CESCO EQUIPMENT

Partner for Australia, NZ & PNG

GeoSitter Facebook

GeoSitter LinkedIn

SCAN ME
Save Our Contact Information

ENGINEERING MONITORING IoT SOLUTION

CESCO AUSTRALIA

Address：Brisbane Head Office, 38 Goodman Place, Murarrie QLD 4172

Email: info@cescoequipment.com.au

Phone: (07) 3908 6088

Web: www.cescoequipment.com.au

MONITORING SOLUTIONS

MONITORING CLOUD PLATFORM

INTELLIGENT DEVICE

CONTENT

CESCO EQUIPMENT

COMPANY PROFILE

GeoSitter was introduced by Ougan Group, which was founded in 2005 and has more than 130 employees, among them there are 15 R&D personnel, 15 senior management personnel, and over 40 engineers and technicians. Our business covers the R&D manufacturing of comprehensive, one-stop automated engineering monitoring solutions. Our services encompass custom development and integration of monitoring software and hardware, as well as the formulation and implementation of monitoring plans and data management.

GeoSitter is committed to ongoing technical innovation and product enhancements. As a national high-tech enterprise and a specialized, high-tech enterprise, we have successfully secured dozens of recognized patents and participated in numerous well-known projects at home and abroad. These include bridge monitoring, tunnel monitoring, building monitoring, deep foundation pit monitoring, slop monitoring, etc. These projects demonstrate GeoSitter's expertise in providing critical monitoring solutions for infrastructure and construction.

COMPANY HONOR

AUTOMATED MONITORING SOLUTION

ENGINEERED SECURITY IoT SOLUTION
PROVIDES RELIABLE HEALTH MONITORING

Main applications

Through the comprehensive use of high-precision receivers, high-precision measurement equipment (total station), intelligent acquisition and transmission equipment (5G, Lora, NB, communications), professional sensors (inclinometer, water level, stress, laser, crack and other sensors) machine vision and video surveillance and monitoring cloud platform technologies, as well as combining AI and big data in-depth mining analysis methods to provide monitoring solution and guide project operation management and widely used in the following scenarios.

01 Geological hazards early warning: mountain slopes, road slopes, reservoirs and dams, debris flows, collapse monitoring and early warning;

02 Construction project safety early warning: safety monitoring and early warning of foundation pits, tunnels, buildings, high support formwork and other projects that are under construction;

03 Rail transit safety early warning: safety monitoring of subways, expressways, municipal roads and other traffic engineering projects that are under operation and construction periods, as well as full life cycle health monitoring of engineering bridges and tunnels.

APPLICATIONS


Deep foundation pit


Slope, mine


High support formwork


Tunnel


Building


Reservoirs, dams, tailings ponds


Bridge


Tower


Urban waterlogging


Coal mine goaf

SMART PRODUCTS

- The hardware is simple, portable, easy to install, and highly integrated.
- Communication, collection and transmission are all-in-one.
- Long battery life and diverse applications.
- All hardware, including those from other manufacturers, can be connected to the GeoSitter Monitoring Platform.

Inclination Monitoring

Settlement Monitoring

Water Level/Seepage Pressure Monitoring

Displacement Monitoring

Stress/Strain Monitoring

Environmental Monitoring

Vibration Monitoring

Data Acquisition for Monitoring

High Support Formwork Monitoring

TSW ROBOT

Specifications

Range: 70m(inclinometer, water level, settlement)

Inclinometer Accuracy: ±2 mm / 50 m; Resolution: 0.0001°

Water Level Accuracy: 1 cm; Resolution: 1 mm

Settlement Accuracy: 1 cm; Magnetic ring resolution: 1 mm

Minimum Bending Radius: 2.7 m (for Ø70 mm inclinometer casing)

Measurement Speed: 50 m in approx. 23 min

Power Supply: 16 V / 6 Ah lithium battery (standard or low-temp) Solar panel: 12 V / 30 W (standard) or 12 V/10 W (low-frequency use)

Battery Life: Up to 58 measurements (20 m range) per charge

Ingress Protection: IP68

Operating Temp: -20°C to +60°C; Humidity: 0–100%

Communication: 4G LTE (full network compatibility)

Features

- Zero-Calibration Function
- Multi-Parameter Monitoring
- Cloud-Based Data Upload
- Flexible Power Supply
- Field-Ready Design

Applications

1. Dams and reservoirs
2. Slopes and landslide-prone areas
3. Tunnels and underground works
4. Highways and railway embankments
5. Deep excavations
6. Pipelines and underground utilities
7. Heritage structures
8. Offshore wind and subsea installations

