



The **EP-105** Series instruments are designed as versatile, compact, lightweight, very rugged broadband seismic sensors. Unlike traditional seismometers, they are based on proprietary electrochemical transducer technology that provides many advantages over the conventional electromechanical seismometers. In particular, **EP-105** noise curve is essential flat starting from about 50Hz toward the longest periods. Each of the three identical sensor elements in **EP-105** is equipped with an efficient electrodynamic force-balancing feedback.

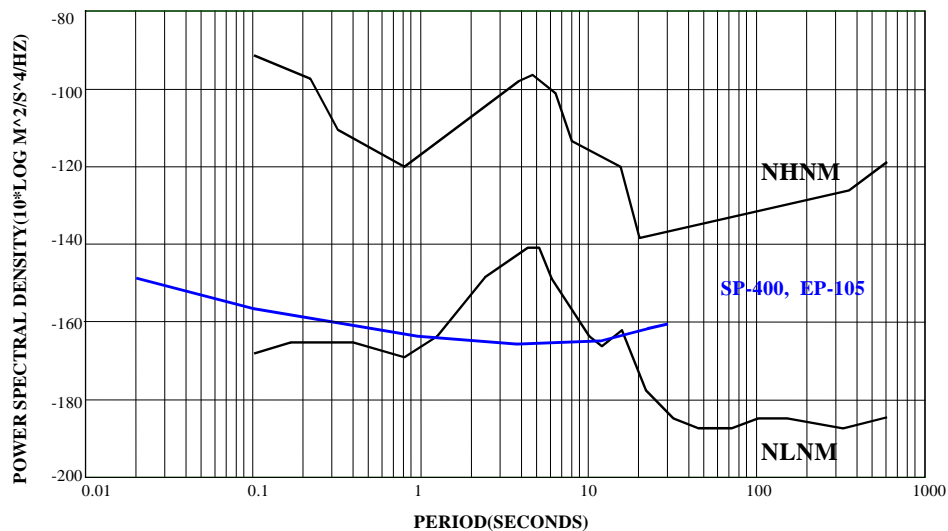
The instruments are offered in two application-dependent versions. The standard **EP105-(LN)** is the reduced noise version. An optional model, **EP105-SM** has a higher clip level and is used for strong motion applications. Both versions have the same dynamic range, which is shifted up by approximately 10db in the '**SM**' relatively to the standard '**LN**' version. Also available are a single component version **EP105-U**, a very low power customized lightweight. Also available is a (OBS) **EP105-OBS**.

The **EP105** has an exceptionally rugged design and **DOES NOT** require mass lock or mass centering, special installation equipment, or technical installation procedures. The units are operational over a wide range of installation tilts. Optional inclinometers may be installed. The **EP105** seismometers provide a low cost of ownership, **REQUIRING** no maintenance over the life of the instrument. Three and five-year extended warranties are available.

## EP-105 Specifications

PARAMETER	EP105	EP105-OBS
Operating principle	Force-balanced Proprietary Electrochemical Sensor	
Output signals	2 horizontal, 1 vertical; broad band, velocity flat response	
Standard output swing: Same, Low Power Version	$\pm 10$ V single-ended; ( $\pm 20$ V p-p)	See Low Power Version below
	$\pm(V_{cc}-1)$ single-ended; $\pm 2(V_{cc} - 1)$ p-p <sup>1</sup>	
Dynamic Range	142 dB	
Bandwidth	0.033 – 50 Hz	
Generator constant	Standard: 2000 V/m/s; Optional: 350 – 20,000 V/m/s	
Self noises	Below the USGS NLNM at 0.06Hz to 5Hz	
Mass Lock	NONE REQUIRED	
Mass centering	NONE REQUIRED	
Maximum installation tilt	$\pm 12^\circ$	
Mechanical resonances	none	
Environmental	Waterproof, submersible (1m)	Vacuum tight to 0.5 atm
Temperature range	-12 to + 55 °C	
Housing material	Aluminum	Custom
Case diameter	200 mm (4.5 inches, 114.3mm borehole)	Custom
Case height	220 mm	Custom
Weight	8kg	Custom
Installation	Level legs, NO MASS CENTERING	Custom
Power – Regular	10 – 15 Vdc; (Nominal 12Vdc); 28mA	
Power – Low power <sup>2</sup>	5 – 15 Vdc; 12mA @ 12 Vdc	
Connectors	14-pin circular	Custom

## NOISE CURVES



<sup>1</sup> Vcc is the external regulated power supply voltage.

<sup>2</sup> Low-power option requires external battery or a regulated power source.

Specifications subject to change without notice

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