GEOSPACE® Technologies

MARINER® DEEP

OCEAN BOTTOM RECORDER

- Continuous cable-free 4C autonomous recording
- Battery module: 200 days operation
- Built-in full resolution test generator
- Solid-state flash memory: 32 GB per channel
- Internal Heading Sensor
  - 3 Component Magnetic Sensor
  - ± 5° Accuracy
  - Measurements written to header every 2,000 samples

Specifications subject to change at the sole discretion of Geospace Technologies.

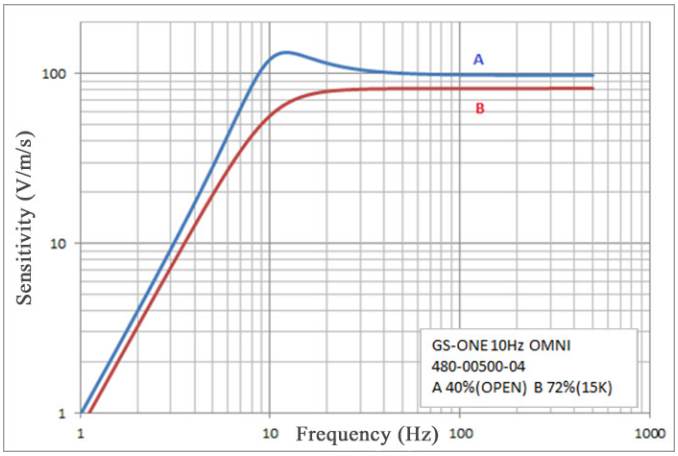
www.GEOSPACE.com

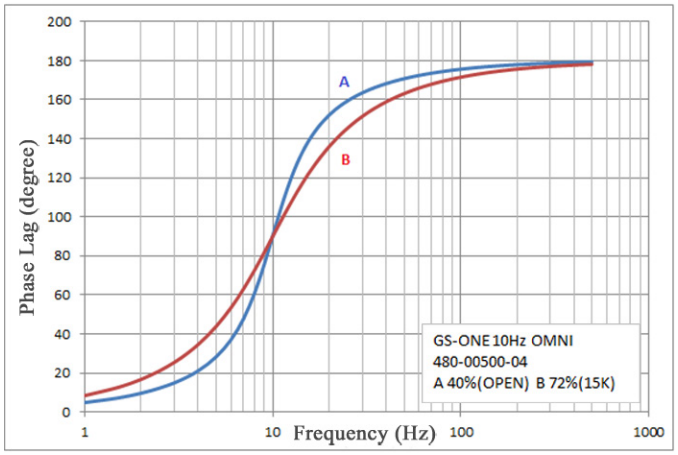
GS-ONE OMNI

10 Hz Geophone

PHYSICAL SPECIFICATIONS		
Moving Mass	13.2 g	0.466 oz
Maximum coil excursion p-p	6.10 mm	0.240 in.
Minimum coil excursion p-p	0.89 mm	0.035 in.
Diameter	30.5 mm	1.2 in.
Height	43.2 mm	1.7 in.
Weight	125 g	4.40 oz
Operating and Storage Temperature Range	–40°C to +100°C	–40°F to +212°F

ELECTRICAL SPECIFICATIONS	
All parameters are specified with 7.5kΩ load at 25°C in all tilt positions unless otherwise stated.	
Frequency	10 Hz
Spurious Frequency	150 Hz
Resistance with Shunt	2500 Ω
Open-Circuit Sensitivity	100 V/m/s (2.55 V/i/s)
Sensitivity at 70% Damping	85 V/m/s (2.15 V/i/s)
Total Damping	70%
Distortion at all tilt angles	<0.2% measured at 12 Hz with 0.1 in/s p-p



