güralp

FORTIS

STRONG MOTION ACCELEROMETER

Designed to be 'best in class', our most versatile accelerometer yet.

> Slimline design
> Switchable gain
> Low power

APPLICATIONS

> Earthquake early warning systems
> Structural health monitoring
> Shake intensity research

Fortis

The Güralp Fortis is a strong motion accelerometer with an innovative, slim-line design for fast installation in any environment.

Our state-of-the-art gain switch allows the instrument to perform optimally in a wide range of earthquake shaking scenarios providing versatility for all earthquake early warning and structural health monitoring applications.

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

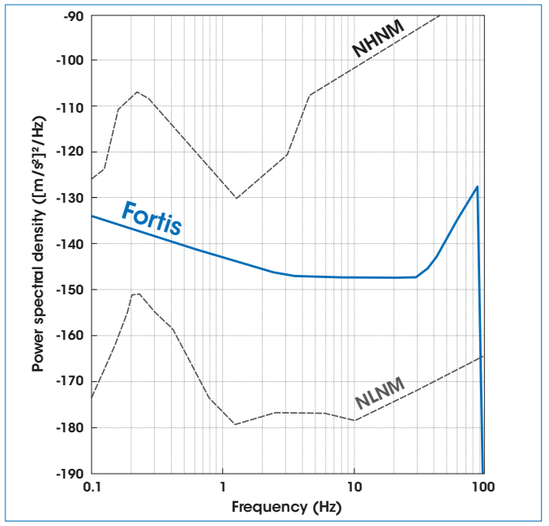
The Fortis has one output which can be set at a wide range of gain options, providing flexibility for all strong motion monitoring applications.

The system has both a flat response to ground acceleration from DC to 100 Hz and a stable phase response within the passband.

The hard anodised aluminium casing protects the instrument from water, allowing it to be deployed in a range of environments.

Key features

- Very low-noise components for high precision and enhanced dynamic range
- Fixing bolt allows rapid installation for structural health monitoring
- Slimline shape
- Locally and remotely switchable gain from 0.5 to 4.0 g
- 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



Self noise plot for the Fortis with a gain of 2g

Applications

> Earthquake Early Warning systems
> Structural Health Monitoring (e.g. dams, industry, buildings)
> Surface and vault installation
> Posthole deployment
> Networked Arrays

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SPECIFICATIONS

SYSTEM	
Configuration / Topology	Triaxial orthogonal
PERFORMANCE	
Acceleration output band	DC – 100 Hz standard Other options available
Gain switch options	4 g, 2 g, 1 g or 0.5 g
Sensitivity	2.5 V/g, 5 V/g, 10 V/g, 25 V/g
Peak / Full scale output	±10 V differential
Clip level	4.2 g
Sensor Dynamic Range	> 172 dB
Self-noise below NHNM	> 0.07 Hz (14 seconds)
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
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)	1.3 W
Power voltage range	10– 36V DC
ENVIRONMENTAL	
Operating temperature	-20 to +70 °C

PHYSICAL	
Diameter	125 mm
Height with feet and ports	99 mm
Height (sensor only)	66 mm
Enclosure/Materials	Hard anodised aluminium
Weight	1.1 kg
Communication / Connectors	Mil-spec connector
Environmental protection (IP rating)	IP67 tested to meet deployment requirements

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