VISION ROBOT-V3

Specifications

Measurement Distance: 1–500 m
Measurement Accuracy: ±0.05 mm (at 20 m distance)
Measurement Resolution: 0.01 pixel (related to lens and focal length)
Operating Temperature: -35°C to 80°C
Sampling Frequency: 1–50 Hz
Communication Method: 4G / Ethernet (MQTT / TCP protocols)
Power Supply: DC 12–36 V
Protection Rating: IP65
Reference Targets: Passive targets (compatible with active targets)
Frequency Range: 0.1–10 Hz
Auxiliary Light Source: Built-in laser illumination, effective up to >300 m
Frequency Accuracy: 0.02 Hz
Installation Environment: Supports offline installation and adjustment (no network required)
Operating System: Linux
Calibration Method: Intelligent automatic calibration algorithm; no need for distance measurement or leveling

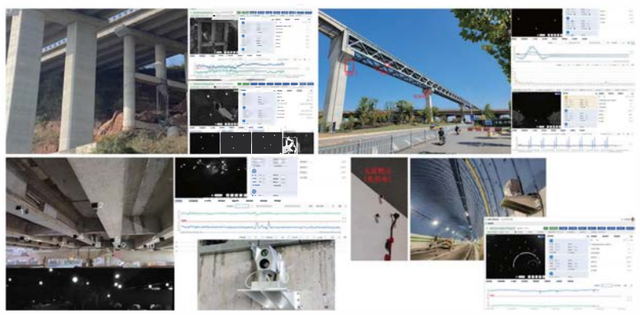
Power Consumption: 15 W (supports low-power mode < 0.5 W)
Data Storage: Supports local TF-card storage; data retransmis sion after network recovery
Device Interfaces：4G / Beidou / Wifi / Ethernet / RS485
Compensation System: Anti-vibration laser compensation, triaxial attitude angle compensa tion,brightness compensation, temperature compensation
Abnormal Event Alerts: Supports alarms for over-limit displacement, loss of target points, etc.; SMS notification available

Features

- Non-contact image-based monitoring with high accuracy
- Target-free markers for high reliability
- One device for multiple points, offering high measurement efficiency

Applications

1.Bridges
2.Tunnels
3.Rail Transit
4.Bridge Reinforcement



Inclination Monitoring

INCLINO-ROBOT-IRA-S

Specifications

Model：IRA-30S
Operating Temperature：-10~60°C
Measuring Range：±30°
Size：203mm×192mm×61mm
Resolution：0.01mm/500mm
Instrument Weight：4kg
Accuracy：0.25mm/m | 2.5mm/30m
Instrument Wheelbase：500mm

Features

- Wide applicability: the equipment can be used multiple timesfordifferent depths of excavations without the need for factory processing
- Safe and accurate: adheres strictly to inclinometer principles, eliminating errors caused by human factors and greatly improving measurement accuracy
- Customizable measurement frequency: allows for automatic measurements at set intervals, and the measurement frequency can be adjusted as needed
- Simple and convenient: no cable reel required,compact size, easy to install
- Time-saving and labor-saving: utilizes wireless communication, battery power, and solar energy technology, no need for cable laying and protective pipes
- Data diversity: includes a variety of measurement data such as angle, water temperature, battery level, and deformation
- Immersion: provides significant advantages, particularly for monitoring underwater or in wet environments

WIRELESS TILT METER

Specifications

Model: GS-VM 06 Wireless Tilt Meter
Measurement Range: -90° ~ +90°
Measurement Accuracy: -15°~+15° ±0.005° ±0.01°
-30°~+30° ±0.01° ±0.02°
-60°~+60° ±0.02° ±0.05°
-80°~+80° ±0.1° ±0.5°
-90°~+90° ±1.0° ±3.0°
Standby current: Armed: 300 ~ 360 uA
Disarmed: 30 ~ 60 uA
Operating Temperature: -20 °C ~ +70 °C
Protection Level: IP67

Features

- Suitable for a automated monitoring systems.
- Built entirely with industrial-grade components to ensure stability and reliability.
- Ultra-low power consumption design for long-term operation.

Applications

Widely used in building monitoring, heritage protection, bridge deformation monitoring, geological exploration, municipal engineering, telecommunications, heating systems, water services, and power utilities etc.

ARRAY INCLINOMETER

Specifications

Model:GS-SAA02 Tensile Guarantee:550 kgf Working Method:(MEMS) Waterproof Guarantee:(2MPa)
Operating Environment:-40~60°C(humidity95%) Range:0~360°
Measurement Accuracy:±0.002°(0.0006 in)(0.02mm@ 500mm)
±0.005°(0.0014 in)(0.05mm@ 500mm)
±0.012°(0.003in)(0.1mm@ 500mm)
Maximum Bending Angle at Segment Connection:180°
Anti-Twist Correction Accuracy:Better than ±1°/Better than ±1.2°/Better than ±1.8°

Features

- Temperature zone compensation and data stability
- Accurate direction and reliable precision
- Offset correction
- Torsional correction
- Segmented design and reuse

Applications

Deep horizontal displacement monitoring of hydraulic structures,slopes,foundation-pits, etc.
Settlement monitoring of sub-grade, rock-fill dam,etc. Convergence monitoring oftunnels, underground factory buildings,etc.

