

## 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 VW interfaces can be daisy-chained together to bus the data to a single datalogger. 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 <sup>1</sup> × Ø)	PVC IP68 rated to 1 MPa (100 m) 216 × 141 mm (single-channel) 356 × 168 mm (four-channel)

<sup>1</sup>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 <sup>1</sup>	±90°
Resolution <sup>2</sup>	0.00025° (0.004 mm/m)
Precision <sup>3</sup>	±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

<sup>1</sup> Calibrated Range: ±30°

<sup>2</sup> 99% confidence interval (i.e. 99 out of 100 individual readings fall within this tolerance).

<sup>3</sup> 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 Water-  
proof 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