

CMG-40T



Broadband seismometer

The Guralp Systems CMG-40T is a rugged and robust three-component broadband seismometer ideally suited for installation in vaults with moderate noise.

Key Features:

True broadband force-feedback instrument

Direct velocity outputs

Self-contained in a waterproof steel case

Fully adjustable levelling feet

No mass clamping required – plug in and go

High sensitivity and dynamic range

The 40T has a standard response of 30 seconds to 50 Hertz but can be supplied with response options of 1, 10, 30 or 60 seconds for the long period corner and 50 or 100 Hertz for the high frequency corner

Its high-gain feedback loop eliminates mechanical non-linearity (the overall measured linearity exceeds 90 dB) and minimizes resonances in the spring system.

Low-frequency vibration modes are carefully avoided in the design. The lowest spurious vibration mode of the 40T is a barely measurable resonance at 440 Hz.

Single-component vertical and horizontal sensors (CMG-40V and CMG-40H) are also available.

The CMG-40T can be supplied as the CMG-40TD, which consists of CMG-40T sensors in the same case as an integrated digitiser.



Specifications

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Velocity output bandwidth	<i>30 seconds – 50 Hertz (Standard) 1s, 2s, 10s or 60s long period options 100Hz high frequency option</i>
Velocity output sensitivity	<i>2 × 400 V/ms⁻¹ (Standard) Options for 2 × 1000 or 2 × 1600 V/ms⁻¹ Optional high-gain output (× 10)</i>
Peak output	<i>±10 V (20 V peak-to-peak)</i>
Optional high gain sensitivity	<i>2 × 10000 V/ms⁻¹ (adjustable)</i>
Lowest spurious resonance	<i>450 Hz</i>
Linearity	<i>> 90 dB</i>
Cross-axis rejection	<i>> 65 dB</i>
Electronics noise level	<i>−172 dB (relative to 1m²s⁻⁴Hz⁻¹)</i>
Operating temperature range	<i>−20 to +75 °C</i>
Temperature sensitivity	<i>< 0.6 V per 10 °C</i>
Mass recentring range	<i>±3 ° from horizontal</i>
Materials	<i>Stainless steel case Gold plated contacts O-ring seals throughout</i>
Case diameter	<i>154 mm</i>
Case height (with handle)	<i>207 mm</i>
Weight	<i>2.49 kg</i>
Power supply	<i>10 – 36 V DC</i>
Optional low power sensor	<i>5 V DC supply (output ±4.5 V)</i>
Current at 12 V DC	<i>38 mA</i>
Calibration controls	<i>Common signal & enable lines exposed on sensor connector</i>
Offset zeroing	<i>Adjustable through case</i>
Optional remote control	<i>Offset zeroing with DC motors</i>
Optional accessories	<i>Handheld Control Unit</i>