DUAL-AXIS TILT METER

Specifications

Model:GS-DATMO5
Measurement Range: ±10°/±30°/±90°
Measurement Accuracy:0.005~0.01°
Standby current ⩽20μA,
Average transmission current ⩽100mA
Operating Temperature:-40 to 85°c
Vibration:⩽3g/10Hz...150Hz
(IEC 60068-2-6-2007)
Protection Level: Ip68

Features

- Extended Battery Life: Solar-powered, no external power supply required
- IP68 Protection Level: Features a fully integrated, sealed design achieving an IP68 protection level
- Real-Time Data Collection with Triggered Reporting: Operates with both scheduled data collection and triggered reporting modes, enabling the device to capture and report changes in the monitored object in real-time while consuming minimal power. Suitable for long-term movement studies, monitoring and early warnings, and on-site equipment theft prevention
- Simple On-Site Operation: No wiring required on-site, reducing fieldwork; supports remote parameter configuration and firmware updates.

Applications

Structural monitoring in tilt building, towers, bridge piers, and etc..

Settlement Monitoring

DIFFERENTIAL PRESSURE/HYDROSTATIC LEVEL METER

Specifications

Model:GS-HLM01
Comprehensive Accuracy:0.05~0.1 μm
Resolution:0.01 mm
Pressure Range:0 to 1000 mm H2O
Power Supply Voltage:12 V DC (7~30 V DC)
Protection Level:IP67
Operating Temperature:-40°C to +85°C
Overload Pressure:150 kPa
Compensation Temperature:-20°C to +60°C

Features

- Adopt imported precision pressure core, usezero point,full scale, temperature compensation, digital integrated amplification board.
- Adopt waterproof and lightning protection structure design, simple and convenient installation, easy maintenance and high precision.

Applications

Rail transit sub-grade settlement monitoring, subway support wall settlement monitoring, tunnel upper mountains and buildings, highway sub-grade, slope Settlement detection, bridge piers, foundation pit settlement detection, nuclear power plants,large hydro power stations, dam sand water conservancy hubs, foundations of high-rise buildings, and comprehensive pipe gallery settlement monitoring.

MAGNETOSTRICTIVE STATIC LEVEL METER

Specifications

Model:GS-MSLM03
Measurement Accuracy:0.1mm
Power Supply:Default 24V DC (optional 12V DC)
Displacement Range:100 mm
Repetition Error:⩽ ±0.002 μm
Protection Level:IP67
Output Signal:RS-485 output
Temperature Coefficient:⩽ 0.007 μm/°C
Operating Temperature:-40°C to +85°C

Features

- High precision: measurement accuracy 0.1‰FS
- Long life: non-contact measurement, no friction
- High stability: high temperature resistance, pressure resistance and corrosion resistance
- Output absolute signals: without signal amplification or regular calibration
- High cost-effectiveness performance and adaptability with easy installation

Applications

1.Integrated pipe gallery settlement monitoring
2.Settlement detection of bridge pier sand foundation pits
3.Rail transit sub grade settlement monitoring
4.Highway road bed and slope settlement detection
5.Settlement monitoring of subway support walls
6.Nuclear power plants, large hydro-power plants
7.The mountain sand buildings in the upper part of the tunnel
8.Base of dams, water conservancy projects and high-rise buildings

Water Level/Seepage Pressure Monitoring

INTEGRATED WATER LEVEL METER

Specifications

Model：GS-IWLM03
Collection Method：Lora/NB wireless collection
Pressure Range:-0.1 to 60 Mpa
Wide Temperature Operation:-35 to 75℃
Accuracy Level:0.1%
Calibration Method:485 communication multi-point calibration
Pressure Overload：Overload less than 20%
Protection Level：IP68
Power Supply Mode：3.5V to 12V
Battery Capacity：9000 mAh
Emission Current：<130 mA

Features

- Low power consumption: increases battery life to make the product work more than two years without external power supply
- Real-time Monitoring: Integrated equipment can realize instant collection and transmission, achieving real-time monitoring effect with the monitoring system
- Built-in self-test alarm system: when the alarm value is measured, it will be continuously collected multiple times and judged again
- Sampling interval and other parameter scan be freely modified remotely through the system
- The collection terminal has an excellent IP68 protection level
- Small size and easy installation

Applications

Groundwater level monitoring in deep excavation of foundation pits, water conservancy facilities, infrastructure projects, dams, embankments and other structures.

