



## TRILLIUM COMPACT COMPACT VAULT SEISMOMETER

The world's best-selling broadband seismometer, the small highly portable **Trillium Compact** is available in several configurations to best suit your deployment

### Class-leading performance

The **Trillium Compact** is extremely simple to deploy with no mass lock and no mass centering required. The exceptionally small size significantly reduces the time and effort required for site preparation and installation. Continuous quality data are available within minutes of deployment with no requirement for further intervention.

The **Trillium Compact 120s** combines the superior performance of a broadband seismometer with the installation convenience of a rugged geophone. The 120s instrument incorporates a symmetric triaxial force feedback sensor design with a response flat to velocity from 120 seconds to 100Hz.

The **Trillium Compact 20s** features the same force feedback sensor design with a response flat to velocity from 20 seconds to 100Hz. The 20s instrument features an industry-leading tilt tolerance of 10°, making deployments very fast and efficient in various surface conditions. Several base foot options are available for different terrains.

The **Trillium Compact Posthole** models are also available that feature a stainless steel enclosure and waterproof connector ideally suited for downhole deployments of up to 300 meters..



Optional transport case doubles as thermal insulating cover for surface deployments.



### Benefits

- Low-noise broadband seismometer performance combined with the handling and installation convenience of a geophone
- Ultra-low power consumption (180 mW) allows for smaller power systems and higher station reliability.
- Exceptionally small size significantly reduces the time and effort required for site preparation and installation
- Quick and easy to deploy with no mass lock, no mass centering and a wide tilt range
- Integrated web server facilitates instrument management

# TECHNICAL SPECIFICATIONS TRILLIUM COMPACT

Specifications subject to change without notice

## TECHNOLOGY

**Topology:** Symmetric triaxial  
**Feedback:** Force balance with capacitive transducer  
**Mass Centering:** Not required

## SEISMOMETER MODULE PERFORMANCE

**Self-noise:** See self-noise graph  
**Nominal Sensitivity:** 750 V-s/m  
 (reference User Guide for precise value)  
**Precision:**  $\pm 0.5\%$  relative to User Guide specification  
**Bandwidth/120s:** -3 dB points at 120 s and 108 Hz  
**Bandwidth/20s:** -3 dB points at 20 s and 108 Hz  
**Off-axis Sensitivity:**  $\pm 0.5\%$   
**Clip level:** 26 mm/s up to 10 Hz and 0.17 g above 10 Hz  
**Oper. Tilt Range/120s:**  $\pm 2.5^\circ$   
**Oper. Tilt Range/20s:**  $\pm 10^\circ$   
**Parasitic Resonances:** None below 200 Hz  
**Dynamic Range/120s:** > 159 dB @ 1 Hz  
**Dynamic Range/20s:** > 152 dB @ 1 Hz

## LEVELING AND ALIGNMENT

**Leveling:** Adjustable locking feet  
**Physical Bubble level:** Included  
**Digital bubble level:** Graphical bullseye level is available via Centaur digital recorder GUI  
**Alignment:** Vertical scribe marks for (N and S); precision guide in cover for straight-edge, line, or laser level

## INTERFACE

**Connector:** 14-pin, shell size 12, MIL-C-26482 Series I, top mounted  
**Velocity Output:** 40 V peak-to-peak differential  
 • Selectable XYZ or UVW mode  
**Mass Position Output:** Single  $\pm 4$  V output representing maximum mass position  
 • 3-channel mass positions available through serial port  
**Calibration Input:** Single voltage input and one active high control signal to enable all 3 channels  
 • Remote calibration in XYZ or UVW mode  
 • Independent channel selection by serial port  
**Control Lines:** Cal. Enable or Long/Short Period mode, XYZ/UVW mode  
**Serial Port:** RS-232 compatible serial IP (SLIP)  
 • Onboard web server standard HTTP  
 • For enhanced instrument control and status: UVW/XYZ mode, short/long period mode, firmware updates, temperature, mass position, case tilt, digital bubble level, serial number and factory info

