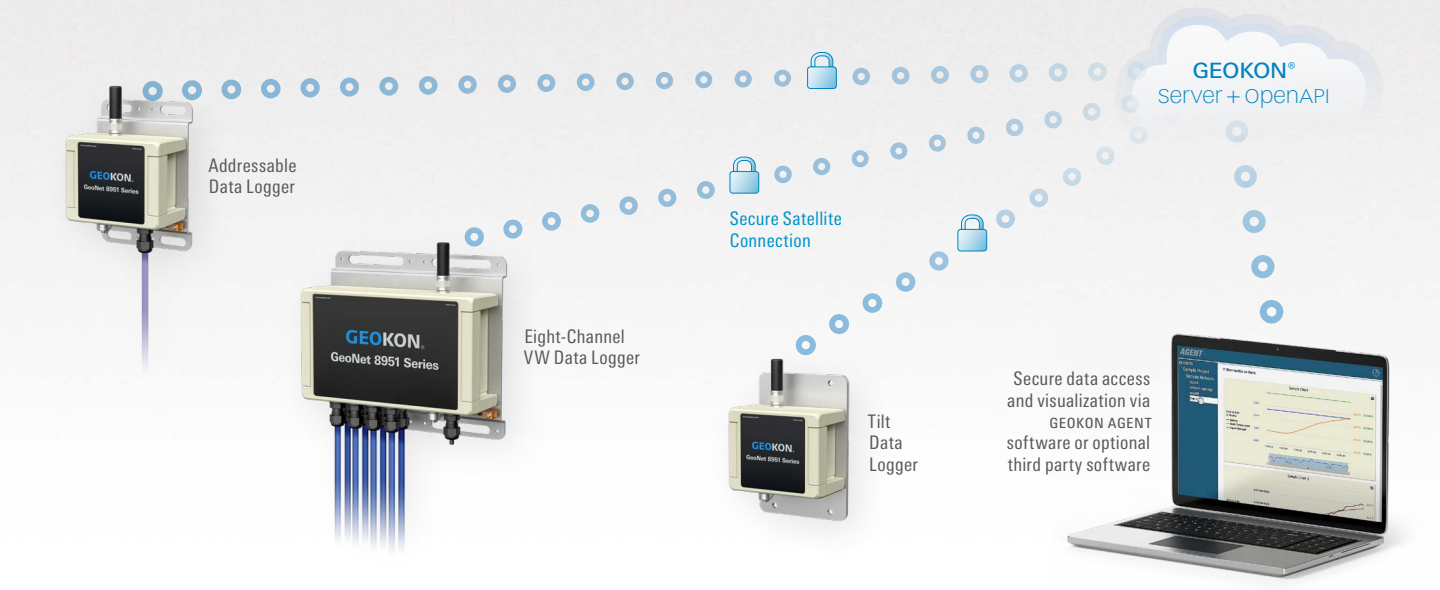
GEONET SATELLITE DATA LOGGERS & DATA ACQUISITION SYSTEM

GEOKON®

MODEL 8951 SERIES



GeoNet Satellite Data Loggers & Wireless Data Hosting System with Cloud integration and secure data access

APPLICATIONS

Typical applications include:

- Groundwater monitoring
- Tailings dams
- Mining/slope stability
- Structural monitoring of buildings, bridges, excavations, and tunnels
- Historical structures

INTRODUCTION

GEOKON Model 8951 Series Data Loggers offer a high-value, networked data collection option for all GEOKON vibrating wire instruments and digital sensor (MEMS IPI and VW) strings. They feature real-time, bidirectional communication on a global network and standardized, low profile antennas. Each data logger comes from the factory ready for deployment and may commence with data acquisition in minutes.

Sensor data is collected and transferred via a satellite network to a secure cloud-based storage platform where it is securely stored. Data can be viewed in GEOKON Agent Software or exported to a third-party software platform through the Open API.

Commissioning, billing and configuration are accomplished via the easy to use GEOKON API Portal, which allows users to activate data loggers, change settings, configure sensor channels, and view current data logger status.

The API Portal can be found at api.geokon.com and the GEOKON Agent program can be downloaded at www.geokon.com/software.

