

# Güralp 6T



## MEDIUM-MOTION SEISMOMETER



### An ultra lightweight, three component, broadband 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

Standard response of 30 s to 100 Hz

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 overall measured linearity exceeds 90 dB

The active 6T sensor is also available as a 6TD ([www.guralp.com/documents/DAS-T60-0002.pdf](http://www.guralp.com/documents/DAS-T60-0002.pdf)) which incorporates an integrated digitiser.

## SPECIFICATIONS

SYSTEM	
Technology	Force feedback (force-balance) velocity sensor
Configuration / Topology	Triaxial orthogonal (ZNE)
PERFORMANCE	
Velocity output band (flat response within -3 dB crossing points)	30 s (0.03 Hz) to 100 Hz standard  Other options available such as 1 s to 80 Hz, or 1 s to 100 Hz.  Contact Güralp to discuss other frequency response options
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
Peak / Full scale output	Differential: ±10 V (20 V peak-to-peak)  Single-ended (e.g. mass positions): ±10 V (20 V peak-to-peak)
Sensor dynamic range (at standard output sensitivity)	137 dB @ 5 Hz
Cross axis rejection	> 65 dB
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)
Mass centring/locking	Auto-centre, no mass locking required
POWER	
Power consumption (at 12 V DC)	0.48 W
Power voltage range	10– 30 V DC* Optional low power sensor: 5 V DC supply (output ± 4.5 V)
*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/ENVIRONMENTAL	
Operating temperature	-40 to +75 °C
Enclosure ingress protection	IP68 - protection against effects of prolonged immersion at 3 m depth for 72 hours
Enclosure/Materials	Hard anodised aluminium case Gold plated contacts O-ring seals throughout
Diameter	153 mm
Height without feet and handle	143 mm
Height without handle	169 mm
Height with feet and handle	210 mm
Weight	2.49 kg
Communication / Connectors	Military specification bayonet  Posthole option: 100 bar/10 MPa waterproof connector
SUPPORTING DOCUMENTATION	
Calibration values	Measured sensor sensitivity, frequency response, instrument poles and zeros enclosed
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>