SSxx seismometers

Technologies for seismology, engineering and geophysics

The SSxx sensor series are short-period seismometers based on geophones. The available versions are from pure mechanic electrodynamic transducers to force feedback sensors using the popular Lippman compensation circuit. They are avaible for eigenfrequencies of 0.2, 0.5, 1.0, 2.0 and 4.5Hz, named named SS02, SS05, SS10, SS20 and SS45 respectively. Three housings are available: compact, standard and borehole.

Applications

* Observatory grade earthquake seismology
* Structure health monitoring
* Operational Modal Analisys
* Microseismic network
* Dams monitoring
* Soil exploration

Main features

* Mono or Triaxial version available
* Dynamic range up to 160dB
* Extended bandwidth
* Borehole version available
* Robust suspension system
* Slot at bottom for single bolt mounting
* Wall, floor, ceiling mount available upon request
* Low power consumption
* Response files are available through IRIS NRL library
* Made in EU (Italy)
* *Hybrid version with MEMS accelerometer now available !*

Housings

They are available in different housings depending on the used geophone as sensing element. Posthole/Borehole versions are available, borehole version can be equipped with orienting mechanism or hole-lock systems to be used at any level in the downhole pipe. Stainless steel AISI316 housing or titanium are available upon request for hole or marine istallations.

Reliability

These sensors are in operation worldwide by over 20 years and in operation in many different scenarios from O&G surveys, SHM, Microseismic, EEWS, etc…

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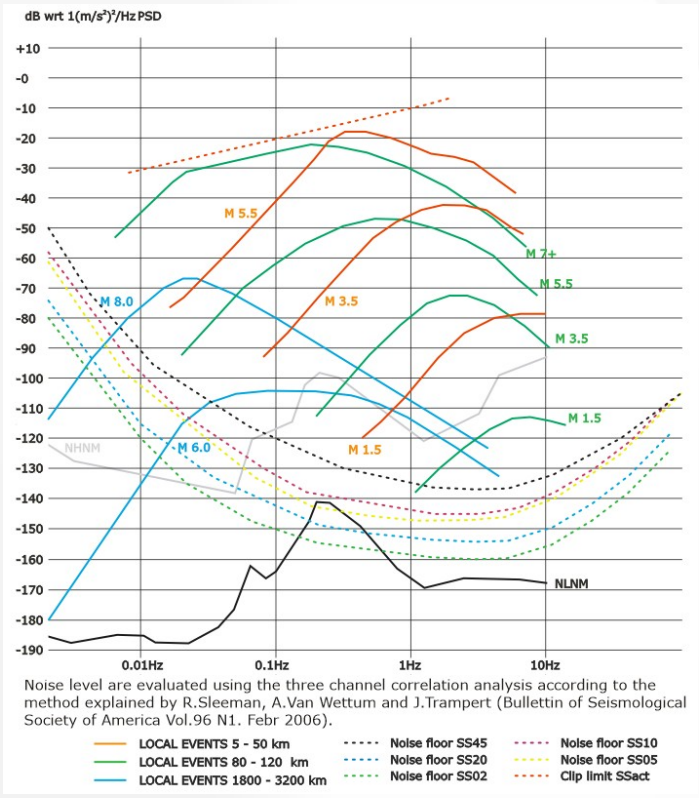
Specifications

Number of axes:	1, 2 or 3 in X, Y, Z or any combinations of the three
Orientation:	horizontal or vertical (wall mount) to be specified at order
Levelling:	manual, with adjusting knobs
Casing:	solid block of aluminum CNC milled and treated against corrosion
Dimensions:	140x155x85mm (except connectors); compact version 170x80x58mm; for borehole/posthole version the diameter is 70mm and highness (depending on versions) is from 700 to 1500mm
Weight:	depending on versions from 1.5kg (1D surface) to 8kg (borehole hole lock version + cable weight, ask for details)
Protection grade:	IP68
Tolerated humidity:	0-100%
Temp. operative range:	-20 to +70°C
Bandwidth/sensitivity:	SS45 typical 4.5Hz→ (with our digitizer useable band 0.2-100Hz) SS20 typical 2.0Hz→ (with our digitizer useable band 0.1-100Hz) SS10 typical 1.0-50Hz (1.0-100Hz optional) 400 or 800 V/m/s SS05 typical 0.5-50Hz (0.5-100Hz optional) 400 or 800 V/m/s SS02 typical 0.2-50Hz (0.2-100Hz optional) 400 or 800 V/m/s
Damping:	0.707
RMS noise:	1Hz and 0.5Hz < 2nm/sec; 0.2Hz < 1nm/sec
Mass locking:	auto-mass-shunt for 0.2Hz and 2.0Hz sensors (optional on 1 and 0.5Hz)
Power supply:	9-36Vdc (<7mA for a triaxial unit in standby, apply to SS10,05,02)
Connector:	MIL-C-26842 10 pin connectors or cable gland
Regulation compliance:	CE



Clip and noise level compared to Peterson's noise models and a list of amplitude of earthquakes

specifications may vary based on customizations

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Notice! This paper is an information leaflet only; it is published without programmed updates. All specifications, features and prices are subjected to changes without any prior notice. In the event of any discrepancies between this document and a commercial offer or bidding document, these latter will take precedence.

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