SA10-BHV borehole/posthole accelerometer

The SA10-BHV is a the borehole/posthole version of the SA10 force balance accelerometer.

It finds specific application for microseismic survey and strong motion recording to be accomplished far from surface waves noise.

The passive spring locking system and the original removable orientation tool allow the unit to be used for both permanent and mobile stations.

Ease of use

The SA10-BHV sensor is the SSBHV version of SA10 force balance accelerometeer. Extremely simple to use, both in a borehole or as just buried equipment. It tolerates, any degrees of tilt since FBA is sensitive from DC.

For use in borehole sensors down 10-15 meters it can also be positioned and oriented using a special removable orientation tool with rigid orienting rods. Then it can be recovered by a safety cord.

If a specific orientation is not required the sensor can just deployed with its own weight as ballast or with additional weight to be hanged on the sensor bottom.

If instead, high orienting precision is required a specific orienting key can be applied at the borehole jacket before insertion in the hole.

Precision

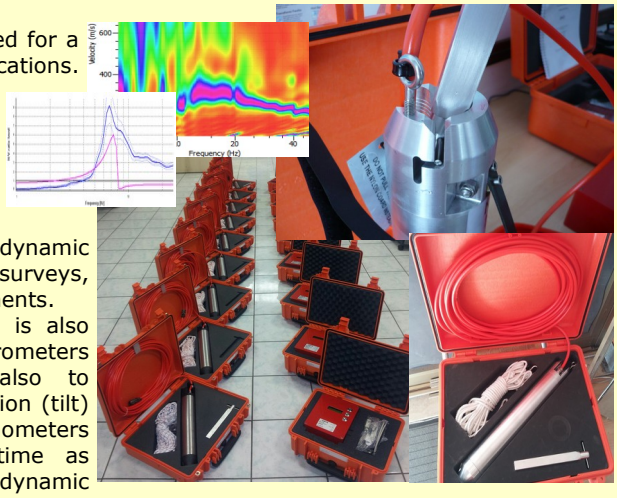
The SA10-BHV is equipped with the reliable SA10 kernel sensors, proven on the field in thousands of axis. Transfer function in poles and zeroes is provided.

Flexibility

This solution allow the user to cover a variety of application from seismic monitor to mining industry and oil&gas applications. The internal room allow also to apply further customization or specific sensors the client would want to use. It is possible to have the casing in both PVC and INOX for aggressive/acid environments, or anodized aluminum for mechanical robustness.

Applications

The sensor can be used for a wide range of applications. From earthquake monitoring to noise surveys if needed, for deep refraction / reflection studies.



You can run dynamic measurement noise surveys, aftershocks measurements. Landslides monitoring is also possible since accelerometers cells are capable also to record static acceleration (tilt) to be used as inclinometers and at the same time as accelerometers for dynamic motion recording.

SA10-BHV Main technical features

Number of axis:	3 (Z vertical, and 2 horizontal)
Leveling:	not available, leveling would depend on the borehole verticality
Maximum leveling tolerance:	90° (recommended maximum 10°)
Casing:	Standard PVC Body with stainless steel jacket
Dimensions:	800 x 70mm (sensor body)
Weight of sensor body:	about 4kg
Total weight:	about 8.0kg with a 15 meter cable
Protection grade:	IP68K+; submersible up to 150mt (if more needed ask to us)
Temperature range:	-20 to +70°C
Bandwidth:	DC-100Hz or DC-200Hz (to be selected at order)
Damping:	0.707 (nominal for all versions)
Inertial mass weight:	15g
Standard sensitivity:	5 V/g (2g at full scale) customizable at order
Output:	+/-10V full differential output
Dynamic range:	> 165dB (from 0.1-20Hz with 1g full scale version per bin)
Offset drift:	0.000001 g/°C
Span drift:	200 ppm/°C
Non linearity:	<=0.1%
Cross axis sensitivity:	<=0.1%
Standard cable:	15 meters geophysical PUR cable with 10 conductors + shield
Connector at cable end:	MIL-C-26842 10 pins or pigtails
Clamping:	passive with leaf spring (other possibility available, ask us)
Power supply:	9-18Vdc
Power consumption:	80-100mA depending on type, configuration, operating conditions
Conformity declaration:	CE

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