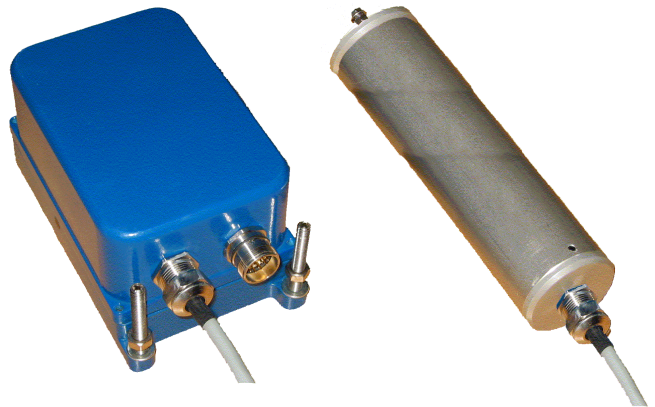


AC-63-DH Downhole Accelerometer

Features

- Bandwidth:** DC to 100 Hz
others on request
- Dynamic range:** >120 dB @ 2 g FS
- Digital Sensor Control (DSC)**
- No field adjustment required**
- Temperature and drift compensation**
- Robust suspension system**
- Fits in 4 inch borehole**
- Same basic specifications as AC-63**



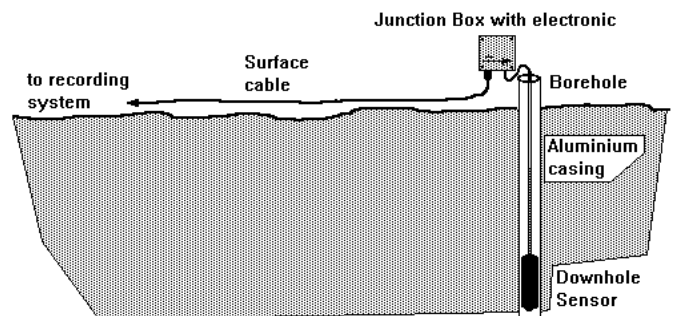
Outline

The AC-63-DH accelerometer is based on a force balance servo accelerometer concept having a new innovative and rugged mass suspension system designed for borehole applications regarding Strong Motion earthquake survey and monitoring.

A Digital Sensor Control (DSC) is used to provide the AC-63 with exceptional user-friendly features. At turn on the DSC nulls all outputs including the vertical channel. This powerful feature allows the users to install the AC-63 and turn it on. Time consuming offset adjustment and instrument levelling are not necessary.

The DC response allows the sensor to be easily repaired, tilt tested or recalibrated in the field. With the help of the TEST LINE the AC-63 accelerometer can be completely tested assuring proper operation and accurate acceleration measurement.

The sensor system is contained in a junction box placed at the surface and a cable connects it to the sensor in the borehole (torpedo).



The part of the system in the borehole contains only the axis with their electronic. All the main electronic part is located in the junction box at the surface. This type of sensor rarely requires maintenance. All tests and recalibrations of the sensor could be executed from the surface.

Using sections of inclinometer tube (see accessory leaflet L_DH-tube), the sensor can be inserted in the borehole with a defined orientation.

The AC-63-DH accelerometer is directly compatible with the GeoSIG recorders.

Specifications AC-63-DH

General Characteristics

Application: Strong Motion earthquake survey & industrial applications requiring rugged sensors

Configurations: AC-61-H-DH uniaxial
AC-61-V-DH uniaxial
AC-62-H-DH biaxial
AC-63-DH triaxial

Full Scale Range: $\pm 2g$ Std
($\pm 0.5 g$ or $\pm 1g$ optional)
for $\pm 10 V$ diff at output

Sensor Element

Type: Servo Force Balance

Dynamic Range: > 120 dB

Nonlinearity: ± 0.2 %

Hysteresis: < 0.01 %

Cross Axis: < 0.2 %

Bandwidth: From DC to 100 Hz

Damping: 0.5 to 0.7 critical

Full Scale Output: standard $\pm 10 V$ differential
optional $2.5 \pm 2.5 V$ single-end.
 $0 \pm 5 V$ single ended
0 - 20 mA

Offset Drift: Negligible
Compensated by DSC

Power:

Supply Voltage: 9.2 to 15 VDC, single supply

Consumption: 70 mA @12 VDC (average)

Connector:

Type: 12 poles metallic, shielded, male

Mating: Binder / Coninvers type RC

Surge Protection: All pins are protected by TMTranszorb

Connector Pin Configuration

Pin 1-6: Signal output for axis X, Y, Z

Pin 7,8: Test Input

Pin 9-10: + 12 VDC power supply

Case: Shielded Ground

Environment/Housing (junction box)

Housing Type: Cast aluminium
Sealed access cover

Housing Size: 193 x 112 x 94 mm

Weight: about 2 kg

Temperature Range: - 20 to 70 °C (operating)
- 40 to 90 °C (non-operating)

Index of Protection: IP 65

Humidity: 0 to 100 % (non-condensing)

Environment/Housing (torpedo)

Housing Type: Aluminium cylinder

Housing Size: 80 mm diameter x ~400 mm

Weight: about 2.5 kg

Temperature Range: - 20 to 70 °C (operating)
- 40 to 90 °C (non-operating)

Index of Protection: IP 68

Waterproof: Up to 5 bars water pressure

Standard AC-63-DH: Full scale 2 g, sensor mating connector and user manual. Borehole cable length to be defined.

Accessories:

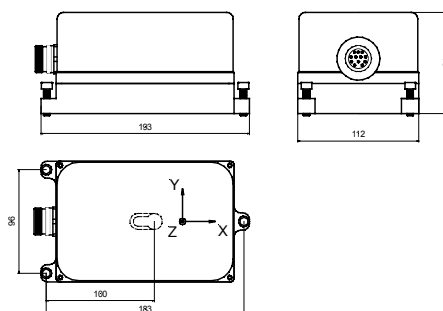
DH-TUBE: 3" inclinometer casing in sections of 3 meters with coupling elements.

Installation kit: All required tools and fixation consumables up to 100 meters of casing.

DH-BALL: Glass Balls for settlement of downhole sensor (25 kg bag)

Ordering Information

Specify: Full-scale range and depth of borehole.



Specifications subject to change

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