



TRILLIUM COMPACT COMPACT POSTHOLE SEISMOMETER

Don't let your seismometer limit you. The Trillium Compact Posthole is a small, ruggedized, waterproof member of the industry-leading family of Trillium seismometers.

Forget complex deployments

At just 3.3 kgs (or just over 7 lbs) and with the installation convenience comparable to a geophone, the Trillium Compact PH is the obvious choice for those who don't want their experiments to be limited – by a complex deployment of bulky instrumentation, by the overburden, by the effects of moisture, by thermal instability, by high power consumption or by installation technique.

No vault required

Its corrosion, scratch and chip-resistant stainless steel enclosure, waterproof connector and rating to IP68 for full submersion in water makes the Trillium Compact PH ideal for direct burial, even in arid, polar or wet environments.

Ultra-low power consumption

Both variants of the Trillium Compact PH – the 120s and 20s – boast ultra-low power consumption, at <180 mW and <195 mW respectively. And its optional transport case doubles as a thermal insulating cover for surface deployments.

A highly integrated station solution

When using the Trillium Compact PH with our popular Centaur digitizer, you'll have access to a digital leveling bubble through the Centaur GUI. The virtual leveling bubble makes for easy leveling down a dark hole, or once buried, gives you the ability to check levelness at any time.

Also available:

- Meridian Compact Posthole and Trillium Cascadia



The Trillium Compact PH is rugged enough to be buried directly in an ice shelf, light enough for easy portability on a volcano, and intuitive enough to be deployed in minutes.



*Polar Certified Model
available for operating
temperatures down to -50°C*

TECHNICAL SPECIFICATIONS TRILLIUM COMPACT PH

Specifications subject to change without notice

TECHNOLOGY

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

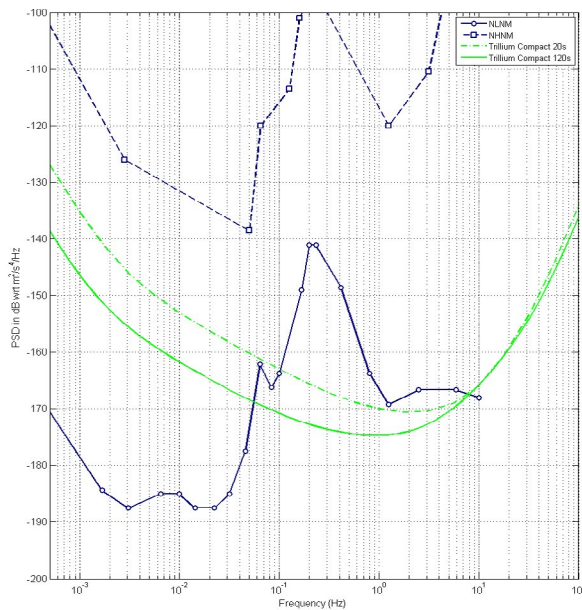
SEISMOMETER MODULE PERFORMANCE

- 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

- Digital bubble level:** Graphical bulls-eye level is available via Centaur digital recorder GUI
- Physical Bubble level:** Optional accessory
- Alignment:** Vertical scribe marks for (N and S); precision guide in cover for straight-edge, line, or laser level

SELF-NOISE PERFORMANCE PLOT



INTERFACE

- Connector:** 16-pin, marine SubConn MCBH16MSS, top-mounted
- Velocity Output:** 40 V peak-to-peak differential
 - Selectable XYZ or UVW mode
- Mass Position Output:** Single ± 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

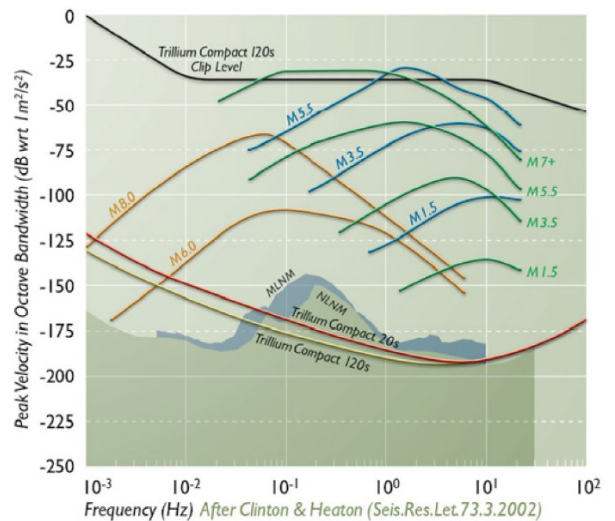
- Supply Voltage:** 9 to 36 VDC isolated input
- Power Consumption:**
 - 180 mW typical (model TC120-PH2)
 - 195 mW typical (model TC20-PH2)
- Protection:** Reverse-voltage and over-voltage protected
 - Self-resetting over-current protection

PHYSICAL

- Diameter:** 97 mm
- Height:**
 - Body & connector: 160 mm
 - On fixed studs: 167 mm
- Weight/120s:** 3.2 kg
- Weight/20s:** 3.2 kg
- Housing:** Stainless steel, resistant to corrosion, scratches & chips

ENVIRONMENT

- Operating temperature:**
 - 20°C to 60°C (Standard Model)
 - 50°C to 60°C (Polar Certified Model)
- Storage temperature:** -40°C to 70°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 IP68 to 300 m for prolonged immersion



- Local events** ~10 km Several seconds to 30 Hz
- Regional** ~100 km 30 seconds to 10 Hz
- Teleseismic** ~3000 km 3600 seconds to 2 seconds

Note: Sensor noise floors and earth noise models have been converted to equivalent peak amplitudes using a full octave bandwidth assuming Gaussian distribution and 95% probability.

Contact a product expert Toll Free: 1 855 792 6776 | sales_mkt@nanometrics.ca



Strategic intelligence fueled by science

250 Herzberg Road, Kanata, Ontario, Canada K2K 2A1 | Tel: +1 613 592 6776