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ARTIUS

A DIGITAL BROADBAND NODE FOR LARGE N ARRAYS



Easy deploy, ultra-portable digital, triaxial, broadband seismometer in node form for dense temporary arrays

KEY FEATURES

> 30 s to 200 Hz
> Flexible power options, including lithium power packs
> Seismometer with integrated digitiser and internal GNSS timing
> Push deployment
> Wireless configuration via Bluetooth
> Rack mounted data download with output to miniSEED

APPLICATIONS

> High resolution imaging using portable high density networks
> Network densification
> Rapid response
> Temporary seismic investigations

Artius

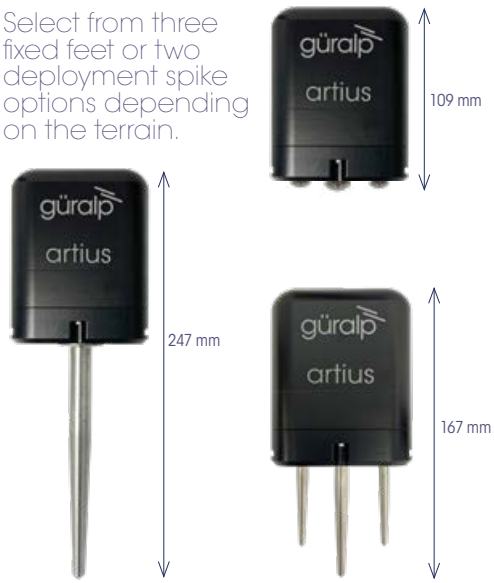
An ultra-compact node housing a three-component, digital broadband seismometer for portable, dense arrays with internal GNSS, Bluetooth and miniSEED output.

ARTIUS DIMENSIONS:



Accessories:

Select from three fixed feet or two deployment spike options depending on the terrain.



Optional Artius Power Module (APM)



Compact and adaptable power module for remote deployments.

Available with rechargeable lithium batteries and optional integration with GSM networking capabilities.



Artius and APM being deployed



Option to charge the APM with solar panels

Streamline your workflow with the Artius docking station



An eight-node capacity docking station, controlled through software accessed via the Discovery interface, simplifies deployment preparation and post-mission data handling.



Meet Artius: High-performance seismology in a compact form

Artius redefines what's possible in portable seismology. This three-component digital broadband seismometer combines research-grade performance with rugged, compact design – perfect for dense deployments in medium to high-noise environments.

With a true broadband response range of 30 seconds to 200 Hz, Artius is engineered for rapid, reliable deployment. Whether pushed or staked into the ground, its built-in GNSS and internal digitiser streamline setup – requiring only a single port connection for external power.

Levelling is quick and precise thanks to the integrated bubble level, while the GüVü Bluetooth App ensures smooth field operations. Configure the sensor, monitor real-time waveforms, and check orientation, temperature, and humidity – all from your mobile device.

Despite its powerful capabilities, Artius remains impressively compact at just 80 mm x 80 mm x 105 mm. Its hard-anodised aluminium casing is environmentally sealed, ready to withstand even the harshest field conditions.

Streamline your workflow with the Artius docking station

Designed for efficiency, a purpose-built docking station accommodates up to eight nodes – simplifying both deployment preparation and post-mission data handling.

> Pre-deployment testing and configuration: Easily verify and configure up to eight Artius sensors simultaneously. The dock enables mass SD card formatting and automated huddle testing for fast, reliable setup.

> Post-deployment data validation: Insert the sensors back into the dock after fieldwork to initiate automated data offload and integrity checks.

> Automated workflow via Discovery interface: The intuitive Artius Dock software handles the entire workflow – automatically detecting sensors, downloading miniSEED and metadata files, and storing them to a predefined location with minimal user input.

Each Artius sensor records locally to an integrated 64 GB microSD card, capturing data in miniSEED format with metadata stored in StationXML and dataless SEED for compatibility with common seismic processing tools.

Whether you're prepping for the field or wrapping up data collection, the Artius Docking Station ensures seamless, scalable handling of your seismic network.

