

CMG-3TD



Weak motion digital broadband seismometer

The Guralp Systems CMG-3T is a compact three-component digital broadband sensor, suitable for surface vault, subsurface vault and posthole installations. The instrument is a well proven, established design based on the 3T seismometer and DM24 digitiser

Key Features:

Covers the complete seismic spectrum with a single transfer function

Response from 360 s to 50 Hz (120 s – 50 Hz standard)

Options of 1, 30, 60 and 100 s LP corners

Options of 100 and 200 Hz HF corners

Measured Self noise below the USGS NLNM from >200s to 20Hz (Vertical)

Truly portable with lifting handle and convenient access to connectors

High linearity: >107 dB horizontal, 111 dB vertical (USGS figures)

Over 140 dB dynamic range over the entire passband (USGS figure)

Cross-axis rejection of over 65 dB; sensor axes orthogonal to within $\pm 0.05^\circ$

Remote, automatic, electronic mass locking, unlocking and centring

Adjustable feet allow for up to 5° of tilt

Low power consumption (750 mW from 10 – 30V supply)

A fully digital instrument, the CMG-3TD is also available. It combines the CMG-3T with our low-noise DM24 digitizer in a single package

Optional hybrid response models are available, e.g. flat to velocity from 50 Hz to 30 s and flat to acceleration between 30 s and 200 s, offering unrivalled dynamic range



Specifications

CMG-3TD



Standard velocity output band	<i>120 seconds – 50 Hertz standard (The instrument is also available with 1 s, 30 s, 60 s, 100 s or 360 s long period corner frequency, or with hybrid response)</i>	
Mass position output band	<i>DC – 120 seconds</i>	
Output sensitivity	<i>2 × 750 V/ms-1 (1500 V/ms-1) standard The CMG-3T is available with any user-specified sensitivity in the range 2 × 500 V/ms-1 to 2 × 10,000 V/ms-1</i>	
Peak output	<i>±10 V differential</i>	
Lowest spurious resonance	<i>> 140 Hz (vertical)</i>	
Linearity, vertical	<i>> 111 dB (USGS figures)</i>	
Linearity, horizontal	<i>> 107 dB (USGS figures)</i>	
Cross-axis rejection	<i>> 65 dB</i>	
Remote control	<i>Lock, unlock, centre</i>	
Operating temperature	<i>–20 to +75 °C</i>	<i>(–55 °C optional)</i>
Temperature sensitivity	<i><0.8 V per 1 °C</i>	<i>(<0.8 V per 50 °C optional)</i>
Temp' range without re-centring	<i>±10 °C standard</i>	<i>(–20 °C to +50 °C optional)</i>
Mass recentring range	<i>± 2.5 ° from horizontal</i>	
Materials	<i>Stainless steel case Mil-spec connector (1500 psi waterproof connector or user connector optional)</i>	
Case diameter	<i>168 mm</i>	
Case height (with handle)	<i>344 mm</i>	
Case height (sensor only)	<i>274 mm</i>	
Isolating 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>62 mA</i>	
Calibration controls	<i>Independent signal & enable lines exposed on sensor connector</i>	
Optional low pass corner	<i>50 Hz, 100 Hz or 200 Hz</i>	

