

SM-15 Geophone

- 14-Hz natural frequency with high spurious, over 500 Hz, provides extended frequency bandwidth
- Suitable for 1-ms recording sample period
- Vertical and horizontal versions are suitable for multi-component applications
- 2-year limited warranty



The SM-15 geophone is a wide-bandwidth, digital-grade geophone suitable for use with data recorders, sampling at up to 1-ms period. The geophone is available in vertical or horizontal versions, making it suitable for extended frequency, multi-component recording. The SM-15 is a good choice for economical seismograph operations where sensor's bandwidth flexibility is important.

The SM-15 can be installed in a variety of I/O Sensor geophone cases.

Typical application: high-resolution seismograph reflection surveys.

Specifications

INPUT/OUTPUT, INC.

SM-15/U-B 14 Hz 375 W

Frequency

Natural frequency (f_n) 14 Hz
 Tolerance $\pm 5\%$
 Maximum tilt angle for specified f_n 25°
 Typical spurious frequency >500 Hz

Distortion

Distortion with 0.7 in/s p.p. coil-to-case velocity $\leq 0.2\%$
 Distortion measurement frequency 14 Hz
 Maximum tilt angle for distortion specification 20°

Damping

Open-circuit damping 0.18
 Damping calibration-shunt resistance 645Ω
 Damping with shunt 0.60
 Tolerance with shunt $\pm 5\%$

Resistance

Standard coil resistance 375Ω
 Tolerance $\pm 5\%$

Sensitivity

Open-circuit sensitivity 28.8 V/m/s (0.73 V/in/s)
 Tolerance $\pm 5\%$
 $R_1 B_c f_n$ $6,000 \Omega \text{ Hz}$
 Moving mass 11 g (0.38 oz)
 Maximum coil excursion p.p. 2 mm (0.08 in)

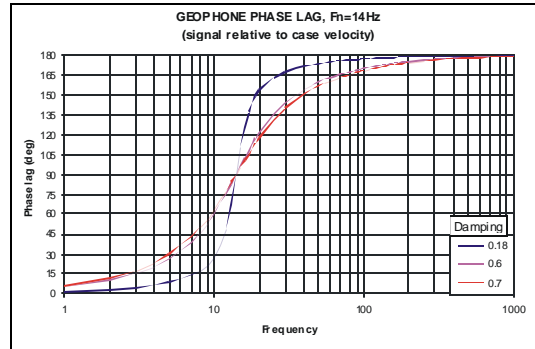
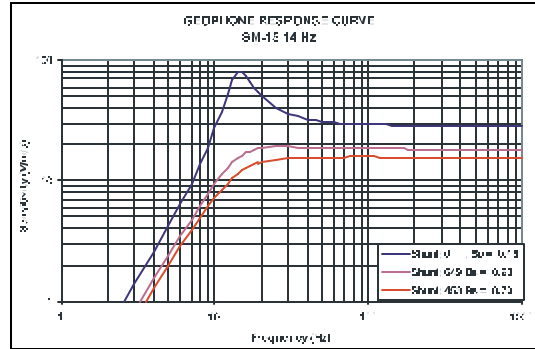
Physical Characteristics

Diameter 25.4 mm (1 in)
 Height 32 mm (1.26 in)
 Weight 74 g (2.6 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 vertical position unless otherwise stated.



Ordering Information

SM-15

SM-15/U-B 14 Hz 375 Ω (upright) P/N 1015010
 SM-15/H-B 14 Hz 375 Ω (horizontal) P/N 1015020

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