eNode land seismic solution

Design scalable, fit-for-purpose survey geometries for advanced reservoir characterization

Operating temperature range:
–40 to 70 degC [–40 to 158 degF]

Time:
28-days autonomy at –40 degC,
24-hour continuous recording

Node weight:
150 g, the lightest-weight node per receiver station

Where it is used

Any onshore environment or terrain and especially suited to

- difficult terrains with limited access
- areas with complex geology and challenging near-surface conditions
- climates with short acquisition seasons

How it improves operations

- Increases operational efficiency and reduces project duration via faster receiver roll capability
- Minimizes HSE exposure by reducing crew size and transportation needs
- Reduces environmental footprint and associated permitting, clearance, remediation, and compensation costs and time
- Enables high-density receiver geometry to better illuminate complex subsurface structures, subtle changes, and small features

How it revolutionizes land seismic acquisition

- Lowest-cost nodes, enabling small- or large-area survey deployment scalable up to unlimited channel counts
- Lightest-weight node in the industry for reduced handling
- Full technical and operational support and training
- Flexible business models, lowest cost of ownership

What else I should know

The WesternGeco® eNode* land seismic solution addresses a wide range of land seismic challenges including complex imaging, difficult terrain, and environmental factors. The ultralow-cost nodes enable scalable, fit-for-purpose survey designs in virtually any environment or terrain—meeting the precise needs of your operation while minimizing HSE exposure. This enables you to deploy current acquisition geometries at substantially lower costs and less time. Or you can increase receiver grid density at costs that are more economical than using conventional receiver technology.

The eNode land seismic solution comprises the lightest-weight node in the industry.

eNode Land Seismic Solution Specifications	
Sensor type	One-component piezoelectric accelerometer
Node weight	150 g
Dimensions	
Diameter	4.1 cm [1.6 in]
Length	12.9 cm [5.1 in]
Recording autonomy	28 days at 24-h continuous recording
Operating temperature range	–40 to 70 degC [–40 to 158 degF]
Charging and data download time	Less than 4 h fully discharged
Frequency range	1–125 Hz
Output sample interval	2 ms
Sensor polarity	SEG
Output data format	SEG-D, Rev. 3
Output data media	Network-attached storage (NAS) disc drives
A/D converter	24-bit sigma-delta
Timing accuracy	Global navigation satellite system (GNSS) disciplined
Supported GNSS constellations	GPS, GLONASS (timing and positioning)
Gain steps	16 dB or 0 dB
Maximum input signal level (peak)	0.12 g at 16 dB, 0.71 g at 0 dB
Noise density (1–125 Hz)	22 ng/√Hz at 16 dB, 65 ng/√Hz at 0 dB
DC, low-cut filter	–3 dB at 0.5 Hz, 18 dB/octave
Battery type	Lithium ion
Water ingress	IPX8-rated construction (sealed casing)—10 m, 72 h
Ground coupling attachments (optional)	Spike or base plate via connector recess at base of unit
Safety	Battery monitoring in charger
	Battery cell compliant with UN38.3 and IEC 62133 test specifications

Typical values at 25 degC [77 degF] unless otherwise stated.
All specifications are subject to change without notice.

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