

WEAK MOTION BROADBAND SEISMOMETER



Our best-selling 3T instrument has been in continuous production since 1987.

The Güralp 3T is a triaxial, broadband, weak motion instrument, suitable for surface vault, subsurface vault and post-hole installations. The 3T is widely used on many National Seismic Networks, with in excess of 3000 triaxial sensors deployed worldwide.

Key features

Covers the complete seismic spectrum with single transfer function

Optional hybrid response models are available, e.g. flat to velocity from 50 Hz to 30 s and flat to acceleration between 30 s and 200 s, offering unrivalled dynamic range.

Response from 360s to 50Hz (120s - 50Hz standard). Options of 1, 30, 60 and 100s LP corners. Options of 100 and 200 Hz HF corners

Measured Self noise below the USGS NLNM from >200s to 20Hz (vertical)

High linearity: >107dB, 111dB vertical (USGS figures)

Over 140dB dynamic range over the entire passband (USGS figure)

Cross axis rejection over 65dB; sensor axes orthogonal to within +/- 0.05°

Remote, automatic electronic mass locking, unlocking and centring

Adjustable feet allow for up to 5° tilt

Low power consumption: 0.75 W from a 10 - 30 V supply

Truly portable with lifting handle and convenient access to connectors

A fully digital 3TDE is also available, combining the 3T with our low-noise DM24 digitizer in a single package

Applications

- > Surface and subsurface vault
- > Post-hole
- > National seismic networks
- > Global and regional earthquake monitoring
- > Nuclear test ban treaty monitoring

SPECIFICATIONS

SYSTEM	
Configuration / Topology	Triaxial orthogonal (ZNE)
PERFORMANCE	
Frequency Bandwidth (Calc 1/HZ = s or 1/s = Hz)	0.0083 to 50 Hz (120 to 0.02 s) standard Options of 1 s, 30 s, 60 s, 100 s and 360 s long period corner frequency, or with hybrid response
Output sensitivity	1500 V/ms ⁻¹ (2*750 V/ms ⁻¹) differential output - optional sensitivities from 1000 to 20 000 V/ms ⁻¹
Peak / Full scale output	±10 V differential
Sensor Dynamic Range	> 140 dB
Self-noise below NLNM	>0.005 to 20 Hz (200 s to 0.05 s) Vertical
Cross axis rejection	> 65 dB
Linearity	> 111 dB vertical; > 107 dB horizontal (USGS figures)
Lowest spurious resonance	> 140 Hz (vertical)
Transfer function	User manual is available to download from the website. Each sensor is provided with full calibration details including measured sensitivity, measured frequency response and instrument poles and zeros
Calibration controls	Independent signal & enable lines exposed on sensor connector
MASS / MONITORING CONTROL	
Sensor Mass positions	Three independent sensor mass position outputs (single ended)
Locking	Remote auto mass lock/unlock for transportation
Mass centre	Remotely controlled automatic mass centreing
POWER	
Power consumption (at 12 V DC)	0.75 W
Power voltage range	10– 36V DC Optional low power 5 V DC supply output (± 4.5 V)
ENVIRONMENTAL	
Operating temperature	-20 to +75 °C (-55 °C option)

PHYSICAL	
Diameter	168 mm
Height with handle	344 mm
Height without handle	274 mm
Enclosure/Materials	Stainless steel case
Communication / Connectors	Mil-spec connector (optional 1500 psi waterproof connector or user connector)