

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



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|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| 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> | |