PIEZOMETER

Specifications

Model：GS-P01
Range：0.35--3MPA optional
Non-linearity：0.5%FS
Resolution：0.05%FS
Repeatability：0.25%FS
Hysteresis：0.5%FS
Overall Error：0.5%FS
Temperature Measurement Range：-40℃ to 90℃
Temperature Sensitivity：0.1%FS
Temperature Accuracy：±0.5℃

Features

- Vibrating Wire Design: The piezometer uses vibrating wire theory to measure pressure. Water pressure on the elastic diaphragm alters the wire's stress, which is detected by an electromagnetic coil measuring frequency. The signal is sent to a reading device to determine the water pressure. It offers high sensitivity, accuracy, and stability for long-term use.
- Digital Detection: The signal can be transmitted over long distances without distortion, with strong anti-interference capability.
- Good Insulation Performance: Waterproof and durable.
- Pulse Excitation: Fast testing speed using pulse excitation method.
- Direct Temperature Measurement: Directly measures the temperature at the measurement point and provides temperature compensation.
- Integrated Testing Instrument: With our integrated testing instrument, it displays vibrating wire frequency and temperature. It offers simple, fast measurement and supports automatic operation and wireless remote monitoring.

Displacement Monitoring

LASER RANGEFINDER

Specifications

Model:GS-LR04
Protection Level: IP65
Measuring Range: 0.2m~50m (customizable)
Temperature Range: -20℃~70℃
Resolution: 0.1mm
Accuracy:±1mm+20ppm

Features

- The laser range finder uses laser phase method measurement technology to measure the distance between the transmitter, receiver and target with fast high accuracy and other characteristics.
- The product is compact and it supports diverse interfaces to meet different usage environments.

Applications

It is suitable for monitoring fields such as tunnel convergence, foundation pit structural deformation, bridge deflection, etc.

CRACK METER

Specifications

Model:GS-CM06 Nonlinearity:≤ 0.5% Measuring Range:±5 mm, ±10 mm, ±25 mm, ±50 mm (customizable)
Accuracy:0.1 mm Sensitivity:0.01 mm Temperature Range：-20℃ to 80℃

Features

- Low power consumption design: increasing battery life to make the product work more than two years without external power supply
- Real-time monitoring: Integrated equipment to realize instant collection and transmission, and it can achieve real-time monitoring effect with the monitoring system
- Builtin self-test alarm system: when the alarm value is measured, it will be continuously collected multiple times and judged again.
- Sampling interval and other parameters can be freely modified remotely through the system
- The collection terminal has an excellent IP68 protection level
- Small size and easy installation

Applications

House crack monitoring, ancient building crack monitoring, bridge pier crack monitoring and other structural crack monitoring.

GNSS SENSORS

Specifications

Model：GS-GNSS07 Planarity Accuracy：±(2.5+0.5×10- 6×D)mm
Height Accuracy：±(5.0+0.5×10- 6×D)mm Protection Level：IP68
Operating Temperature：-30℃～+75℃ Signal Tracking：
GPS: L1C/A, L2C, L5 GLONASS: L1C/A, L1P, L2C/A, L2P
BDS: B1, B2, B3
SBAS: L1C/A, L5 (supports WASS, EGNOS, and MSAS) Reserved for Galileo GIOVE-A and GIOVE-B
Communication：GPRS/4G module (CORS), radio communication module, communication

Features

- By adopting GNSS real-time precision positioning algorithm (error elimination), GNSS fast positioning technology, all-weather multi-scenario high-precision positioning technology, GNSS short message technology, and GNSS synchronous timing technology, there is no need to build self-built base stations.
- It is highly integrated of antennas, receivers, and communications for flexible communication methods. It can use either POE power supply communication or 4G communication. The installation and deployment are simple and flexible.
- Built-in high-level commercial encryption algorithm and dynamically changing encryption strategies both secure the data without being hacked.

Applications

Slope monitoring, debris flow monitoring, landslide monitoring, surface displacement monitoring, and deformation monitoring.

VIBRATION WIRE CRACK METER(DISPLACEMENT METER)

Specifications

Model：GS-DM03-25 Temperature Sensitivity：±0.1℃
Measurement Range：0-100/200/300 mm Temperature Accuracy：±0.5℃
Accuracy：0.1% FS Water Pressure Resistance：1 Mpa
Resolution：0.025% FS
Temperature Measurement Range：-40℃ to +80℃

Features

- Fully stainless steel, integrated design. Features include anti-rotation, anti-bending, impact-resistant, drop-resistant, grounding and lightning protection. Easy and reliable installation, suitable for long-term underwater use.
- Can be equipped with accessories to form various sensors, such as bedrock displacement gauges, multi-point displacement gauges, and soil strain gauges.

Applications

It is suitable for long-term measurement of the opening and closing degree (displacement) of expansion joints in hydraulic or other concrete structures. It can also be used to measure displacement, settlement, and sliding in structures such as earth dams, embankments, and slopes, while simultaneously measuring temperature at installation points.

