GEONET NETWORK DATA LOGGERS & DATA HOSTING SYSTEM

GEOKON®

MODEL 8920, 8930 SERIES



GeoNet Network 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
- Remote transportation and pipeline corridors

INTRODUCTION

GEOKON Model 8920 and 8930 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. 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 an LTE-M cellular* or Wi-Fi network to a secure cloud-based storage platform where it can be accessed through the GEOKON OpenAPI. Industry leading data visualization software, such as Vista Data Vision, or the free GEOKON Agent program can be used with the OpenAPI for data viewing and reporting. Commissioning, billing and configuration are accomplished via the easy to use GEOKON API Portal.

The portal 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.

Other available models include: Digital High Power (DHP) data loggers that are compatible with GEOKON Digital Addressable MEMS products and can read up to 250 GEOKON MEMS sensors. With custom firmware, they are also capable of reading non-GEOKON sensors that utilize RS-485 MODBUS communication protocol.

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

Model 8960 Digital Vibrating Wire interfaces can be connected to GeoNet Multi-Channel and Addressable Data Loggers to expand the capacity of the logger. Multiple interfaces can be used to bus the data to a single data logger. The bus limit is 32 units or 64 Channels.

*Compatible with all major cellular networks except Verizon

GENERAL SPECIFICATIONS

Power Supply	Lithium / 5-24V external (DHP models: Internal sealed lead acid (SLA) battery pack, 4V10 Ah / 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
Data Transmission Interval	8920, 8930: Min: 10 minutes; Max: 24 hours
Enclosure	Die-cast aluminum
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

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 MEMS
Communication Protocol	RS-485 Modbus

WI-FI SPECIFICATIONS

Protocol	IEEE 802.11 b/g/n IEEE 802.11 d
Band Support	Station Mode: 2.4 GHz, Channel 1-13 Access Point Mode: 2.4 GHz, Channel 1-11

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-BRJ: GeoNet Series Solar Panel, 10W, unregulated, for all models *except DHP*.
8900-SOL-10W-USB: GeoNet Series Solar Panel, 10W, unregulated, for Model 8920-LTM-DHP-CBL.
CHG-11: AC Charger
COM-169: USB 2.0 A Male to C Male Cable
SUP-514: Desiccant pack, 10 grams
KIT-GEONET-C: Accessory Kit, USB-C Cable/Screw Drivers. For 8920 and 8930 models (except DHP).
KIT-GEONET-C-T20: Accessory Kit, USB-C Cable, T20 Screwdriver. For Model 8920-LTM-DHP-CBL.
8800-7B: External 12V battery conversion cable, 3 m length, barrel jack connector.
8800-7BV: As above, customer-specified cable length.
8020-7-1: Solar Panel, 20W, regulated. For use with 12V battery. Includes side-of-pole mounts, charge controller, and 4.5 m interconnect cable with battery clips.

AVAILABLE MODELS



8920-LTM-01C-CBL
Single-Channel VW
LTE-M Cellular
Data Logger



8920-LTM-04C-CBL
Four-Channel VW
LTE-M Cellular
Data Logger



8920-LTM-08C-CBL
Eight-Channel VW
LTE-M Cellular
Data Logger



8920-LTM-ADR-CBL
Addressable
LTE-M Cellular
Data Logger



8920-LTM-TLT-CBL
Tilt
LTE-M Cellular
Data Logger



8920-LTM-DHP-CBL
Digital High Power
LTE-M Cellular
Data Logger



8930-01C-CBL
Single-Channel VW
Wi-Fi Data Logger



8930-04C-CBL
Four-Channel VW
Wi-Fi Data Logger



8930-08C-CBL
Eight-Channel VW
Wi-Fi Data Logger



8930-ADR-CBL
Addressable
Wi-Fi Data Logger



8930-TLT-CBL
Tilt
Wi-Fi Data Logger

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