



ULTRALOW POWER 24-BIT BUILT-IN OR EXTERNAL SENSOR DIGITIZER **SD6503**



The PMD Scientific **SD6503** Sensor Digitizer is the essential minimum version of the **PMD 6500** family of data acquisition products, in that it eliminates both the hard disk and PC. When combined with a PMD, or other seismometer, it becomes *a high resolution digital seismometer*. The digital data stream can be connected via an RS-232 or RS-485 serial port and a digital radio or cable link to a central data collection computer. The large SRAM buffer (up to 16MB) ensures reliable

data retrieval even in highly unreliable transmission conditions. The digitizer consumes extremely low power without sacrificing its high resolution, deep anti-aliasing filtering, and wide range of programmable parameters.

This versatile device can be readily used in many applications and configurations:

- Mounted within the case of any PMD seismometer.
- As a stand-alone attachment converting the output of any analog sensor into a digital stream.
- Placed into a benthic sphere or other pressure vessel along with a PMD seismometer for OBS applications.

DIGITIZER

Converter Type:	24-bit Δ - Σ ; 320 kHz Base Rate
Dynamic Range:	>137 dB @ 100 sps (rms to FS)
Data Channels:	3 (4); opt. up to 16; Differential <i>or</i> Single-Ended
Sampling Rates:	0.1, 1, 10, 20, 40, 80, 100, 200, 500, 1000, 2000, 4000 sps ¹
CMR @ 50, 60 Hz	120dB
Analog Anti-Aliasing Filter:	>100 dB @ primary sampling rate
Digital Filter (@ output Nyquist):	>140 dB @ 200 sps (FIR or opt. IIR)
Programmable Gains:	1,2,4,8,16,32,64
Differential Input Signal Range:	Programmable: ± 2.5 , ± 20 V
Input Impedance	± 2.5 V – 1M Ω ; ± 20 V – 300k Ω
Overvoltage Prot.	± 40 V
State-of-Health Channel:	4 multiplexed inputs; Full 24-bit resolution
Static RAM Buffer:	Up to 16MB

TIMING SYSTEM

Type:	PLL controlled, GPS-referenced
Max. Accy. (Software Selectable):	<1 μ sec
Crystal Frequency Correction Resolution	0.016 ppm
GPS Duty Cycle (User Selectable):	Once every 18 hrs to achieve <1msec accuracy

POWER

Voltage:	6 – 16 Vdc
Overvoltage protection:	± 60 V
Power consumption	≤ 500 mW (3 channels, 100 sps)

USER INTERFACE

Remote PC:	Configured via serial port
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COMMUNICATION

Continuous Data Retrieval:	RS232 or RS485 (up to 1km) serial ports; optional internal modem
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ENVIRONMENTAL

Housing	Depends on application
Operating T° Range	-30 to +50°C
Storage T° Range	-40 to +60°C
Size (PCB card stack)	L 120 x W 120 x H 50mm
Weight	~0.5 kg

¹ Due to the limited bandwidth of the serial port maximum sampling rate decreases as the number of acquisition channels increases.