Stress/Strain Monitoring

REBAR STRAIN METER

Specifications

Model：GS-RSM01 Temperature Sensitivity：±0.1℃
Measurement Range：-200MPa to +500MPa Temperature Accuracy：±0.5℃
Resolution：0.025%FS Water Pressure Resistance：1MP
Accuracy：0.1%FS
Temperature Measurement Range：-40℃ to +80℃

Features

- It features automatic temperature compensation, with a temperature correction coefficient smaller than the minimum reading, eliminating the need for temperature correction during use.
- It is made entirely of stainless steel, making it impact-resistant, corrosion-resistant, and grounded for lightning protection. It is designed for long-term underwater operation.

Applications

It is suitable for long-term embedding in hydraulic structures or other concrete structures to measure the stress in rebar within the structures and simultaneously measure the temperature at the embedding point. With additional accessories, it can be configured as an anchor load cell, bedrock stress meter, and other stress measurement instruments.

PRESSURE CELL

Specifications

Model：GS-PC01
Range：0.3MPa / 0.6MPa / 1MPa / 2MPa / 4MPa / 8MPa
Resolution：0.001MPa
Pressure Accuracy：0.5%FS
Temperature Accuracy：±0.5℃
Dimensions：118mm × 123mm × 29.5–35mm
198mm × 203mm × 28–34mm

Features

- The vibrating wire stress meter features a reliable structure, stable measurements, and easy embedding.
- Its entire stainless steel makes it impact-resistant, corrosion-resistant, and grounded for lightning protection, which is suitable for long-term underwater operation.
- Its measuring system supports intelligent information recognition, intelligent fault diagnosis, and seamless integration with cloud platforms and mobile phones.

Applications

It is suitable for long-term embedding in hydraulic structures or other concrete structures to measure the stress state within the concrete structure and simultaneously measure the temperature at the embedding point.

ANCHOR LOAD CELL

Specifications

Model：GS-ALC01
Measurement Range：0 to 5000 kN (customizable range)
Resolution：0.05% FS
Accuracy：0.5% FS
Temperature Measurement Range：-40°C to +80°C
Temperature Sensitivity：±0.1°C
Temperature Accuracy：±0.5°C
Water Pressure Resistance：0.5 Mpa

Features

- It is arranged with 4 to 6 units, impact-resistant, with temperature self-compensation, grounding and lightning protection, and provides stable and reliable measurements.

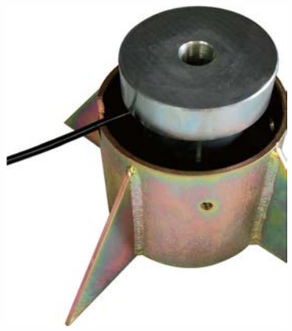
Applications

It is suitable for long-term monitoring of the anchorage state of hydraulic structures, concrete structures, rock slopes, bridges, and other pre-stressed elements. It can simultaneously measure the temperature at the installation points.

LOADCELL

Specifications

Model：GS-LC01
Range：1000KN, 2000KN, 3000KN, 4000KN, 5000KN
Resolution：0.05%FS
Accuracy：0.5%FS



Features

- It features automatic temperature compensation, with a temperature correction coefficient smaller than the minimum reading, eliminating the need for temperature correction during use.

Applications

It is suitable for long-term monitoring of the load forces borne by steel supports in structures such as dams, foundation pits, and tunnels. It is an effective monitoring device to understand the load variations in the measured structures and can simultaneously measure the temperature at the embedding point.

SURFACE/EMBEDDED STRAIN GAUGE

Specifications

Model：GS-SG02
Measurement Range：3000 με (Tensile 1500 με; Compression 1500 με)
Resolution：0.025% FS
Accuracy：0.1% FS
Temperature Measurement Range：-40°C to +80°C
Temperature Sensitivity：±0.1°C
Temperature Accuracy：±0.5°C
Water Pressure Resistance：1 Mpa
Additional Resolution：0.015% FS

Features

- Fully stainless steel, integrated design: Features include anti-rotation, anti-bending, impact-resistant, drop-resistant, grounding and lightning protection. The gauge has a low elastic modulus, good adaptability to the tested structure, and does not interfere with the original stress field. It is easy and reliable to install and is suitable for long-term underwater use.
- It can be equipped with accessories to form multi-directional strain gauge groups, stress meters, rock strain gauges, and other strain measurement instruments.

Applications

1.It is suitable for long-term embedding in hydraulic or other concrete structures to measure internal strain and simultaneously measure the temperature at installation points.
2.High-modulus strain gauges are mainly used for high-position concrete continuous pouring, such as in underground continuous walls, impermeable walls, and drilled piles.

