

Pendulum System

Applications

The BGK-6850A Pendulum Readout is designed for use with direct or inverted pendulums. It automatically measures horizontal deflections in two directions and is suitable for use in measuring the tilting of large structures such as...

- Dams
- High-rise buildings
- Bridges



• Model BGK-6850A Pendulum System.

Description

The BGK-6850A Pendulum Readout uses two high-resolution linear array CCDs (charge coupled device) as the basic sensors. Two collimated light sources at 90° to each other are directed onto two photo-sensitive CCD screens. The shadow of the pendulum wire falls on the CCD sensors and an automatically generated scan of the CCD pixel map records and digitally stores the coordinates of the shadow in the built-in computer.

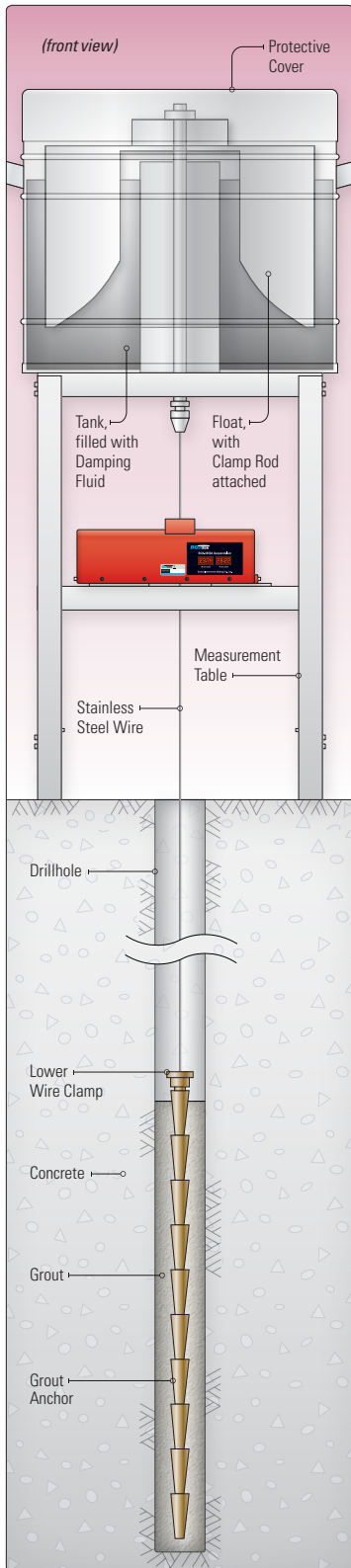
This information is then converted to an analog signal that enables the position of the pendulum wire to be displayed locally in tenths of millimeter units on two LED panels mounted in the console. The signal can also be transmitted via 4-20 mA output or RS-485 output to a remote readout site.

Advantages and Limitations

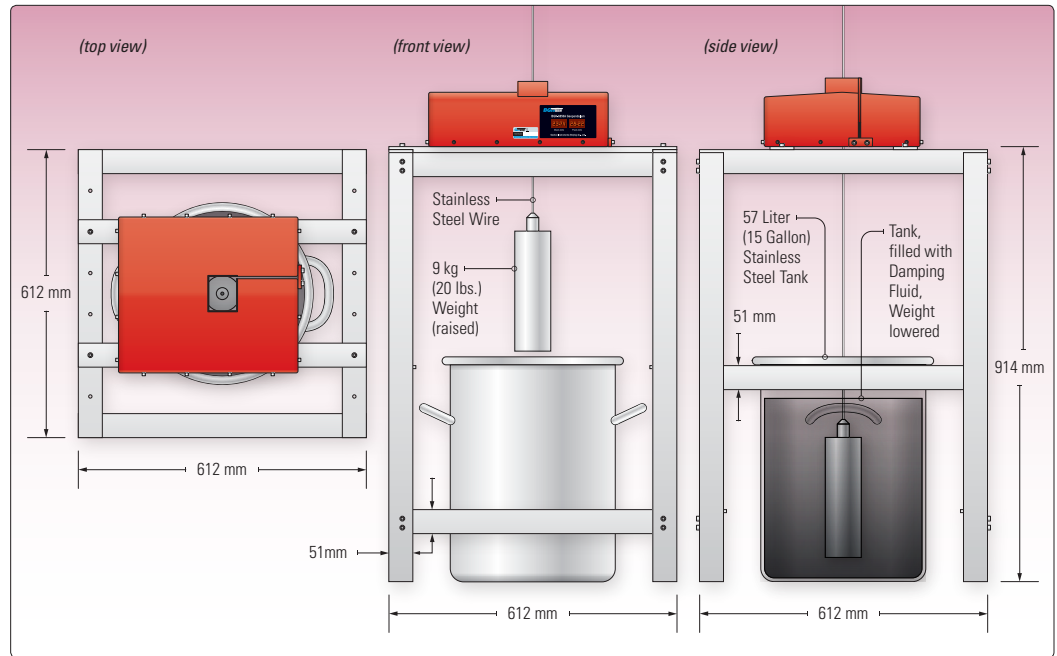
The Model BGK-6850A Pendulum System is designed to make accurate measurements of the relative movements of normal and inverted pendulums, such as those found in dams, and can be installed as a new system or as an electronic upgrade for an existing system.

The electronics package provides both 4-20 mA and EIA RS-485 data outputs. The data can be stored locally or remotely in a Micro-1000 Datalogger, or other dataloggers, and thence by hard-wire or modem to a computer (IBM PC).

Two 2-D models are available: 50 × 50 mm and 50 × 100 mm; and one 3-D model: 50 × 100 × 50 mm.



● Model BGK-6850A Pendulum System installed in Measurement Table (inverted pendulum).



● Model BGK-6850A Pendulum System installed in Measurement Table (normal pendulum).

Specifications

	2 Dimensional	2 Dimensional	3 Dimensional
Standard Ranges	(X axis) 0 to 50 mm (Y axis) 0 to 50 mm	(X axis) 0 to 50 mm (Y axis) 0 to 100 mm	(X axis) 0 to 50 mm (Y axis) 0 to 100 mm (Z axis) 0 to 50 mm
Resolution	0.01 mm	0.01 mm	0.01 mm
Accuracy	better than 0.1 mm	better than 0.1 mm	better than 0.1 mm
Communication Method	4-20 mA, EIA RS-485	4-20 mA, EIA RS-485	4-20 mA, EIA RS-485
Display	4-digit LED	4-digit LED	4-digit LED
Data Storage	2000 data sets	2000 data sets	1200 data sets
Power Supply	85-265 VAC, 50-60 Hz	85-265 VAC, 50-60 Hz	85-265 VAC, 50-60 Hz
Operating Temperature	-15°C to +60°C	-15°C to +60°C	-15°C to +60°C
Operating Humidity	100% relative humidity	100% relative humidity	100% relative humidity
L × W × H	380 × 330 × 145 mm	425 × 375 × 190 mm	425 × 375 × 190 mm



Geokon, Incorporated
48 Spencer Street
Lebanon, NH 03766
USA

1 • 603 • 448 • 1562
1 • 603 • 448 • 3216
geokon@geokon.com
www.geokon.com

