GEONET DATALOGGERS

GEOKON®

MODEL 8940 SERIES



GeoNet 8940 Series Dataloggers.

APPLICATIONS

Typical applications include:

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

INTRODUCTION

Model 8940 Series GeoNet Dataloggers offer a high-value data collection option for all GEOKON vibrating wire instruments and digital sensor (MEMS IPI and VW) strings. GeoNet Dataloggers utilize die-cast aluminum enclosures that are suitable for use in harsh environments.

OPERATING PRINCIPLE

Sensor cables are connected through cable glands or 10-pin bulkhead connectors. Sensor data is collected and transferred by connecting directly to the logger on site and downloading data to a host PC. The free software program, GEOKON Agent, is used for datalogger configuration, communication, monitoring, data collection and data reduction.

Model 8960 Digital Vibrating Wire interfaces can be connected to GeoNet Multi-Channel and Addressable Dataloggers 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. Refer to the Model 8960 manual for more information.

Waterproof single and four-channel GeoNet dataloggers housed inside rugged PVC enclosures are available.

VIBRATING WIRE LOGGER SPECIFICATIONS

Data memory	32 MB
Storage Capacity	Varies by model
Trueness	0.082 Hz
Frequency Precision	±0.146 Hz (99% CI)
Frequency Resolution	±0.002 Hz
Thermistor Accuracy	1% (0.5° C thermistor point match)
Thermistor Resolution	0.032° C
Scan Interval	Min: 1 minutes; Max: 1 day
Power Supply	2x D cell, Alkaline or Lithium, 12V Auxiliary
Operating Temperature	–40° C to +85° C (range varies by power source)
VW Frequency Range	400–6500 Hz
Enclosure	Die-cast aluminum 120 × 122 × 91 mm (single-channel) 160 × 260 × 91 mm (four-channel) 180 × 280 × 101 mm (eight-channel)
Waterproof Enclosure (H[1] × Ø)	PVC IP68 rated to 1 MPa (100 m) 216 × 141 mm (single-channel) 356 × 168 mm (four-channel)

[1]Eye bolt and cable sleeve add approximately 82 mm

ADDRESSABLE LOGGER SPECIFICATIONS

Data memory	32 MB
Storage Capacity	Varies by sensor sting connected
Communication Protocol	RS-485 Modbus
Thermistor Accuracy	1% (0.5° C thermistor point match)
Thermistor Resolution	0.032° C
Scan Interval	Min: 1 minutes; Max: 1 day
Power Supply	2x D cell, Alkaline or Lithium, 12V Auxiliary
Operating Temperature	–40° C to +85° C (range varies by power source)
Enclosure	Die-cast aluminum 120 × 122 × 91 mm



Model 8943-01C-WP and 8943-04C-WP Waterproof Dataloggers

TILT 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° range (±0.016 mm/m) ±0.0016° across ±15° range (±0.026 mm/m) ±0.0026° across ±30° range (±0.042 mm/m)
Axis	2
Data Memory	32 MB
Storage Capacity	500,000 readings
Thermistor Accuracy	1% (0.5° C thermistor point match)
Thermistor Resolution	0.032° C
Scan Interval	Min: 1 minutes; Max: 1 day
Power Supply	2x D cell, Alkaline or Lithium, 12V Auxiliary
Operating Temperature	–40° C to +65° C (range varies by power source)
Enclosure	Die-cast aluminum 120 × 122 × 91 mm

[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 between consecutive readings that have no discernible cause) and seismic noise during testing.

ORDERING INFORMATION

8940-01C-CBL: Single-Channel Datalogger, cable gland
8940-01C-10P: Single-Channel Datalogger, 10-pin connector
8940-04C-CBL: 4-Channel Datalogger, cable gland
8940-04C-10P: 4-Channel Datalogger, 10-pin connector
8940-08C-CBL: 8-Channel Datalogger, cable gland
8940-ADR-CBL: Addressable Datalogger, cable gland
8940-TLT-NAP: Datalogger with integral biaxial tiltmeter (no sensor connection)
8943-01C-WP: Single-Channel Waterproof Datalogger, 6-pin connector
8943-04C-WP: 4-Channel Waterproof Datalogger, 6-pin connector
8943-CAB-100: Waterproof Cable with female 6-pin connector and collar, 30 m length
8943-CAB-200: Waterproof Cable with female 6-pin connector and collar, 60 m length
8943-CAB-VL: Waterproof Cable with female 6-pin connector and collar, specify length (>60 m)
02-250P4: Green Polyurethane Cable, 6.35 mm (±0.25 mm) [0.25"] Ø, 2 twisted pairs, for the above

ACCESSORIES

BAT-111: Alkaline D size battery
BAT-202: Lithium D size battery, 17 Ah
SUP-514: Desiccant pack, 10 grams
KIT-GEONET-C: Accessory Kit, USB-C cable and screwdrivers, for Model 8940 Dataloggers
KIT-GEONET-WP-C: Accessory Kit, USB-C cable and screwdrivers, for Model 8943 Waterproof Dataloggers

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