



**COMPACT ECONOMICAL
DIGITAL BROADBAND
SEISMOMETERS
EP-105d, EP-105d-OBS**



The **EP-105d** Series instruments are designed as versatile, compact, lightweight, very rugged broadband 24-bit digital seismic sensors. Unlike traditional seismometers, they are based on proprietary force-balanced transducer technology that provides many advantages over the conventional electromechanical seismometers. In particular, **EP-105d** noise curve is essential flat starting from about 1Hz toward the longest periods. Each of the three identical sensor elements in **EP-105d** is equipped with an efficient electrodynamic force-balancing feedback.

The instruments are offered in two application-dependent versions. The standard **EP105d-LN** is the reduced noise version. An optional model, **EP105d-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 15dB in the 'SM' relatively to the standard 'LN' version. The **EP105d** instruments have been recently re-designed and replaced similar **EP105** seismometers. The 'd' instruments are equipped with 24-bit digitizer based on low power 400MHz ARM CPU while maintaining the same high performance characteristics. Also available are a single component version **EP105dU**, a very low power customized lightweight, compact ocean-bottom seismometer (OBS) **EP105d-OBS**, and a borehole/posthole model **EP105d/BH**

The **EP105d** 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 **EP105d** 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-105d Sensor Specifications

PARAMETER	EP105d	EP105d-OBS
Operating principle	Force-balanced Proprietary Sensor	
Output signals	2 horizontal, 1 vertical; broad band, velocity flat response	
Dynamic Range	140 dB	
Bandwidth	0.033 – 50(100 optional) 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	$\pm 15^\circ$	
Mechanical resonances	none	
Environmental	Waterproof, submersible (1m)	Vacuum tight to 0.5 atm
Temperature range	-23 to + 65 °C	
Housing material	Aluminum	Custom
Case diameter	214 mm	Custom
Case height	205 mm	Custom
Weight	8kg	Custom
Mounting connection	n/a	Custom

EP-105d Digitizer Specifications

PARAMETER	EP105d/ EP105d-OBS
Channels	3
ADC	24 bit, individual for each channel
Sampling rates	1*, 10*, 20*, 25, 50, 100, 125*, 200, 250, 400*, 500, 800*, 1000, 2000*, 4000*Hz
Gain G	1, 2, 4, 8, 16, 32, 64
Dynamic range @100Hz, RMS-FS, G=1	134 dB
Dynamic range @25Hz, RMS-FS, G=1	140 dB
Dynamic range @1Hz, RMS-FS, G=1	148 dB
External power supply	9-28/36 VDC
Power consumption	< 1.5 W (rec, 3 ch, Ethernet on)
Memory type	microSD, 2pcs, for system and data
Memory size	32 GB (64, 128 GB options) FAT32/EXT4
Data format	miniSEED
User interface	WEB, smartphone compatible, with SOH monitoring
Networking	Ethernet 10/100 (opt. WiFi 802.11b/g/n, GPRS/3.5G, USB 2.0**, RS232)
Ethernet protocols	HTTP, SCP, SSH, FTP***, Telnet***, Seedlink
Data streaming	Seedlink 3.1, compatible with Seiscomp, EarthWorm, Geopsy etc.
Temperature range	-40 .. +85 °C
Alarms(optional)	4 levels, 4 relays
Recording	continuous or Level, STA/LTA triggers
Timing stability (-25..+60°C)	± 0.3 ppm, GPS/Glonass/Beidou or NTP(opt.)
Input impedance	100 kOhm 1000 pF

* optional

** without Wi-Fi or 3.5G

*** without SCP / SSH

Specifications subject to change without notice

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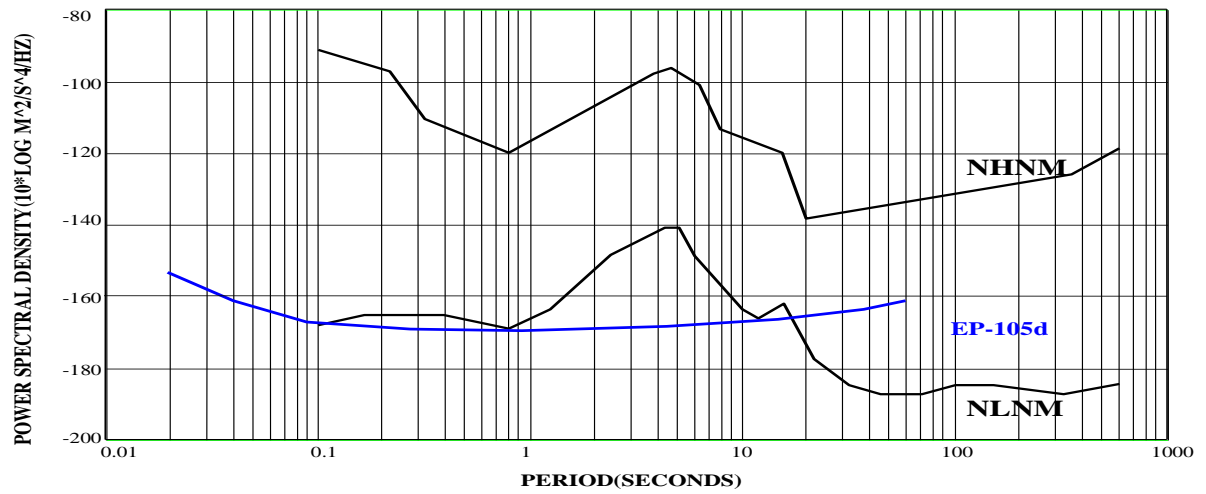
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Kariu Kapu g. 9-7,
Vilnius LT-10313 Lithuania

Tel: +37063633438

e- mail: sales@eentec.com Web Site: www.eentec.com

NOISE CURVE



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