Key features

Triaxial orthogonal (ZNE) instrument with high cross-axis rejection (> 65 dB)

30 s to 200 Hz response

Storage of instrument response and calibration parameters dramatically simplifies data management (RESP, Station XML and Dataless SEED formats)

Fixed 64 GB microSD card with option of 128 GB

A bubble level facilitates required levelling during deployments

A single port for power by external lithium battery

Accurate time-base provided by internal GNSS

Eight node capacity docking station for convenient mass configuration and data download

GüVü Bluetooth App provides field based configuration and displays waveforms, orientation, temperature and humidity data for confident deployments

Artius has an ultra compact size of 80 mm × 80 mm × 105 mm and weighs just 1.4 kgs

Optional feet or deployment spikes can be selected to suit the terrain for rapid push installations

Applications

> High resolution imaging using portable high density networks

> Network densification

> Rapid response

> Temporary seismic investigations



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SPECIFICATIONS

FORCE-FEEDBACK BROADBAND NODE SYSTEM	
Configuration / Topology	Triaxial orthogonal (ZNE)
Maximum frequency response bandwidth	30 s (0.03 Hz) to 200 Hz
Output sensitivity	2 × 500 V/ms^{-1} (1000 V/ms^{-1}) equivalent
Clip level	8 mm/s @ 10s
Dynamic range	> 147 dB
Self-noise	-143 dB
Operational tilt range	±3°
Cross axis rejection	> 65 dB
Lowest spurious resonance	1 kHz
Centring	Automatic
Transfer function	Measured sensitivity, frequency response and instrument poles and zeros are stored within the instrument and accessible via web interface
ENVIRONMENTAL CHANNELS	
Sensor mass positions	Three independent sensor mass position outputs (integrator)
Orientation sensors	MEMS based accelerometer (three component)
Other sensors	Temperature, humidity, input voltage, power time lock
DATA PROCESSING	
Output rates available	1 to 1000 samples per second User configurable via GüVü bluetooth app or docking station
Decimation filters	÷2, ÷3, ÷4, ÷5 (Causal / Acausal)
TIMING AND CALIBRATION	
Timing source precision	Accuracy when GNSS locked ±50 ns.
Timing sources	In-built GNSS (GPS and GLONASS, BeiDou optional)
Calibration signal generator	Step, white noise with selectable amplitude and sinewave
USER INTERFACE	
Configuration and control	(Ethernet) Güralp Discovery - free download (Windows, and Linux), web browser interface. GüVü Bluetooth app (Android)
DATA	
Data recording formats	miniSEED (metadata stored in Station XML and dataless SEED formats)
ON-BOARD DATA STORAGE	
Flash memory and storage	1 fixed 64 GB microSD card Option for 128 GB at point of order
SOFTWARE	
Operating system	Windows and Linux
OPERATION AND POWER USAGE	
Operating temperature	-20 to +70 °C -50 °C polar option available
Relative humidity range	zero to 100 %
Power supply	7 - 16 V DC
Power consumption	1 W standard operation

**Power voltage for operation of this unit only. Connection to additional instrumentation or use of longer cables may result in a higher input voltage requirement*

PHYSICAL	
Casing type	Environmentally sealed, hard anodised aluminium
Environmental sensor	Humidity and temperature
Weight	1.4 kg (disconnected)
Dimensions (exc. connector)	80 mm × 80 mm × 105 mm
Height with feet	109 mm
Height with triple deployment spikes	167 mm
Height with single deployment spike	247 mm
Connector type	D-Coded M12 Automation Connector
Environmental protection	IP68 - protection against effects of prolonged immersion at 3 m depth for 72 hours
Artius package includes	Sensor Power cable for battery Deployment spike
DOCKING STATION	
Node capacity	Eight with concurrent data download
Operating system compatible	Windows, Linux
Communication technology	100BASE-T1 Ethernet
Data harvesting speed	3 MB/s
OPTIONAL ACCESSORIES	
Artius Power Module	
Deployment feet or spikes (single or triple)	
Field protection cover	

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In the interests of continual improvement with respect to design, reliability, function or otherwise, all product specifications and data are subject to change without prior notice.

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