



The SS45 and SS20 consist of three velocitymeter sensors (electrodynamics sensors) with high gain and eigenfrequency of 4.5 and 2Hz respectively.

This kind of sensor is a good alternative to sensors of 1Hz or less. It can be used to record earthquakes, volcanic activity, microtremor surveys and or reflection and refraction studies.

They can be embedded in SRxx and Slxx instruments.

Simplicity

The SS45 and SS20 are compact, reliable and easy to deploy and use. You do not need to worry about applying the proper damping. They come from our lab with the calibration certificate and a well-defined transfer function expressed in poles and zeroes either in GSE or SEISMORESP format for instant use with SEISMOWIN or other restitution softwares.

Flexibility

Three differential high gain outputs allow them to be used with our digitizers as well with third party digitizers.

Energy

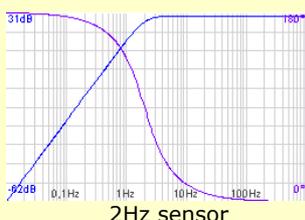
Electrodynamics sensors do not use any power, so they do not impact on the power requirements of the seismic station where they are installed.

Precision

The SSxx sensors uses highly reliable and stable electrodynamic components made in the USA. Assembly in our case made from a solid block of aluminum milled with a high precision machining process guarantees perfect alignment and levelling, the latter being especially important for the 2Hz sensors.

Bode-plot

The following diagrams show the standard amplitude and phase of the sensors.



SS-45 Specifications

Number of channels:	3
Assembly:	Z,Y,X (Z vertical, Y north-south, X east-west)
Orthogonality error:	< 0.01%
Levelling:	manual with lockable feet
Eigenfrequency:	4.5Hz
Useable band*:	0.2-1000Hz
Damping:	0.5--0.7 (specified in the calibration certificate)
Inertial mass weight:	24 g
Nominal sensitivity:	80 V/m/s
Maximum allowed tilt:	Vertical: +/-8°; Horizontal: +/-2°
Mass movement:	0.2mm p-p
Dimensions:	180x170x90mm
Weight:	1500g
Cable length:	standard 3 meters
Connector:	MIL-C 10-pin connectors [#]
Compliance:	CE
Protection grade:	IP66

SS-20 Specifications

Number of channels:	3
Configuration:	Z,Y,X (Z vertical, X north-south, Y east-west)
Orthogonality error:	< 0.01%
Levelling:	manual with lockable feet
Eigenfrequency:	2.0Hz
Useable band*:	0.1-250Hz
Damping:	0.5--0.7 (specified in the calibration certificate)
Inertial mass:	25 g
Nominal sensitivity:	60 V/m/s
Maximum allowed tilt:	Vertical: +/-4°; Horizontal: +/-0.5°
Mass movement:	0.5mm p-p
Dimensions:	190x180x90mm
Weight:	2500g
Cable length:	standard 3 meters
Connector:	MIL-C 10-pin connectors [#]
Compliance:	CE
Protection grade:	IP66

* By useable band we mean the capability of the sensor to resolve useful signals within the Peterson curves (USGS-NLNM) when used with the SR04, SL06 or SL07 seismograph. They could be used with a wider bandpass with digitizers with better noise and sensitivity features; they might not give acceptable results with digitizers with a lower sensitivity and resolution.

[#] Since 2010 our connector standard matches the popular Lennartz-ElectronicTM pinout; sensors, cables and digitizers are now directly compatible with Lennartz-ElectronicTM equipment.

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