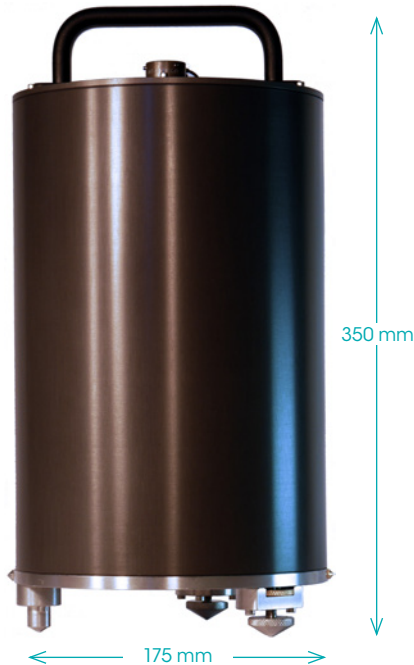


Güralp 3ESPCD



PORTABLE WEAK MOTION DIGITAL SEISMOMETER



Our proven, all-purpose 3ESPC design with integrated digitiser in a highly compact form factor.

The Güralp 3ESPCD is a development from the well-proven 3ESPC seismometer. It is a small, lightweight, broadband, triaxial instrument, offering weak-motion performance with a built in CD24 digitiser for the price and size of a medium-motion instrument.

Applications

- > Field-based monitoring stations
- > Surface vault
- > Post-hole
- > National seismic networks
- > Regional research projects
- > Rapid temporary deployments e.g. aftershock and volcanic unrest monitoring

Key features

Covers the complete seismic spectrum with a single transfer function

Standard response of 60 s to 50 Hz. Option of 30 or 120 s low-pass corner

On board 24-bit digitiser with configurable output and up to 32 GB of built in Flash memory

High linearity: >107 dB, 111 dB vertical

Over 140 dB dynamic range; low self noise over a wide frequency band

Cross axis rejection over 62 dB; sensor axes orthogonal to within +/- 0.05°

Robust automatic mass locking, unlocking and centring

Adjustable feet allow for levelling up to 4° tilt

Truly portable - 9.3 kg with lifting handle and convenient access to connectors

Simple and fast live data download over FireWire. Ethernet and Wi-Fi options available

SPECIFICATIONS

SYSTEM		PHYSICAL	
Configuration / Topology	Triaxial orthogonal (ZNE)	Diameter	175 mm
PERFORMANCE		Height without feet and handle	274 mm
Frequency Bandwidth	0.017 to 50 Hz (60 to 0.02 s) standard. Option of 30 s or 120 s low-pass corner	Height with feet	299 mm
	Contact Güralp to discuss other frequency response options	Height with feet and handle	350 mm
Output sensitivity	6000 V/ms ⁻¹ (2*3000 V/ms ⁻¹) differential output Contact Güralp to discuss alternative high sensitivity (high gain) options	Enclosure/Materials	Hard anodised aluminium
Peak / Full scale output	Differential: ±20 V (40 V peak-to-peak) Single-ended (e.g. mass positions): ±10 V (20 V peak-to-peak)	Weight	9.3 kg
Sensor Dynamic Range	> 140 dB	Alignment	Bubble level on lid; north arrow on handle and base; adjustable feet up to 4°
Self-noise below USGS NLNM	>30s to >16 Hz	Connectors	Military specification bayonet
Cross axis rejection	> 62dB	DIGITISER	
Linearity	> 111 dB vertical; > 107 dB horizontal (USGS figures)	Digital resolution/output format	24-bits
Lowest spurious resonance	> 300 Hz (vertical)	Internal storage capacity	Flash memory storage options available up to 32 GB
Transfer function	User manual is available to download from the website. Each sensor is provided with full calibration details including measured sensitivity, measured frequency response and instrument poles and zeros	Communication interfaces	Simple and fast live data download over FireWire. Ethernet and Wi-Fi options available
Calibration controls	Sine, step and broadband calibration via web interface or command-line	* See CD24 datasheet for full specifications	
Operating tilt range	± 2.5° from horizontal		
MASS / MONITORING CONTROL			
Sensor Mass positions	Three independent sensor mass position outputs (single ended)		
Locking	Remote auto mass lock/unlock		
Mass centre	Remotely controlled automatic mass centring		
POWER			
Power consumption (at 12 V DC)	1.6 W (without GPS or Ethernet)		
Power voltage range	10– 28 V DC		
ENVIRONMENTAL			
Operating temperature	-20 to +65 °C		