PMD SCIENTIFIC, INC

ROBUST MEDIUM PERIOD REDUCED NOISE SEISMOMETERS

MP473

The MP473 seismometer is a variation of our popular MP413 family of extremely rugged, compact medium period instruments. Similarly to all PMD seismometers, these devices are based on proprietary electrochemical transducer technology[1] which affords them many advantages over conventional electromechanical sensors.

This seismometer contains three identical sensors for its vertical and horizontal components. The efficient electrodynamic force-balancing feedback provides for excellent parameter stability and linearity.

All MP473 seismometers contain microcontrollers which maintain exceptionally accurate parameter stability over the full operating temperature range and over the life of the instrument. Optionally, the microcontroller can also generate calibrating sine or other waveform signals. The calibration can be initiated by applying a logic level to the Calibration Enable input or via an optional serial port. If the latter is provided, the user can also select and set the Generator Constant value in the 350-20,000 V/m/s range.

The MP473 has an exceptionally rugged design, does not require mass lock or special installation equipment or procedures and stays operational in a wide range of installation tilts. These seismometers provide a low cost of ownership, ***requiring no maintenance*** over the life of the instrument. This seismometer is also offered in an 83mm diameter borehole package (MP473-BH and a uniaxial MP481-BH). For a compact, lighter weight version refer to model MP483.
Three and five-year extended warranties are available.

[1] US patent No.6,576,103

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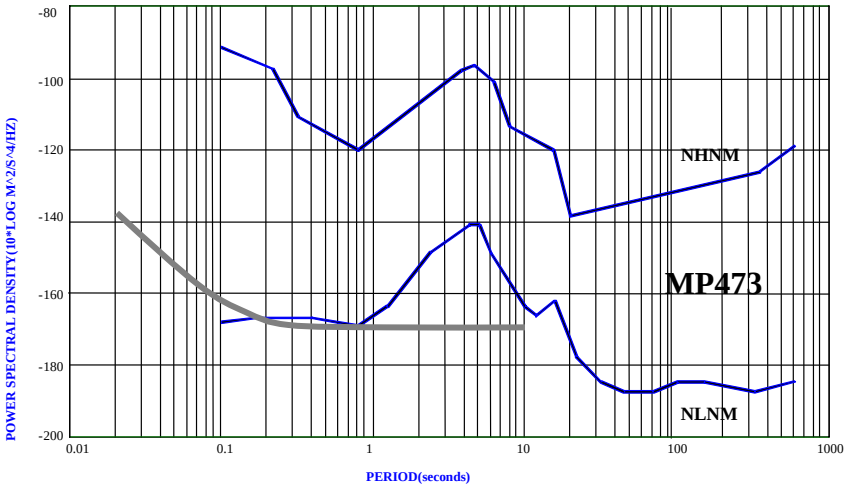
MP473 Specifications

PARAMETER	MP473
Operating principle	Proprietary Electrochemical Sensors; force-balanced
Output signals	2 horizontal, 1 vertical; velocity flat response
Output swing:	±10 V single-ended; (±20 V p-p)
Dynamic Range	150 dB
Passband	0.1 – 50 Hz
Generator constant[2]	Standard: 2000 V/m/s; Optional: 350 – 20,000 V/m/s
Calibration input	Std: 1kΩ; 1V in – 1V out; Optional – internally generated calibration waveforms initiated via optional serial port
Mass Lock	NONE REQUIRED
Mass centering	NONE REQUIRED
Maximum installation tilt[3]	±10 °
Mechanical resonances	>140Hz
Environmental	Waterproof, submersible (1m)
Temperature range	-12 to + 55 °C
Housing material	Aluminum
Case diameter	155 mm
Case height	185 mm
Weight	5.5 kg
Power – Std. SP400c/400cU	5 – 30 Vdc; 28mA @ Nominal 12Vdc
Power – Low power version	5 – 15 Vdc; 12mA @ Nominal 12 Vdc
Connectors	Main 14-pin circular Optional Serial Port: 3-pin circular

MP473 NOISE CURVE



[2] Factory preset or selected via an optional serial port

[3] All three sensors stay fully operational; however their sensitivity axes will rotate in accordance with the tilt.

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