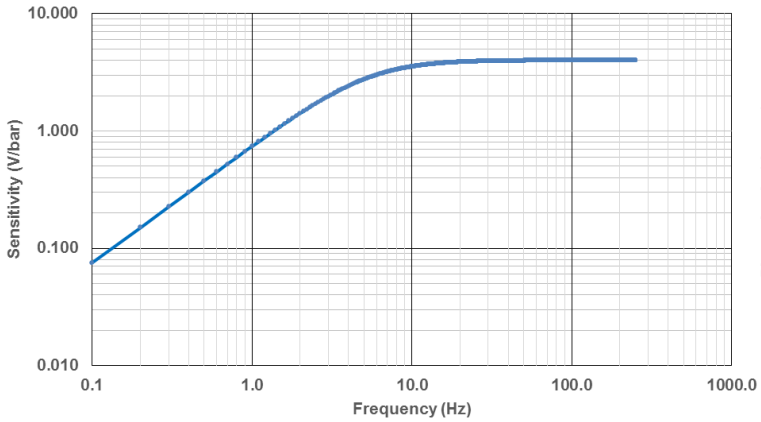


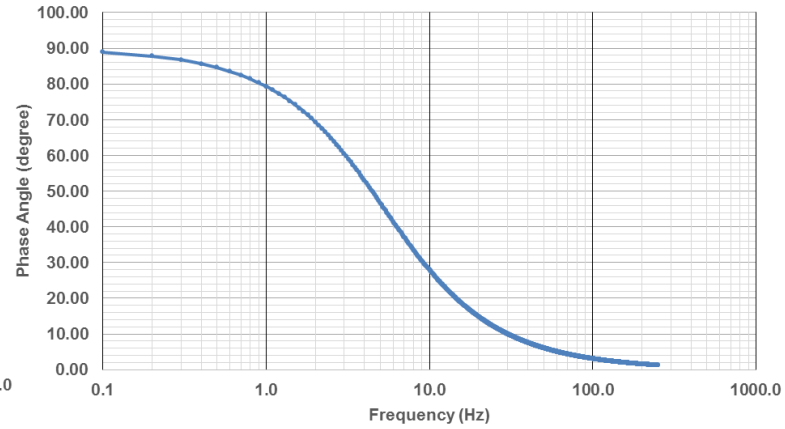
HYDROPHONE

PHYSICAL SPECIFICATIONS	
Maximum Operating Pressure	30.4 MPa (4,400 psi)
Maximum Working Depth	3048 m (10,000 ft.)
Operating Temperature Range[1]	–10 to +75°C (+14 to 167°F)

ELECTRICAL SPECIFICATIONS	
Nominal Capacitance (at 25°C 1atm)	10.0 nanofarads
Voltage Sensitivity[2]	8.9 µV/µBar
Sensitivity (dBv ref 1µPa @ 25°C)	–201 dB re 1V/µPa
Frequency Response (into 2 MΩ load)	2 –30,000 Hz

1. Safe to be used slightly below 0°C as long as water is not frozen. Do not let hydrophone be frozen in ice, as this will cause irreversible damage to the crystals.
2. Voltage Sensitivity is specified when connected to the Mariner Deep.





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MECHANICAL SPECIFICATIONS (HOUSING)	METRIC	US
Length	358 mm	14.1 in.
Width	222 mm	8.8 in.
Height	118 mm	4.7 in.
Weight in Air	18 kg	39.6 lbs.
Weight in Seawater	12 kg	26.4 lbs.
Maximum Operating Pressure	30.4 MPa/304 Bar	4,400 psi
Maximum Operating Depth	3,048 M	10,000 ft.
Operating Temperature Range	–5°C to +60°C	+23°F to +140°F
Storage Temperature Range	–10°C to +60°C	+14°F to +140°F

ELECTRICAL SPECIFICATIONS	
Digitized 4C Recording Station:	4 Channel, 24 Bit A/D Digitizer 3C Orthogonal oriented GS-One OMNI 10 Hz Geophones 1 Hydrophone
Digitization	24-bit Delta-Sigma
Sample Interval	0.5, 1, 2, 4 ms
Pre-amplifier Gains	0, 6, 12, 18, 24, 30, 36 dB
Maximum Input Signal	1.8 Vrms
Equivalent Input noise (@2ms sample interval)	0.12 µVrms
Gain Accuracy	Better than 1%
Anti-alias Filter	83% Nyquist
Instantaneous Dynamic Range	129 dB @ 2 ms sample interval
THD	<0.2%
Distance Between Digitizer & Farthest Sensor	<18 cm
Distance Between All Sensors	<11 cm
Flash Memory	32 GB per channel
Frequency Response	1 Hz – 825 Hz @ 1/2 ms sample interval
Battery Module	200 days operation

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