CMG-DM24





3 to 12 channel broadband digitisers

The Güralp Systems CMG-DM24 is a high-quality digitiser with full 24bit resolution, designed for data quality and durability with models available for 3, 6, 9, or 12 channel recording.

Key Features:

4 low-noise 24-bit ADCs (expandable to 7, 14) Fourth channel for user signals and calibration 8 environmental channels with 20-bit resolution (3 × mass position, 5 user) Low power 32-bit DSP and ARM processor (<1W recording 4 channels at 100 sps) Multiple concurrent data rates, up to 1000 sps STA/LTA, level, external and software triggering Simultaneous output of triggered and continuous streams Event selection and download over data port Full control of Güralp broadband sensors including remote lock, unlock and centre Calibration using on-board sinewave, impulse or broadband signal generators Remotely configurable using Güralp data modules and software UTC time-stamped data using low power GPS Up to 8 Gb Flash storage (64 Mb standard) USB Flash drive memory storage option Optional LCD panel with status information Optional FireWire interface for external disk storage Ethernet and USB interface options

Multiple storage and transmission modes Built-in modem support

Available in surface, borehole and integrated packages or as a retro-fit to existing sensors for instant digital seismic stations







Specifications



CMG-DM24

Signal channels Auxiliary / calibration channels Input voltage range (surface) Input impedance (surface) Input impedance (cylindrical) Inputs (borehole and integrated) Environmental channels Environmental channel range ADC converter type Output format Dynamic range Absolute accuracy Common-mode rejection

> DSP sampling rate Output rates available Highest output capability

> > Decimation filters Anti-alias filters Low pass filters Out-of-band rejection In-band ripple DSP trigger modes

32 kHz 1000 .. 1 samples/s 3 channel: 3 × 1000 + 1 × 500 6 channel: 3 × 1000 + 4 × 500 2, 4, 5, 2×4, 2×5 3-pole FIR (other options available) 140 dB -140 dB STA/LTA, level, external, software

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3, 6, 9, 12 @ 24 bits

±10 V (±20 V optional) differential

8 @ 4 samples/s, 16-bit resolution

5th-order single-bit low pass Δ - Σ

24-bit (32-bit low-noise option)

137dB (141dB) @ 40 samples/s

1, 1, 2, 2 @ 24 bits

Matched to sensor

±10 V single-ended

33 kΩ / 10 nF 113 kΩ / 10 nF

0.5% (0.1%)

120 dB @ 10 Hz

Timing source precision Optional precision RTC Calibration signal generator

Flash storage

Sensor control commands Optional smart sensor interface Operating temperature Power supply Current at 12 V DC 8×10^{-7} 1.7×10^{-8} (30 mW power cost) Amplitude/frequency adjustable sine wave, step or broadband noise 64 Mb (options to 8 Gb), external flash memory stick option Remote lock, unlock, centre SSI I²C/1-wire interface -40 to +60 °C 10 - 28 V DC 3 channel: 77 mA = 0.92 W 6 channel: 120 mA = 1.44 W GPS: 35 mA = 0.42 W



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