

SM-11 Geophone

- 30-Hz geophone with high spurious, over 500 Hz, providing wide bandwidth data suitable for up to 1-ms data sampling
- Can be operated in any orientation
- High output through the use of a special magnet and case design
- Rugged mechanical construction can withstand severe shocks
- 2-year limited warranty



The SM-11 geophone is suitable for use in extended frequency, high-resolution surveys. It has a natural frequency of 30 Hz and a spurious frequency of over 500 Hz, providing a sensor suitable for use with 1-ms sampling recording systems. The use of a special magnetic circuit makes the output of this geophone higher than normal 30-Hz geophones, ensuring adequate signal strength. The high natural frequency spring design also allows this geophone to be used in any orientation (vertical, horizontal, or inverted).

The SM-11 can be installed in the I/O Sensor PE-11 land case.

Typical application: high-resolution seismograph reflection studies.

Specifications

INPUT/OUTPUT, INC.

SM-11/U-FT

Frequency

Natural frequency (f_n)	30 Hz
Tolerance	±5%
Maximum tilt angle for specified f_n	180°
Typical spurious frequency	>500 Hz

Distortion

Distortion with 0.7 in/s p.p. coil-to-case velocity	<0.2%
Distortion measurement frequency	30 Hz
Maximum tilt angle for distortion specification	180°

Damping

Open-circuit damping	0.55
Open-circuit damping tolerance	±5%

Resistance

Standard coil resistances	360 Ω
Tolerance	±5%

Sensitivity

Open-circuit sensitivity	30 V/m/s (0.75 V/in/s)
Tolerance	±5%
$R_1 B_c f_n$	7,785 Ω Hz
Moving mass	9.2 g (0.32 oz)
Maximum coil excursion p.p.	>1 mm (>0.04 in)

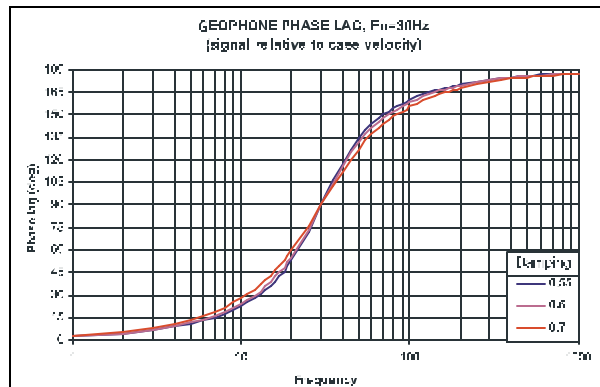
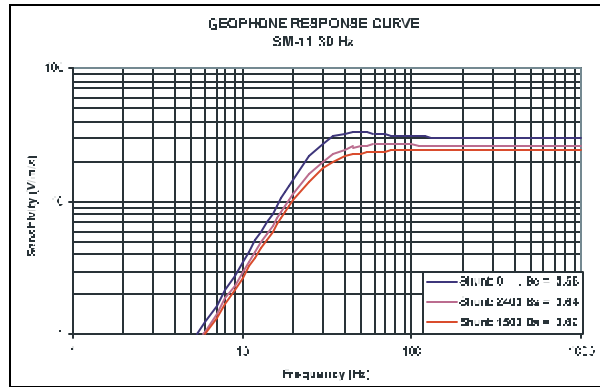
Physical Characteristics

Diameter	26.6 mm (1.02 in)
Height	32 mm (1.26 in)
Weight	89 g (3.13 oz)
Operating temperature range	-40°C to +100°C (-40°F to +212°F)

Limited Warranty Period*

2 years
 * Warranty excludes damage caused by high-voltage and physical damage to the element case.

All parameters are specified at +20°C in the horizontal position unless otherwise stated.



Ordering Information

SM-11

SM-11/U-FT	30 Hz 360 Ω (upright)	P/N 1011010
SM-11/H-FT	30 Hz 360 Ω (horizontal)	P/N 1011030

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