CMG-DM24S24EAM

Digitizer and Communications Module

The Güralp CMG-DM24S24EAM is a combined digitizer and network communications unit which provides a convenient and expandable way of connecting analogue and digital instruments to your network.

Inside the robust, waterproof casing are housed standard DM24 digitizers and an EAM enhanced acquisition module.

The DM24S24EAM is a high-quality digitizer with full 24-bit resolution and twenty four primary data channels, designed for data quality and durability, whilst the EAM is a stable and robust Linux-powered unit with on-board storage and networking facilities.

Key Features:

Twenty four low-noise 24-bit channels

Exceptionally low noise: 137dB of dynamic range @ 40sps

Twelve environmental channels with 16-bit resolution

STA/LTA, level and external trigger

Four concurrent output sample rates (continuous or triggered) up to 1,000 samples per second

UTC timestamped data using a low-power GPS receiver

Multi-user Linux operating system with full network support

Remote configuration with on-board Web server (HTTP and HTTPS)

Removable 80Gb mass storage device

Full remote control of digitizer parameters

Full remote control of Güralp broadband sensors, including remote lock, unlock and centre, via web server

Supports multiple data formats, including SEED and CD1.1

Built-in calibration signal generator: step, sine or broadband

Specifications

CMG-DM24S24EAM

Primary digitisation channels	Twenty-four @ 24 bits ±10 V differential
Optional environmental channels	Twelve @ 4sps, 16-bit resolution, ±10 V single-ended
Input impedance	130 kΩ / 10 nF
ADC converter type	4th-order, single-bit, low-pass Σ-Δ
Output format	32-bit
Dynamic range	137dB @ 40 samples per second
Absolute accuracy	0.5% (0.1 %)
Common-mode rejection	120 dB @ 10 Hz
DSP sampling rate	512 kHz
Output rates available	1 to 1000 samples per second
Highest output capability	3 × 1000 or 7 x 500 samples per second
Decimation filters	2, 4, 5, 2×4, 2×5
Anti-alias filters	3-pole
Low pass filters	FIR (other options available)
Out-of-band rejection	140 dB
In-band ripple	−140 dB
Trigger modes	STA/LTA, level, external, software
Timing source precision	8×10^{-7}
Calibration signal generator	Amplitude/frequency adjustable, sine, step or broadband noise
Optional smart sensor interface	SSI I2C/1-wire interface
Operating temperature	−40 to +60 °C
Power supply	12 − 28 V DC
Power consumption at 12 V DC	12W (GPS adds 0.3 W)
Operating system	Linux
Communication technologies supported	RS232, RS422, modems, Ethernet (10BaseT / 100BaseT)
Internet technologies supported	TCP/IP, PPP, SSH, HTTP, HTTPS (others on request)
	Firewall and routing capabilities
Data recording formats	GCF and miniSEED
Seismic network protocols	Scream! (Antelope/Earthworm), CD1.0/1.1, SEEDlink and others
Mass storage device	80Gb Removable drive