Environmental Monitoring

RAIN GAUGE

Specifications

Model：GS-RG03
Working Temperature：0℃ to 50℃
Measuring Rainfall Intensity：⩽ 4 mm/min
Resolution：3.14 ml is 0.1 mm, 6.28 ml is 0.2 mm

Output Signal：RS485
Protection Level：Ip67
Working Voltage：12-24 V DC

Features

- Comply with the relevant requirements on automatic rainfall stations in the national standard Precipitation Observation Specifications and Surface Meteorological Observation Specifications.
- Data collection, storage and transmission are all digitized and intelligent. It is currently the most advanced digital rain gauge.
- This instrument has high rain sensitivity, high measurement accuracy, wide range of rain intensity, and suitable for installation under various environmental conditions.
- Simple and convenient installation, fast data online, and the ability to remotely modify monitoring frequency and setting parameters

Applications

Meteorological observatories, hydrological stations, geological disasters, flash flood agriculture and other relevant departments measure precipitation amount and intensity.

Vibration Monitoring

WIRELESS VIBRATION METER

Specifications

Model: GS-VM 03 Wireless Vibration Meter

3-axis vibration measurement (X / Y / Z)

Acceleration, velocity, displacement, frequency & temperature

Frequency range: 0 – 260 Hz, Suitable for most industrial and structural monitoring scenarios

High accuracy & Low noise: Noise density 15 μg/√Hz, acceleration accuracy ±4%

Wireless communication: 4G Cat.1 + MQTT, easy system integration

Long-term data logging: 8 GB internal storage, onboard data processing

Ultra-low power design: Battery life up to 3 years (low-power mode)

Industrial-grade design: IP68, aluminum housing, outdoor-ready

Features

- Integrated algorithms
- Temperature-vibration integration
- Large storage capacity
- High-speed data interface
- Flexible power supply options
- High-reliability design
- Seamless system integration

Applications

1. High-precision industrial vibration data acquisition and analysis
2. Geological hazard monitoring and early warning
3. Structural health monitoring(SHM) and early warning in civil engineering
4. Safety monitoring of power transmission line structures

Vibration Monitoring

WIRELESS VIBRATING METER

Specifications

Model：GS-WVM03
Data Output Types：
Characteristic Values：Peak acceleration, RMS acceleration, Peak velocity, RMS velocity, Peak displacement, Peak-to-Peak displacement, Peak frequency, Instantaneous temperature
Waveform Values：Acceleration, displacement, and velocity time-domain waveforms and frequency-domain waveforms
Acceleration Sampling Rate：260 Hz：Up to 833 Hz
6 kHz：Up to 26,667 Hz
260 Hz：0.1 Hz to 260 Hz
6 kHz：33 Hz to 6 kHz
Temperature Sensor：Range：50℃ to 150℃
Accuracy：-20℃ to 85℃ (Typical ±0.5℃)
50℃ to 150℃ (Typical ±0.75℃)
Response Time：⩽ 100 s

Features

- Integrated Algorithms: Includes algorithms for calculating acceleration, velocity, displacement, and waveform values.
- Multiple Frequency Response Specifications: High-precision version with frequency response down to 0.1 Hz; high-bandwidth version with frequency response up to 6 kHz.
- Integrated Temperature Measurement: Combines temperature and vibration measurements with a wide temperature range and high accuracy of ±0.5℃.
- Large Storage Capacity: Equipped with a large-capacity memory, capable of storing waveform data with up to 100,000 points per axis.
- Multiple Communication Interfaces: Options for LoRa, WiFi, and 4G wireless communication interfaces to meet various application needs.
- Ultra-Low Power Consumption: LoRa version offers up to 5 years of use time.
- Extended Communication Range: LoRa version supports communication distances up to 3 km.
- High-Reliability Design: Constructed with an aluminum alloy and industrial-grade plastic shell, featuring an IP68 protection level for reliable long-term operation.
- Rapid System Integration: Supports complete LoRa Modbus or MQTT interface protocols for quick and easy integration.
- Plug-and-Play: Ready to use out of the box.

Data Acquisition for Monitoring

VIBRATION WIRE READOUT

Specifications

Model	GS-VWR	
Index	Condition	Range
Dimensions		165x82x31 mm^3
Protection Level		IP53
Power Supply		4 AA batteries (or lithium)
Lithium Battery Capacity		2000 mAH
Power Consumption @DC5V	Maximum Power	135 mA
	Without Sensor Connection	105 mA
	Backlight Off	70 mA
Working Time	Using 2000mAH Lithium Battery	15~24 hours
Temperature	Operating Temperature	-20~80 ℃
	Storage Temperature	-60~120 ℃
Screen Resolution		320x240 pix^2
Internal Storage	Storage Capacity	8 MByte
	Maximum Data Entries Saved	25 10,000 entries
External Storage	U Disk	1~32 GByte
Range	Vibrating String Frequency	300~6000 Hz
	Vibrating String Temperature - NTC3k	-60~120 ℃
Accuracy	Vibrating String Frequency	± 0.2 Hz
	Vibrating String Temperature	± 0.5 ℃

