



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 $\pm 5\%$
 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 $\pm 5\%$

Resistance

Standard coil resistances 360Ω
 Tolerance $\pm 5\%$

Sensitivity

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

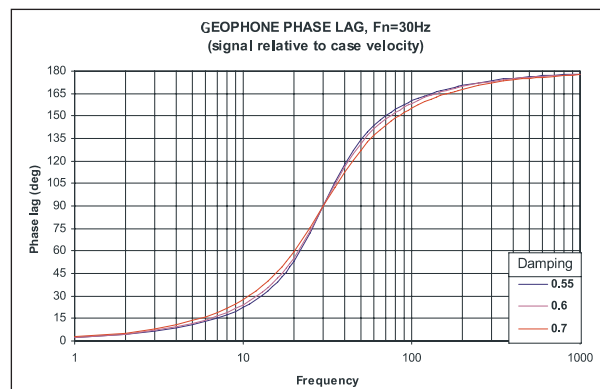
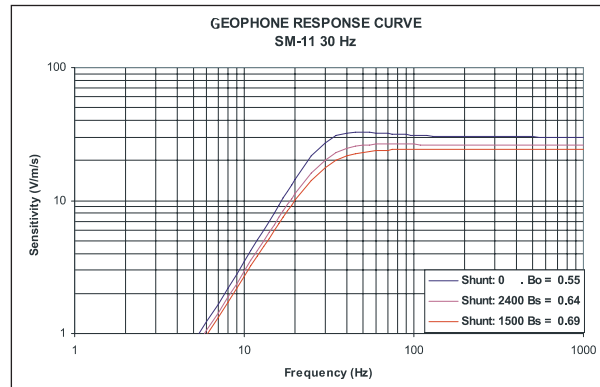
Physical Characteristics

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 $+100^\circ\text{C}$ (-40°F to $+212^\circ\text{F}$)

Limited Warranty Period*

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

All parameters are specified at $+20^\circ\text{C}$ 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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