

HypoSensor

Force Balance Accelerometer



Model FBA ES-DH is a triaxial downhole package useful for deep borehole installations. The unit consists of three HypoSensor force balance accelerometer modules mounted orthogonally in one small convenient package.

With full-scale recording ranges of ± 0.25 to $\pm 4g$, the HypoSensor provides on-scale recording of earthquake motions even at near-fault locations.

The significant bandwidth of DC to 200 Hz allows engineers and scientists to study motions at higher frequencies while maintaining the very important DC response that allows simple field calibration and reduces post-processing confusion.

Output circuitry is also significantly enhanced. Four types of outputs can be selected by the user: $\pm 2.5V$ single-ended, $\pm 10V$ single-ended, $\pm 5V$ differential or $\pm 20V$ differential.

The $\pm 2.5V$ single-ended output is appropriate for use with traditional Kinematics earthquake recording instruments. The $\pm 10V$ single-ended output and $\pm 20V$ differential output are well suited for use with a wide range of digital recorders currently on the market.

HypoSensor force balance accelerometers are also available in the FBA ES-SB shallow borehole package.

Features

- ◆ Low noise
- ◆ Extended bandwidth – DC to 200 Hz
- ◆ Factory-selectable full-scale range
- ◆ Calibration coil (standard)
- ◆ Single-end or differential output (user selectable)
- ◆ Double-stage transient protection

Options

Single 12Vdc supply	
Internal compass	P/N 110501-PL
Wellhead junction box	P/N 108390-04-PL
EPRI-Youd Wedging System	PN 108365-PL
Yoke adapter for loading poles	PN 105080-PL
Master orientation pole	P/N 105060-PL
Loading pole (10 ft extens. pole)	P/N 105071-PL
Loading pole clamp	P/N 105075-PL
Centering spiders	P/N 108369-PL

Specifications

Dynamic range:	155 dB+
Bandwidth	DC to 200 Hz
Calibration coil:	Standard
Full-scale range:	Factory-selectable at $\pm 0.25g$, $\pm 0.5g$, $\pm 1g$, $\pm 2g$ or $\pm 4g$
Outputs:	User selectable at: $\pm 2.5V$ single-ended $\pm 10V$ single-ended $\pm 5V$ differential $\pm 20V$ differential
Linearity:	$< 1000 \mu g/g^2$
Hysteresis:	$< 0.1\%$ of full scale
Cross-axis sensitivity:	$< 1\%$ (including misalignment)
Zero point thermal drift:	$< 500 \mu g/^\circ C$

Power consumption:	12mA from +/- 12V (Standard Amp) 35mA from +/- 12V (Low Noise Amp) Single supply option available
Operating Temperature:	-20° to $70^\circ C$ (0° to $160^\circ F$)
Housing	Watertight to 1000 psi, 75 mm diameter x 470 mm (3" x 18 3/4" stainless steel type 316)
Weight:	6 kg (13 1/4 lbs)
Ordering Information	Mating connector and cable, P/N 700306-XXX (-XXX: Must specify desired cable length.)