Gateway + Vibrating Wire Datalogger (GVWD)

Your data, when and where you want it…

GSS's GVWD is an integrated gateway and vibrating wire datalogger. GVWD wirelessly enables cabled vibrating wire sensors to take readings and schedule uploads of raw data and temperature at user-defined intervals. The GVWD is a fit-for-purpose device that gives you the flexibility to install the number of channels required for the job. It can be fitted with as few as 1 channel, supports up to 12 channels standard and can be upgraded up to 16 channels.

Features

- Supports from 1 to 16 Vibrating Wire Devices
- 3G/4G/LTE Communication Module
- Bluetooth Communication Module for Local Configuration
- Replaceable Communication Module – Wi-Fi and more in development including Mesh, UHF, LoRa
- Remotely Manageable and Configurable via SMS and Configuration File Downloads
- Auto Scan and Configure Feature
- Easy Installation and Removal
- 6 LEDs for Visual Operation
- IP65 Rated Case
- Spring Loaded Screw Terminals
- Integrated Temperature and Barometer
- CSV Data Output for easy GIS Integration
- Data Uploads over FTP/FTPS and HTTP/HTTPS
- Industrial 512MB MicroSD Card
- Years of Battery Life under normal operations conditions
- Powered via:
    - 4 Replaceable D Cell Lithium Primary Batteries
    - USB Connector
    - Solar Power Connector
- Integrated Battery Fuel Gauge

Applications

- Construction Sites
- Structural Health Monitoring
    - Buildings
    - Bridges
    - Tunnels
    - Airports
    - Railways
    - Pipelines
- Foundation Monitoring

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Gateway + Vibrating Wire Datalogger (GVWD)

General Specifications	
Part Number	GVWD-E01 (3G/4G/LTE Communication Module) GVWD-W01 (Wi-Fi Communication Module)
Management Access Port	USB serial interface, Bluetooth (BLE)
Storage	Industrial MicroSD Card - 512MB standard or 2GB (optional upgrade)
Time Keeping	Real Time Clock, Synched to NTP / Cell Tower
Firmware Updates	Over-the-air programming (OTAP) via FTP
Application	VW Management Console (Windows 7,8,10 and 11)
Vibrating Wire Specifications	
Vibrating Wire Channels	From 1 to 12 channels (standard); Upgradeable to 16 channels
Compatibility	Measures single-coil vibrating wire instruments from most manufacturers (e.g. piezometers, load cells, strain gauges, crack meters, extensometers)
Auto Detection & Configuration	• Automatically detects & configures sensors - can identify coils from 50 Ω to 10 k Ω • Ability to manually override auto-detection configuration settings
Frequency Range	30 to 6,000Hz
Measurement Rate	~ 2Hz per channel
Analog Output	Frequency value to current and voltage output, resolution up to 1/8000
Precision	0.05Hz ~ 0.25Hz
Measurement Modes	Scheduled measurement
Reading Frequency	From every 1 minute to 1 reading per day
Upload Frequency	From every 1 hour to 1 upload per day
Excitation Methods	• Auto Scan Capability • Programmable high voltage excitation • Programmable frequency sweep • Intelligent frequency sweep
Signal Quality Evaluation	• Sampling data quality evaluation algorithm • Signal amplitude detection • Signal quality evaluation
Temperature Detection	• Thermistor DS18B20 core temperature detection • Internal • NTC in sensor • Voltage
Barometer	Internal
ADC	12-bit precision ADC converter
Reference Voltage	High-precision reference voltage
Operating Specifications	
GSM Communication Module	
GSM Modems	EG25 (3G/4G) Global bands (uses nanoSIM)
Certificates	Anatel, CE, DOC, FCC, GCF, ICASA, IFETEL, PTRCB, RCM
Antennas	GSM, Bluetooth
Wi-Fi Communication Module	
Frequency	2,402 to 2,480 MHz
Modulation	802.11b/g
Transmission Rate	1 – 11 Mbps for 802.11b; 6-54 Mbps for 802.11g
Power	
Usage	< 10mA (idle); < 150mA (operational); ~1A (3G connected)
Battery	56000mAh
Battery Life	Years based on normal configuration
Battery Fuel Gauge	Coulomb Counter

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USB Power	Can be powered through the USB connector
Solar Power	Can be powered through a solar adapter (recommended solar panel: 10W @ 8V-12V)
Environmental	
Operating Temperature	-40°C TO +85 °C
Dimensions	W 205 x L 205 x H 48 mm
Weight	2.5Kg
Mounting Choices	
Mounting Bracket (Optional)	Custom mounting bracket available

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