

# Specifications for: Sixaola3 version 2

## Unit

The Sixaola is an all-in-one, plug-and-go solution for seismology- [OSOP, S.A.](#) integrates 3 velocity sensors, 3 accelerometer sensors, the digitizer, the hyper damper, the computer and the GPS into a single box. The Sixaola is manufactured in Volcán, Panamá using cutting-edge 3D printing and laser-cutting technology.

Parameter	Value
Version	Sixaola2 version 3
Dimensions	160 mm x 160 mm x 90 mm
Weight	1.3 kilograms (2.9 pounds)
Housing	Corrosion-resistant poly-carbonate plastic enclosure Metallic enclosure available (optional)
Connectors	Ethernet (RJ-45), GPS, Power
Immersion Rating	IP67 (Submersion to 1 meter when properly mating cables)
Mounting	Aluminum base plate with anchoring slot
Alignment	North reference printed on card
Installation Considerations	Designed for plug-and-go installation Bore and post-hole versions available upon request

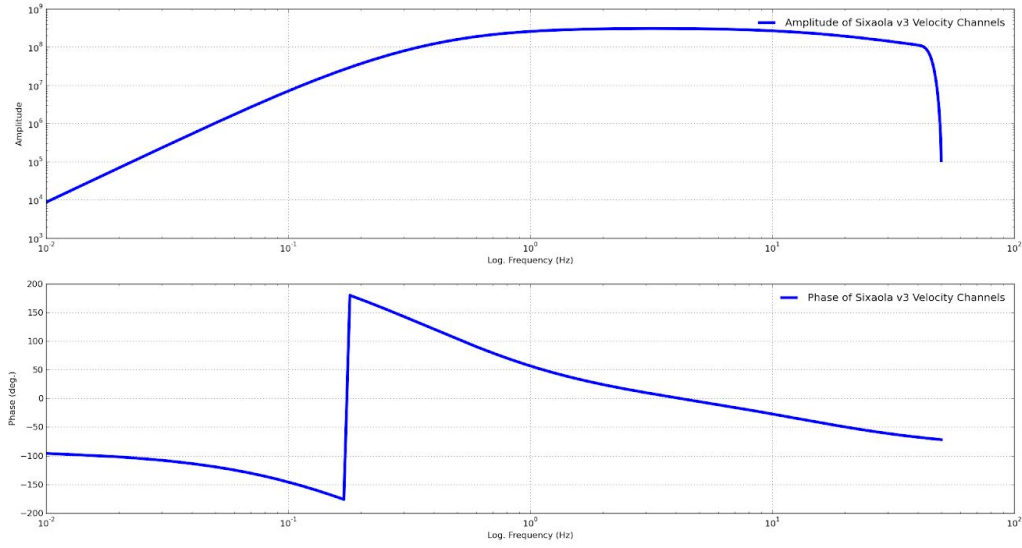
Operating Temperature Range	0 a 50 Celcius Non-condensing humidity 95%
On Board Computer	BeagleBone Black or equivalent
Storage Device	8 Gb USB
Timing	GPS or NTP (if networking available)

## Seismograph

Parameter	Value
Type	3-component 0.5 Hz (2 second) sensor
Samples per second	100
Flat Frequency Response	0.5 Hertz (2 seconds) to 80% Nyquist
Poles	-1, -3.03, -3.03, -94.5
Zeros	0, 0, 0
Sensitivity	3E+08 counts/ meter/ second +/- 5% precision
Clip Level	+/- 8,388,608 counts
Bits	24
Effective bits	22 @ 100 Hertz (for the entire analog to digital hardware chain)

Mass Centering	Not required
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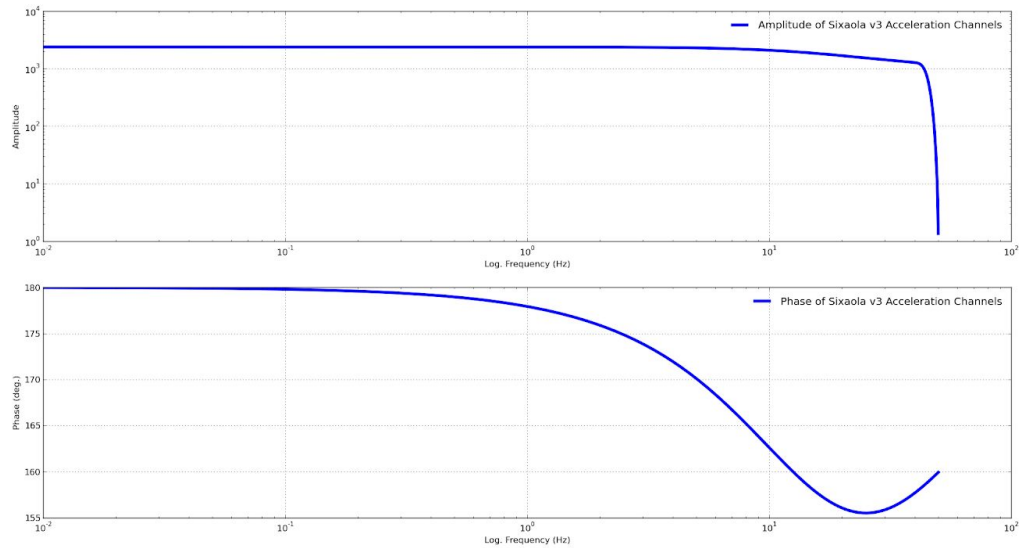
Velocity Channel Instrument Response:



Accelerograph

Parameter	Value
Type	MEMS
Samples per second	100 or disabled
Clip Level	+1G to -3G
Bits	14

## Accelerometer Channel Instrument Response:



## Software

### Software installed on Sixaola's on-board computer

Native SeedLink Server

Web-interface (HTML) for remote configuration

Blue Tooth/ Blue Term enabled for configuration with an Android device

O-Triggers- OSOP's implementation of the Carls trigger algorithm

Software to store continuous data and triggered waveforms in miniSEED format

Operating System: ArchLinux

*Also Available Upon Request:*

- Earthworm export transmission protocol (e.g., export\_generic)
- OSOP Zero Config Server transmission protocol - TCP/IP broadcast (1-way) data transmission to central Zero Config Server
- Gempa CAPS transmission protocol
- Vtun- tunneling software to break through Firewalls

## Communications

Parameter	Value
Digital bandwidth consumption at 100Hz, 6 channels	Tx 286 B/ s - 1 kB/ s Rx 95 B/ s - 360 B/ s 34-70 Mb/ day
TCP/IP compatible	
Compatible with Ethernet, Cell modem, GPRS, Satellite	

## Power

Parameter	Value
Power Supply Voltage	12-15 Volts DC
Power Consumption	4.2 Watts at 12 Volts; 0.35 Amps
Power Protection	Reverse voltage and over-voltage protected

	Internal, re-settable fuse
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## Notes

Email [tech@osop.com.pa](mailto:tech@osop.com.pa) for instrument response files (formats: SAC\_PZ, RESP, dataless and xml) and user manuals in digital form.