CAMPBELL SCIENTIFIC
WHEN MEASUREMENTS MATTER

Granite 6

Measurement and Control Data-Acquisition System

Rugged for the Field, Refined for the Lab

Flexible, precise, accurate

Overview

The Granite™6 DAQ is a powerful core component for your complete data-acquisition system. The Granite 6 provides fast communication, low power requirements, built-in USB and Wi-Fi, modular design, and high analog input accuracy and resolution. It uses universal (U) terminals to allow a connection to virtually any sensor—analog, digital, or smart. The multipurpose DAQ is also capable of measuring static vibrating wire measurements.

Learn about our patented VSPECT® spectral-analysis technology at our VSPECT Essentials web resource.

The dynamic vibrating wire measurement technique is protected under U.S. Patent No. 8,671,758, and the vibrating wire spectral-analysis technology (VSPECT) is protected under U.S. Patent No. 7,779,690.

Benefits and Features

- Operational in extreme environments with a standard operating range of -40° to +70°C
- USB and built-in Wi-Fi for easy connection to PC
- Universal terminals configurable for analog or digital, input or output
- Supports static vibrating wire measurements using Campbell Scientific's patented VSPECT® spectral analysis technology
- Industry leader for high-resolution measurement needs
- USB host facilitates additional memory in large data applications

Detailed Description

The Granite 6 provides extreme measurement versatility, has multiple communications options, processes sensor responses to engineering units, performs calculations, generates alarms, and controls external devices. Data are stored in onboard, nonvolatile memory awaiting transfer to the end user via direct or remote access. The Granite 6 can generate real-time or event-driven data tables. These data can be further processed with high-level math functions and statistical summaries such as averages, standard deviations, and rainflow histograms.

Specifications

-NOTE-	*Additional specifications are listed in the GRANITE 6 Specifications.*
Pulse Counters	12 (U1 to U12)
Voltage Excitation Terminals	12 (U1 to U12)
Universal Inputs	12 individually configured inputs for analog or digital functions
Case Material	Stainless steel 304 and aluminum 6061
Operating Temperature Range	❱ *Non-condensing environment* ❱ -40° to +70°C (standard)
Communications Ports	❱ USB host ❱ 0 to 5 V serial ❱ SDI-12 ❱ RS-485 ❱ RS-422 ❱ CPI/RS-232 ❱ Ethernet ❱ USB Micro B ❱ CS I/O
Data Storage Ports	❱ USB host ❱ microSD
Digital I/O	16 terminals (C1 to C4, U1 to U12) configurable for digital input and output. Terminals are configurable in pairs for 5 V or 3.3 V logic for some functions.
Analog Voltage Accuracy	Accuracy specifications do not include sensor or measurement noise.
Analog Voltage Accuracy	❱ ±(0.04% of measurement + offset) at 0° to 40°C ❱ ±(0.06% of measurement + offset) at -40° to +70°C
ADC	24-bit
Power Requirements	❱ 10 to 16 Vdc for battery input (BAT) ❱ 16 to 32 Vdc for charger input (CHG)
Real-Time Clock Accuracy	±3 min. per year (optional GPS correction to ±10 µs; 5.7 ppm)
Internet Protocols	Ethernet, PPP, RNDIS, ICMP/Ping, Auto-IP (APIPA), IPv4, IPv6, UDP, TCP, TLS (v1.2), DNS, DHCP, SLAAC, Telnet, HTTP(S), SFTP, FTP(S), POP3/TLS, NTP, SMTP/TLS, SNMPv3, CS I/O IP
Communication Protocols	CPI, PakBus, PakBus Encryption, SDM, SDI-12, Modbus RTU / ASCII / TCP, DNP3, custom user definable over serial, UDP, NTCIP, NMEA 0183, I2C, SPI
Warranty	❱ 3 years standard (against defects in materials and workmanship) ❱ Optional: An additional 2 years (against defects in materials and workmanship), bringing the total to 5 years
Battery-backed SRAM for CPU Usage & Final Storage	4 MB
Data Storage	4 MB SRAM + 72 MB flash (Storage expansion of up to 16 GB with removable microSD flash memory card.)
Idle Current Drain, Average	❱ *Assumes 12 Vdc on **BAT** terminals; add 2 mA if using **CHG** terminals.* ❱ < 1 mA
Active Current Drain, Average	❱ 67 mA (20 Hz scan) ❱ 3 mA (1 Hz scan) ❱ *Assumes 12 Vdc on **BAT** terminals; add 2 mA if using **CHG** terminals.*
Static Vibrating Wire Measurements	Supported
Dimensions	21.4 x 12.0 x 5.0 cm (8.4 x 4.7 x 2.0 in.) Additional clearance required for cables and leads.
Weight	0.86 kg (1.9 lb)

For comprehensive details, visit: www.campbellsci.com/granite6