

# Güralp 6T



## MEDIUM-MOTION SEISMOMETER



### An ultra lightweight, three component seismometer.

The Güralp 6T is ideally suited to rapid installations in medium noise sites.

The 6T's high-gain feedback loop eliminates mechanical non-linearity and minimises resonances in the spring system.

The design has carefully avoided low-frequency vibration, the lowest spurious vibration is a barely measurable 440 Hz.

### Applications

- > Monitoring volcanic unrest
- > Induced seismicity monitoring e.g. hydraulic fracturing
- > Rapid deployments e.g. aftershock monitoring

### Key features

- True broadband force-feedback instrument
- Direct velocity outputs
- Lightweight, waterproof and self-contained
- Quick and easy, one-person installation
- Easy access to electrical connections
- No mass clamping required - plug in and go
- High sensitivity and dynamic range
- Ultra-low-power consumption of just 0.48 W
- Orthogonal instrument with high cross axis rejection (>65 dB)
- The 6T can be supplied with response options of 30 s to 100 Hz or 1 s to 100 Hz.
- The overall measured linearity exceeds 90 dB

## SPECIFICATIONS

SYSTEM		PHYSICAL	
Technology	Force feedback (force-balance) velocity sensor	Diameter	154 mm
Configuration / Topology	Triaxial orthogonal (ZNE)	Height with handle	207 mm
PERFORMANCE		SUPPORTING DOCUMENTATION	
Velocity output band (flat response within -3 dB crossing points)	30 s (0.03 Hz) to 100 Hz standard 1 s (1 Hz) to 100 Hz option available Contact Güralp to discuss other frequency response options	Enclosure/Materials	Hard anodised aluminium case Gold plated contacts O-ring seals throughout
Output sensitivity	2400 V/ms <sup>-1</sup> (2*1200 V/ms <sup>-1</sup> ) differential output Contact Güralp to discuss alternative high sensitivity (high gain) options	Weight	2.49 kg
Peak / Full scale output	Differential: ±20 V (40 V peak-to-peak) Single-ended (e.g. mass positions): ±10 V (20 V peak-to-peak)	Communication / Connectors	Mil-spec connector or Jam nut connector (optional 1500 psi waterproof connector or user connector)
Sensor dynamic range (at standard output sensitivity)	137 dB @ 5 Hz	Calibration values	Measured sensor sensitivity, frequency response, instrument poles and zeros enclosed
Cross axis rejection	> 65 dB	Full user's guide	Available online at: <a href="https://www.guralp.com/documents/MAN-T60-0001.pdf">https://www.guralp.com/documents/MAN-T60-0001.pdf</a>
Linearity	> 90 dB		
Lowest spurious resonance	> 450 Hz		
Offset zeroing	Adjustable through case. Optional remote control with DC motors		
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)		
POWER			
Power consumption (at 12 V DC)	0.46 W		
Power voltage range	10– 30 V DC Optional low power sensor: 5 V DC supply (output ± 4.5 V)		
ENVIRONMENTAL			
Operating temperature	-40 to +75 °C		