

CME-4211ND

Digital broadband seismometer

CME-4211ND is a digital 3-component broadband seismometer. The rugged housing includes a broadband seismometer and a 24-bit autonomous data acquisition system.

With its small size and light weight, real easiness in operation, mechanical reliability and low energy consumption, this seismometer can be an irreplaceable device for field geophysical surveys.

While equipping permanent seismic stations, a reasonable price combined with recordings of broadband signals of long-distance earthquakes will be attractive.

Moreover, CME-4211ND is excellent for monitoring of engineering structures as a part of timely or permanent deployment systems.

In addition to the standard version designed for field surveys, the seismometer is also available for boreholes of over 108-mm diameter.



Sensor specifications

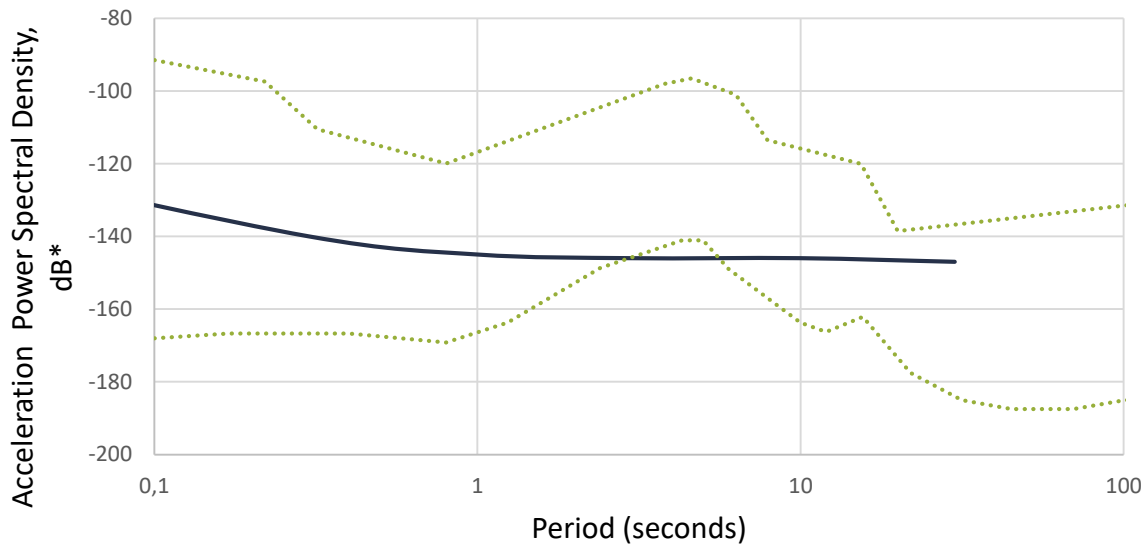
Sensor type	Molecular-electronic seismic sensor
Axes	Up, North, East
Sensitivity	2000 $\frac{\text{V}}{\text{m/sec}}$ or by customer specification
Clip level	5 mm/sec
Bandwidth	0.033 (30 sec) – 50 Hz or customized down to 60 sec and up to 100 Hz
Dynamic range at 1 Hz	113 dB
Cross-axis coupling	-60 dB
Nonlinearity at 1 Hz	0.5%
Temperature range	Standard -12°C - +55°C (10.4°F - 131°F) Low-temperature -40°C - +55°C (-40°F - 131°F)
Cold-start time	15 - 45 min
Maximum installation tilt	±15°
Leveling, mass locking	Not required
Intrinsic noise	76 nm/sec (152 μV) for 0.033 – 50 Hz bandwidth <i>See Noise Performance figure below</i>

Digitizer specifications

ADC type	Sigma-delta
Number of channels	3
ADC sampling rate	1, 10, 50, 100, 250, 500, 1000 Hz
ADC resolution	24 bit
ADC noise performance @ 100 sps	22 ENOB at gain = 1
GNSS receiver	GPS / GLONASS
GNSS timing accuracy	< 1 μs
Data recording mode	Continuous Schedule
Data recording format	Internal binary, miniSeed, SEG converter
Data storage	32 Gb flash storage
Data transfer	High-speed USB 2.0 Wi-Fi IEEE 802.11b/g/n
Temperature range	-40 ... +85 °C
Inbuilt sensors for device health monitoring	Temperature sensor Voltage supply

Noise Performance

CME-4211 Noise Performance



*PSD is calculated in decibels with respect to $1 \frac{m}{\sqrt{Hz} \cdot sec^2}$.

Electric specifications

Standard supply voltage	12 V Nominal (9-36 V permissible) or 5 V from USB
Power consumption during stand-alone recording	< 1 W

Mechanical specifications

Connector type	10-pin PC-10 multipurpose connector SMA-A for active/passive GPS/GLONASS antenna SMA-A for Wi-Fi antenna Amphenol Straight Panel Mount USB-B
Delivery set	1.5 m USB A-B cable 3 m GPS antenna Wi-Fi antenna SMA A/B adapter 32 GB microSD card installed 0.6 m PC-10 USB cable 1.5 m Analogue cable
Weight	5.0 kg
Dimensions	Diameter 180 mm Height without handle 160 mm Height with handle 195 mm
Case	Aluminum
Case accessories	Bubble level, handle, 3 feet, 2 pointers