

# GEO-S120

Seismic Sensor

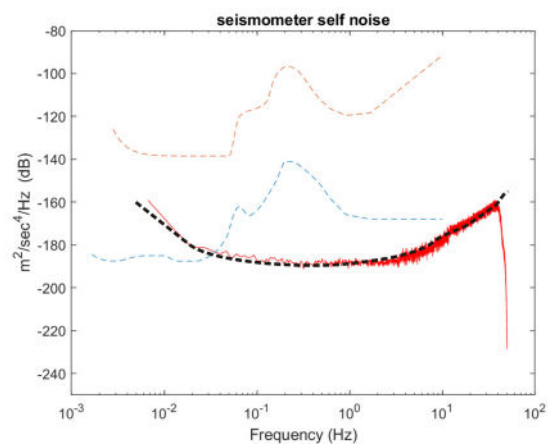
- 3 component broad-band seismometer
- Force Balance with capacitive transducer
- Surface or shallow burry installations
- 150mm diameter, 125mm height
- Aluminium or Stainless Steel casing
- Bandwidth 120sec - 80Hz or 60sec-105Hz
- Sensitivity 1200V/m/s, other options available (1500V/m/s, 2000V/m/s)
- 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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### PHYSICAL

Cable length  
Size  
Weight  
Casing

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

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### 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  
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