Model 8960 Digital Vibrating Wire interfaces can be connected to GeoNet multi-channel and addressable data loggers to expand the capacity of the data logger. Multiple VW interfaces can be daisy-chained together to bus the data to a single data logger. The bus limit is 32 units or 64 channels. Refer to the Model 8960 data sheet for more information.

Available models include:

Single and multichannel Vibrating wire dataloggers that are compatible with most manufacturers' VW sensors.

A digital addressable data logger compatible with GEOKON addressable MEMS, VW, and thermistor sensor strings.

A four-channel analog data logger capable of reading data from analog sensors.

A tilt data logger that combines the functionality of a biaxial tiltmeter and a GeoNet data logger.

A Digital High Power data logger that can read up to 250 GEOKON MEMS sensors. With custom firmware, it is capable of reading non-GEOKON sensors that utilize RS-485 MODBUS communication protocol.

GENERAL SPECIFICATIONS

Power Supply	DHP model: Internal sealed lead acid (SLA) battery pack, 4V, 10 Ah / 5-24V external All other models: Rechargeable lithium battery / 5-24V external
Operating Temperature	–40° C to +85° C (range varies by power source) (TLT model max of +65° C)
Temperature Accuracy	±0.5° C
Direct Connection Type	USB
Enclosure	Die-cast aluminum, IP 68 rated to 1.5 m
Dimensions	Refer to the product instruction manual

VIBRATING WIRE SPECIFICATIONS

Trueness	0.082 Hz
Frequency Precision	±0.146 Hz (99% CI)
Frequency Resolution	±0.002 Hz
VW Frequency Range	400-6,500 Hz

ANALOG DATA LOGGER SPECIFICATIONS

Channels	4
Input Type	mV, V, mA, Ω
Input Range (individually configurable)	0-150 mV, 0-500 mV, 0-1 V, 0-5 V, 0-10 V, 0-15 V, ±150 mV, ±500 mV, ±1 V, ±5 V, ±10 V, ±15 V, ±20 mA, 0-20 mA, 4-20 mA
Voltage Mode Accuracy	±0.1% or better
Current in Mode	±0.2% or better
Resolution	16-bit
Zero Drift	±6 µV/°C
Span Drift	±25 ppm/°C (typical)
CMR @ 50/60 Hz	92 dB min.

DIGITAL DATA LOGGER SPECIFICATIONS

MEMS Sensors Limits per Model	ADR: 64 sensors (90 sensors, with the sensor string powered via external 12 V power supply) DHP: 250 sensors
Communication Protocol	RS-485 Modbus

TILT DATA LOGGER SPECIFICATIONS

Range[1]	±90°
Resolution[2]	0.00025° (0.004 mm/m)
Precision[3]	±0.0075° (±0.13 mm/m)
Nonlinearity	±0.005° across ±30° range (±0.09 mm/m)
Temperature Dependent Uncertainty	±0.001° across ±5° angular range (±0.016 mm/m) ±0.0016° across ±15° angular range (±0.026 mm/m) ±0.0026° across ±30° angular range (±0.042 mm/m)
Axes	2

[1]Calibrated Range: ±30°
[2]99% confidence interval (i.e. 99 out of 100 individual readings fall within this tolerance).
[3]Includes random walk (changes in consecutive readings with no discernible cause) and seismic noise during testing.

ACCESSORIES

8900-SOL-10W-USB: GeoNet Series Solar Panel, 10W, unregulated.

COM-169: USB 2.0 A Male to C Male Cable

KIT-GEONET-C-T20: USB 2.0 A Male to C Male Cable, T20 Torx Key, and 3/32" Flat Head Screwdriver

AVAILABLE MODELS

8951-01C
Single-Channel
VW Data Logger

8951-08C
Eight-Channel
VW Data Logger

8951-ADR
Addressable
Data Logger

8951-ANA
Four-Channel
Analog Data Logger

8951-TLT
Tilt
Data Logger

8951-DHP
Digital High Power
Data Logger

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GEOKON is an **ISO 9001:2015** registered company

Not all models are CE approved. Contact GEOKON for details.