



Advanced Seismic Instrumentation & Research

AFB4.5

P/N 100017



Optical Borehole Fullband High Sensitivity Accelerometer + 4.5 Hz seismometer

The 6-component **AFB4.5** is a deep borehole sonde for use in all types of earthquake studies. Combining a low power, high sensitivity optical accelerometer and a standard 4.5 Hz geophone, it covers the full earthquake and rapid ground-deformation spectrum. The **AFB4.5** is designed for up to 1500 m depths in NQ 3" (76 mm) boreholes with tilts up to 15°. The gimbaled 3-C 4.5 Hz sensor adds an additional level of redundancy as well as high frequency response.



Features

- > coverage of the full earthquake spectrum
- > combination of active and passive sensors
- > high tilt tolerance of up to 15°
- > for permanent or temporary installations

Sensor Parameters

SiA	Sensor Orientations	6-C: A xyz plus V, H1, H2
	Depth Range	0 - 1500 m
	Tilt Tolerance	15°
	Operating Temperature	-40 to +85 °C
	Passband (± 3 dB)	0.008 (125 sec) - 1200 Hz
	Dynamic Range	172 dB
	Supply Voltage (Min)	11 V DC
	Power Consumption	140 mW for 3 comp.
Geophone	Sensitivity	60 V/g
	Clip Level	± 0.5 g
	Natural Frequency	4.5 $\pm$ 0.5 Hz
	Sensitivity	82 V/m/s $\pm$ 7.5 %
	Coil Resistance	3400 Ohms $\pm$ 10 %
	Damping	0.58 $\pm$ 20 %
Sonde Dimensions		
Height		1127 mm
Outer Diameter		61 mm
Weight		10 kg

Cable

Delivered standard with 7 twisted shielded pairs, 1400 kg Kevlar core, non-armored. Can be supplied with cable to meet customer specified requirements and length.