

FORCE-BALANCED RUGGED BROADBAND SEISMOMETERS

EP-105/EP-105OBS

The **EP-105** Series instruments are designed as versatile, very rugged broadband seismic sensors. Unlike traditional seismometers, they are based on proprietary electrochemical transducer technology¹. These transducers have many advantages over conventional electromechanical sensors.



Each of the three identical sensors is equipped with a *force-balancing feedback* and the *noise floor is significantly reduced as compared to the previous models*. The sensors are offered in two application-dependent versions: **EP-105SM** with a higher clip level, and **EP-105LN** with reduced noise. Both versions have the same dynamic range, which is shifted up by approximately 10db in the '*SM*' relatively to the '*LN*' version. A single component instrument is also available.

The **EP-105** has an exceptionally rugged design and **DOES NOT** require either mass lock or mass centering, or special installation equipment or procedures.

The units are operational in a wide range of installation tilts. Optional inclinometers may be installed.

A 125mm diameter borehole package (single or three-components) is available. The **EP-105** seismometers provide a low cost of ownership, **REQUIRING** no maintenance over the life of the instrument. Three and five-year extended warranties are available.

¹ US patent No.6,576,103

Specifications subject to change without notice

Sales and Marketing
625 N. Euclid Ave., Suite 404, St. Louis, MO 63108
Tel: 314-454-9977 Fax: 314-454-9979

email: sales@eentec.com Web Sites: www.eentec.com

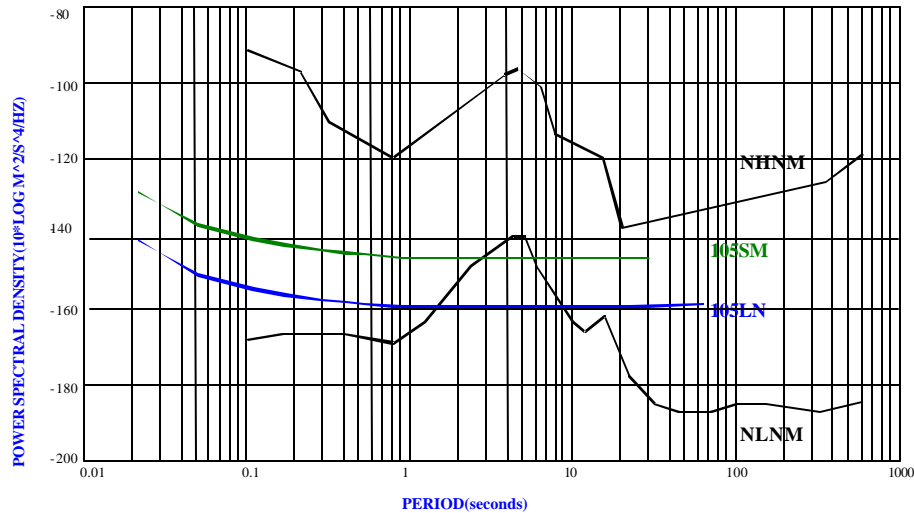
Plant
105F West Dudleytown Rd., Bloomfield, CT 06002
Tel: 860-242-8177 Fax: 860-242-7812

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EP-105 Specifications

PARAMETER	EP-105	EP-105OBS
Operating principle	Force-balanced Proprietary Electrochemical Sensor ¹	
Output signals	2 horizontal, 1 vertical; broad band, velocity flat response	
Standard output swing: Same, Low Power Version	± 10 V single-ended; (± 20 V p-p)	See Low Power Version below
	$\pm(V_{cc}-1)$ single-ended; $\pm 2(V_{cc} - 1)$ p-p ²	
Dynamic Range	135 dB	
Bandwidth	Standard: 0.033 – 50 Hz; Optional 0.0167 – 50 Hz	
Generator constant	Standard: 2000 V/m/s; Optional: 350 – 20,000 V/m/s	
Mass Lock	NONE REQUIRED	
Mass centering	NONE REQUIRED	
Maximum installation tilt	$\pm 10^\circ$	
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	200mm	Custom
Case height	220mm	Custom
Weight	6.5kg	Custom
Mounting connection	n/a	Custom
Power – Regular	9 – 13 Vdc; (Nominal 12Vdc); 28mA	
Power – Low power ³	6 – 16 Vdc; Optional: $\pm(6 - 16)$ Vdc; 7.5 mA	
Connectors	14-pin circular	14-pin flat cable header

NOISE CURVES



² Vcc is the external regulated power supply voltage.

³ Low-power option requires external battery or a regulated power source.

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