Güralp 5TC

STRONG MOTION FEEDBACK ACCELEROMETER

A very compact, triaxial instrument.

The Güralp 5TC is a low-noise, force-feedback accelerometer with a large dynamic range. The 5TC is suitable for seismology, hazard mitigation and civil engineering applications.

Filter options: The 5TC has two sets of outputs. The standard instrument provides both unity gain and 10 x gain outputs. As an alternative to the 10 x gain outputs, a high-pass filter can be installed with a corner frequency set to the customer's specification.

Key features

- Low-noise components for high precision and enhanced dynamic range
- 50% smaller footprint than the original 5T
- Full-scale sensitivity from 0.1 to 4.0 g
- Low-pass corner from 50 to 200 Hz
- Simple installation with a single M8 fixing bolt; robust and waterproof
- No sensor levelling required
- Isolated power supply for 10 - 36 V operation
- Acceleration offsets adjustable for < 1 mV precision
- Connector compatible with 3T and 40T; breakout box identical to original 5T

Applications

> Large earthquake source characteristics
> Ground motion modelling
> Earthquake Early Warning systems
> Structural health monitoring

Images show the Güralp 5TC accelerometer

Güralp 5TC

SPECIFICATIONS

SYSTEM	
Configuration / Topology	Triaxial orthogonal (ZNE)
PERFORMANCE	
Acceleration output band	DC – 100 Hz standard
Output sensitivity	±4 g, ±2 g, ±1 g, ±0.5 g, or ±0.1 g
High gain outputs	0.4 g, 0.2 g, 0.1 g, 0.05 g or 0.01 g
Peak / Full scale output	±10 V differential
Clip level (4 g)	4.2 g
Sensor Dynamic Range	> 140 dB
Self-noise below NLNM	< 1 µg rms
Cross axis rejection	0.001 g/g
Linearity	0.1 % full scale
Lowest spurious resonance	> 450 Hz
Offset zeroing	Automatic on start up and on user command
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)	0.61 W (excluding GPS)
Power voltage range	10– 36V DC
ENVIRONMENTAL	
Operating temperature	-20 to +70 °C

PHYSICAL	
Diameter	122 mm
Height with feet and ports	99 mm
Height (sensor only)	66 mm
Enclosure/Materials	Hard anodized aluminium case
Weight	1.3 kg
Communication / Connectors	Mil-spec connectors
Environmental protection (IP rating)	IP67

Güralp Systems Limited
Midas House
Calleva Park
Aldermaston
Reading
RG7 8EA
UK

T +44 118 981 9056
F +44 118 981 9943
E sales@guralp.com

www.guralp.com

DAS-050-0004 Issue H