DM24S*x*EAM

CAPTURE. PROCESS. DISTRIBUTE

Sophisticated and adaptable digital acquisition system

The Güralp DM24S3EAM and DM24S6EAM combine three- and six-channel digitisers with storage and communications modules into flexible and expandable tools for connecting analogue and digital instruments to your network. A USB interface beneath the lid allows for simple bulk data storage and easy retrieval in deployments without telemetry.

Inside the robust, aluminium or stainless steel casing is a 24-bit, high fidelity digitiser with a GPS-synchronised timing system. Designed for data quality and durability, the Güralp DM24SxEAM includes a stable and robust Linux-powered unit with on-board storage and networking.

The Güralp DM24SxEAM can be fully controlled and accessed via a web interface suitable for both expert and non-expert field staff.

Applications

> Borehole
> Vault
> Networked Arrays
> Earthquake early-warning systems

Key features

Four or seven low-noise 24-bit analogue-to-digital conversion (ADC) channels (three or six primary plus one auxiliary)

Ultra-low-noise: 137 dB of dynamic range at 40 samples per second

Eight environmental channels with 20-bit resolution (3 for mass position and 5 for user applications)

Triggering/events subsystem capabilities including STA/LTA, level (threshold), software triggers, per-channel voting and peer-to-peer network voting

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

UTC time-stamped data using a low-power GPS receiver

Multi-user Linux operating system with full network support

On-board Web server (HTTP and HTTPS) allows full remote configuration of digitizer parameters and broadband sensors, including remote lock, unlock and centre

Additional, external USB storage connection

Built in calibration signal generator: step, sine or broadband

Supports multiple data formats, including GCF, GDI, miniSEED and CD1.1

Image shows the Güralp DM24S3EAM. DM24S6EAM uses the same casing.

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SPECIFICATIONS

Digital resolution / output format	24-bit
Dynamic range	>137 dB at 40 samples per second
Absolute accuracy	0.50%
Common-mode rejection	> 80 dB
Output rates available	1 to 1,000 samples per second
Highest output capability	3 × 1,000 samples per second
Decimation filters	2, 4, 5, 2×4, 2×5
Anti-alias filters	three-pole
Low-pass filters	FIR (other options available)
Out of band rejection	140 dB
Trigger modes	STA/LTA, level, external, software, per-channel voting, network voting
Timing drift when GPS not locked	< 1 ms per day
Timing sources	GPS and NTP
Calibration signal generator	Sine, step or broadband. Adjustable amplitude and frequency.
Operating temperature	-40 to +60 °C
Power supply	12 to 28 V DC
Power consumption at 12 V DC	2.36 W at 12 V with GPS
Operating system	Linux
Communications technologies	RS232, USB, Ethernet (10BASE-T, 100BASE-TX)
Internet technologies	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), CD1.1, SEEDlink and others
Flash memory	512 MB system, 16 GB data
Storage	Internal SD card, accessible via USB interface Unlimited external USB and NAS mass storage
Casing type	Stainless steel or hard anodised aluminium cylinder
Weight	1.99 kg (aluminium case, excluding mounting bracket, GPS and cables) 2.57 kg (aluminium case in mounting bracket, excluding GPS and cables)
Dimensions with mounting and carrying bracket	Cylinder: 114 mm Ø × 274 mm, excluding connectors and cables 130 × 160 × 304 mm in mounting case, excluding connectors and cables

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