

GEO-S120

Seismic Sensor

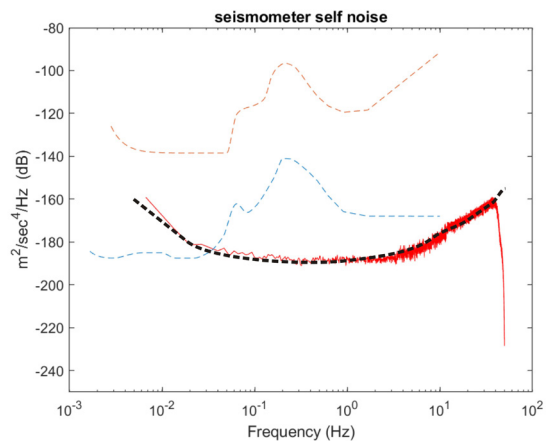
- 3 component broad-band seismometer
- Force Balance with capacitive transducer
- Surface or shallow burry installations
- 150mm diameter, 125mm height
- Aluminium or Stainless Steel casing
- Bandwidth 120sec - 80Hz or 60sec-105Hz
- Sensitivity 1200V/m/s, other options available (1500V/m/s, 2000V/m/s)
- Low power consumption < 1W
- Automatic mass centering
- Very Low Self Noise
- Dynamic range > 155dB @1Hz



FEATURES

Designed and made in Greece the GEO-S120 broad-band seismometer is a product based in years of experience of designing high precision, low noise, and reliable seismic equipment. It is based on a very sensitive capacitive transducer which monitors the position of the seismic mass and a feedback loop that generates signal output proportional to velocity with extended bandwidth 120sec to 80Hz. The instrument has low self-noise so it is ideal for local, regional and teleseismic earthquake recording. No mass lock is required and supports automatic mass centering. The sensor provides calibration input and communication via serial port. The GEO-S120 design is exceptionally versatile, ideal for both direct bury and vault use cases. The seismometer casing is made from hard anodized aluminum or stainless steel.

When combined with our GEOthree or GEOsix datalogger the GEO-S120 provides a true broadband station with low overall power consumption, providing an ideal solution for rapid response applications that require high resolution data. The GEO-S60 version of this seismometer has similar specifications but the output velocity response is flat between 60sec to 95Hz



- Broad-band networks
- Regional seismicity monitoring
- Seismic tomography acquisition
- Induced seismicity monitoring
- Volcano monitoring
- Permanent seismic networks
- Portable seismic networks
- Earthquake early warning systems



INSTRUMENT SPECIFICATIONS

GENERAL

Number of channels, orientation
Bandwidth
Technology
Power
Mounting

S120: 120sec-160Hz

3 channels, Vertical, North-South, East-West
120sec-80Hz
Force-balance with capacitive transducer
9-36Vdc isolated , typical < 1W
Surface mount or shallow burry

S60: 60sec-160Hz

3, Vertical, North-South, East-West
60sec-105Hz
Force-balance with capacitive transducer
9-36Vdc isolated, typical < 1W
Surface mount or shallow burry

OUTPUT

Output Range
Sensitivity
Damping
Noise Level
Clip Level
Dynamic Range

40Vpp
1200 or 1500 or 2000 V/m/sec
0.7 critical
Below NLNM 80sec - 16Hz
16.6 mm/s
>155dB

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CONTROL

Calibration
Mass Centering
Communication
Mass Position

Calibration Input
Automatic/manual mass centering
Serial port, RS232 level
Three independent +/-10V outputs

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Automatic/manual mass centering
Serial port, RS232 level
Three independent +/-10V outputs

PHYSICAL

Cable length
Size
Weight
Casing

Standard 4m
124mm height, 149mm diameter
2.9Kg
Aluminum or stainless steel

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124mm height, 149mm diameter
2.9Kg
Aluminum or Stainless Steel

ENVIRONMENTAL

Temperature range
Humidity
Submersible
Protection

-40 to +60°C
100%, IP68 enclosure
0.5m
Reverse and over voltage protected.
Signal lines are protected

-20 to +60°C
100%, IP68 enclosure.
0.5m
Reverse and over voltage protected.
Signal lines are protected



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