Features

- High-Resolution Color Display: 2.8-inch high-resolution 320x240 pixel full-color RGB screen with large, high-brightness fonts. Superior visual quality compared to 128x64 monochrome screens.
- Array Keyboard: Mechanical large key design with long key lifespan. Clear and easily understandable icon and text labels, providing excellent tactile feedback and ease of operation.
- Massive Storage: Built-in high-capacity FLASH memory capable of storing 250,000 data entries.
- High-Speed MCU:High-performance 32-bit processor designed to industrial standards.
- Multi-Type Sensor Support: Supports vibrating wire, NTC temperature, DS18B20, two-wire digital sensors (electronic tags), wireless passive sensors, voltage, and current sensors.
- Precision Measurement: Includes an independent dedicated vibrating wire measurement module with various excitation methods available. High integration, accurate readings, and strong sensor compatibility.
- Physical Interface: Uses DB9 or 10-pin aviation connectors. Equipped with anti-static and surge protection circuits for safe and reliable operation.
- Versatile Data Export: Supports external USB drives with intelligent recognition and automatic synchronization.
- Automation Features: Built-in RTC (Real-Time Clock) with automatic startup and shutdown circuits. Configurable parameters for automatic timed data collection, storage, and wireless transmission of sensor data.

Applications

This handheld reader is designed for measuring single-string vibrating wire sensors and secondary types such as voltage and current sensors. It supports both domestic and international vibrating wire sensors, offering frequency and temperature readings. Key features include a 32-bit ARM processor, a large full-color display, extensive sensor grouping storage, and automatic data export to USB drives or SD cards. It is powered by either four AA batteries or a rechargeable lithium battery and supports Bluetooth, custom RF wireless communication, and automated, unattended monitoring.

DIGITAL DATA LOGGER

Specifications

Model:GS-DDL-06
Input Signal:RS485 (MODBUS-RTU) interface, supports up to 64 devices (standard MODBUS-RTU protocol)
SIM Card：Built-in　　Network：4G/GSM
Antenna：Built-in (optional)　　Operating Temperature:-20°C to 70°C
Storage Temperature:-40°C to 85°C　　Protection Level:IP67/IP65
Configuration Mode：configuration/remote configuration (remote configuration requires commands from platform)
Upload Information：Data from each collection point, battery information, network status, signal strength, alarm information, etc.

Power Supply Types	Solar Powered	External Power Supply
Supply Voltage	Built-in 7800mAH lithium battery, integrated solar panel charging (can also be externally powered with 3.7~5V)	10~30VDC

Features

- Ultra-low power consumption: 20μA in sleep mode
- Delayed data collection for power supply: filters and reports data only after removing anomalies
- Online monitoring: Data application on PC and mobile devices, real-time/historical/alarm data query
- Remote configuration: Collection frequency, sending frequency, alarm upper and lower limits can be configured
- User-friendly data collection and configuration: compatible with all products meeting the standard MODBUS-RTU protocol
- Enhanced EMC interference resistance: monitored by hardware and software, suitable for harsh industrial environments with severe electromagnetic interference
- 24/7 online monitoring, data server records data for several years
- API interface of an open cloud platform , seamless integration with user-specific platforms

VIBRATING WIRE DATA LOGGER

Specifications

Model：GS-VWDL-08
Signal component acquisition：500-5000Hz (vibrating wire signal)
Number of Channels:8 channels
Measurement Accuracy:±0.02% (vibrating wire signal)
Operating Temperature:-30°C to 80°C
Timing Mode:Interval cycle timing
Debugging:Configurable both remotely and locally

Features

- Automated Monitoring Friendly: Based on CAT1 communication technology, featuring low power consumption, wide coverage, massive connectivity, low latency, and low cost, making it particularly suitable for interactive automated monitoring
- Large Storage Capacity: If data upload conditions are poor, the instrument will resume transmission when they improve, ensuring no data loss and no need for manual intervention. This ensures stability in scenarios with weak wireless signals

MONITORING DATA PLATFORM

Profile

GeoSitter Monitoring Data Platform is a software platform developed by engineers. During the construction and operation of engineering projects, the safety monitoring of structures such as bridges, foundation pits, slopes, and tunnels is of utmost importance. To ensure the safety and stability of these facilities, the platform offers comprehensive, customized, and intelligent monitoring solutions. It has been validated through over 600 projects, becoming a crucial guardian for structural safety management.