## POWER

**Supply Voltage:** 9 to 36 VDC isolated input  
**Power Consumption:**  
 • 180 mW typical (model TC120-SV1)  
 • 195 mW typical (model TC20-SV1)  
**Protection:** Reverse-voltage and over-voltage protected  
 • Self-resetting over-current protection

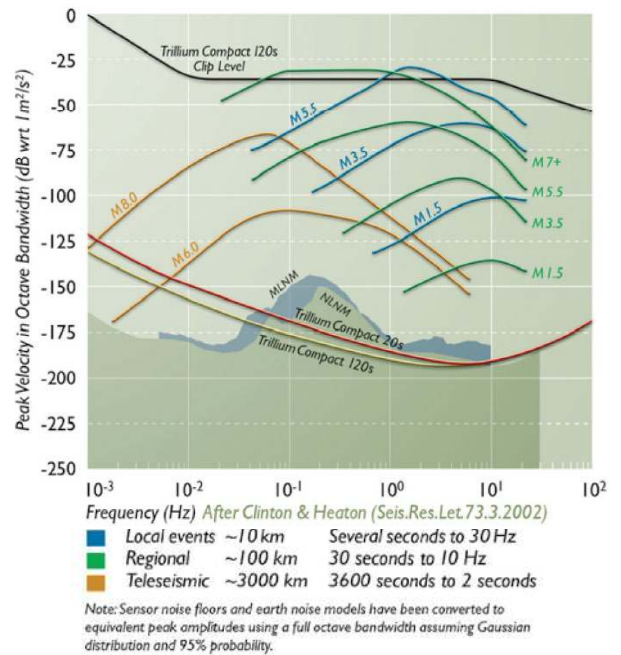
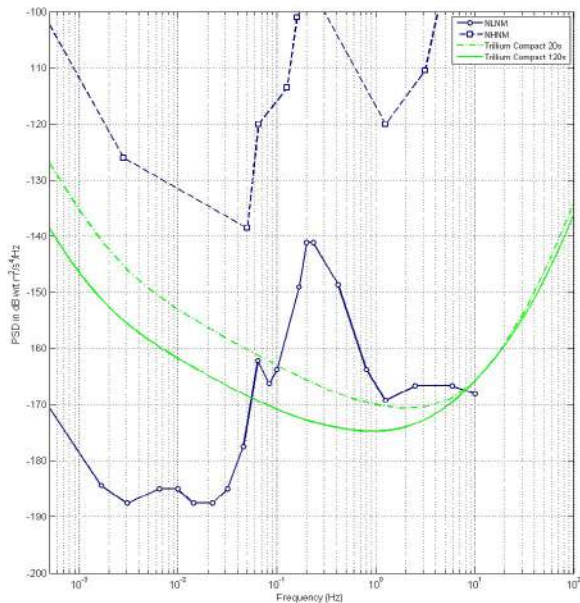
## PHYSICAL

**Diameter:** 90 mm  
**Height:**  
 • body and connector: 113 mm  
 • with leveling feet fully retracted: 128 mm  
 • with leveling feet fully extended: 135 mm  
**Weight:** 1.2 kg  
**Housing:** Resistant to corrosion, scratches & chips

## ENVIRONMENT

**Operating temperature:**  $-20^\circ\text{C}$  to  $60^\circ\text{C}$   
**Storage temperature:**  $-40^\circ\text{C}$  to  $70^\circ\text{C}$   
**Shock:**  
 • 100 g half sine, 5 ms without damage, 6 axes  
 • No mass lock required for transport  
**Magnetic:** Insensitive to natural variations of the earth's magnetic field  
**Ingress Protection:** Rated to IP67 for outdoor use, dust, and immersion resistance

## SELF-NOISE PERFORMANCE PLOT



Contact a product expert Toll Free: 1 855 792 6776 | [sales\\_mkt@nanometrics.ca](mailto:sales_mkt@nanometrics.ca)