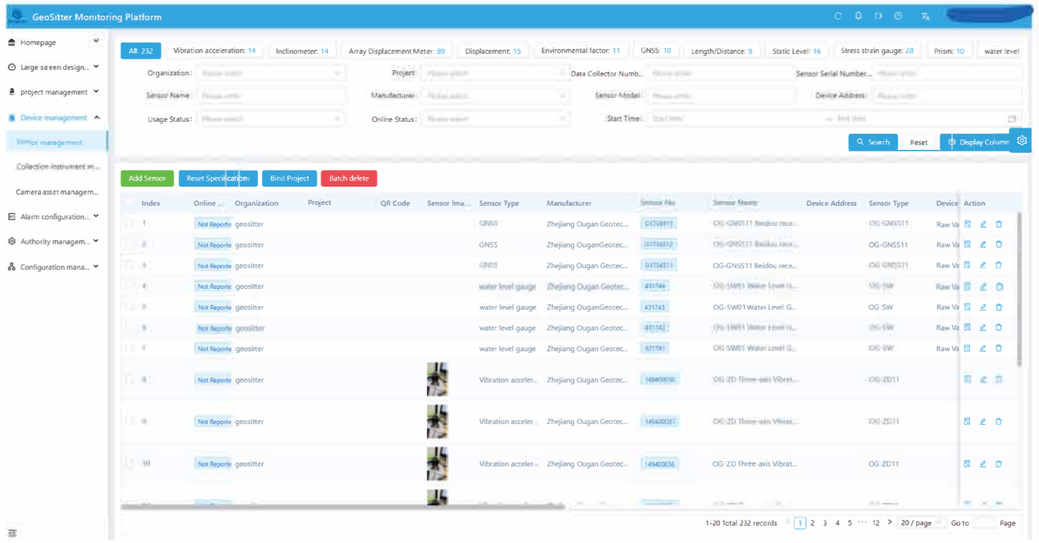
Features

01 Developed by Engineering Experts

GeoSitter Monitoring Data Platform is developed by professional engineers and product managers from the GeoSitter technical team. With over 10 years of practical experience in engineering, water conservancy, transportation, surveying, and the Internet of Things (IoT), their expertise ensures the software's good performance and reliability.

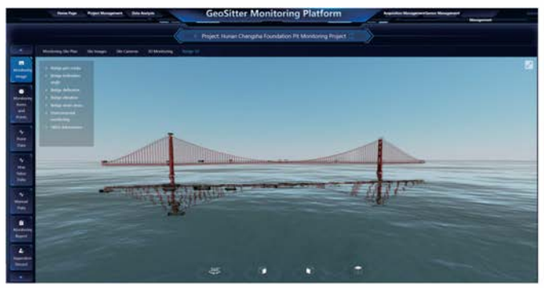
02 Compatible with Other Instruments and Software

- GeoSitter Monitoring Data Platform can seamlessly connect monitoring instruments from various manufacturers for efficient analysis and access, enhancing equipment utilization.
- The GeoSitter data platform supports protocol integration and data migration from clients' existing data platforms, ensuring smooth transition and enhanced efficiency.



03 Data Can Be Easily and Intelligently Managed

- Manually collected data can be uploaded to integrate with automatically collected data for fast unified management.
- Monitoring projects can be set up with two-dimensional and three-dimensional maps, allowing free drag-and-drop of measuring points.
- Intelligent multi-dimensional data analysis, including profile, process curve, and cross-point comparison, enables scientific decision-making.
- Monitoring reports can be automatically generated to reduce manual operations and improve work efficiency.
- Alarms are clear and intuitive, featuring color changes and custom-defined levels.
- All original records can be checked on the platform to ensure data validity.



04 Features Highly Customizable Options

- Report templates can be customizable to meet specific project requirements and preferences.
- The dashboard of the monitoring screen can be customized to display different items.
- Doman names, login interfaces, etc. can be customizable to highlight clients' company' s characteristics.
- Modular design allows for quick adjustments to meet clients' specific needs.

TYPICAL CASES

Introduction

GeoSitter Company has been committed to providing professional one-stop solutions for engineering monitoring and pile foundation testing institutions. The projects it has participated in include: Hangzhou Bay Cross-sea Bridge, Hangzhou Asian Games Water Plant Project, and Hong Kong-Zhuhai-Macao Bridge Project, Tibet Lalin Railway Project, Turkey Sabiha International Airport Project, India Mumbai Cross-Sea Bridge Project, Africa Summit Tower Project, Philippines Manila Metro Line 7 Project, the Forest City Project in Malaysia, the Megada Project in Indonesia, and the Costa Rica Project and other 1,000+ projects.

The Forest City Project in Malaysia

Tunnel Project in Saudi Arabia

Costa Rica Project

Mumbai Cross-Sea Bridge Project in India

Monitoring Project in Mozambique

Manila Subway Project in the Philippines

Sabiha International Airport in Turkey

Megada Project in Indonesia

Hangzhou Bay Bridge

Tibet Lhasa-Nyingchi Railway Project

Hangzhou Metro Project

Hangzhou Qianjiang New City Project

Hefei-Hangzhou High-Speed Railway Project

The Diwang International Fortune Center in Liuzhou, Guangxi

Tianjin Binhai International Airport Project

Zhejiang Jiande Slope Project

SERVICE MOMENTS