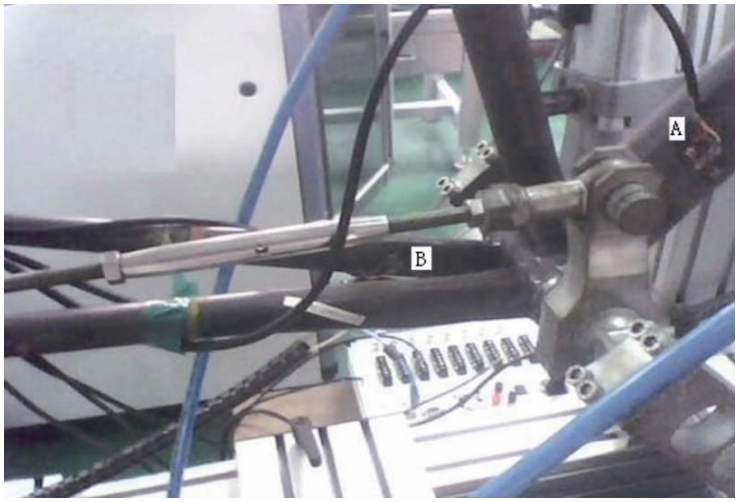
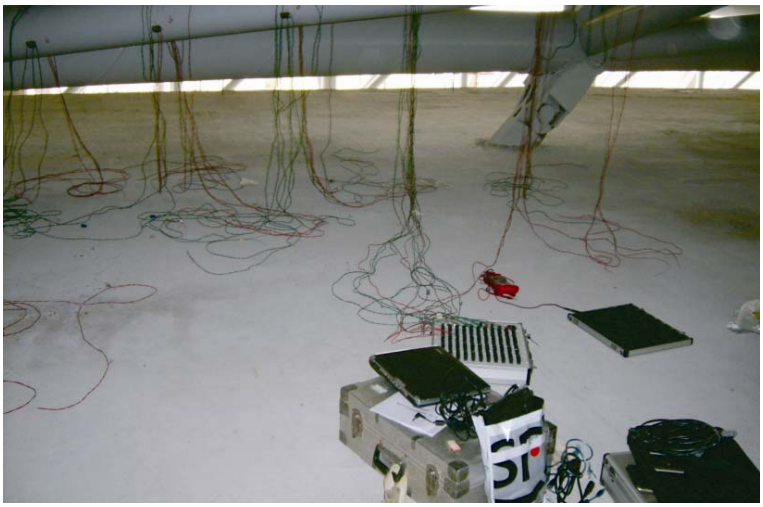
Strain measurement system

The small strain which relates to the resistance change of the resistance strain gauge attached on the structure can be precise measured by VTS series of static and dynamic strain measurement and analysis system. As the ARM processor and high performance A / D converter are firstly used, and self-R & D hardware and software signal processing technology are used, the stability of the system is improved greatly, and the system has a strong anti-interference ability scene; the static strain stress of large structures, models and multi-points in material mechanics test can be measured fast and accurately, and the power, pressure, torque, displacement and other physical can also be measured by corresponding sensors. Combined the hardware system which is consist of perfect built-in voltage for the bridge, voltage amplification, self-balancing, data collection and intelligent Li-ion battery and other components, and feature-rich software, the system can deal with Synchronous acquisition and processing, real-time display and save of the data. The system can be widely used in machinery manufacturing, civil engineering, transportation, aerospace, defense industry and other fields.

VTS-SS-10 static strain measurement and analysis system





Features

Using high-speed ARM processor, and the unique hardware and software signal processing technology and hardware isolation technology, the system has a strong anti-interference ability scene

Access methods: full-bridge, half bridge, 1 / 4 bridge (public compensation film), etc;

Each measuring point can be self-balancing, respectively;

Highest resolution is 1μ ε, voltage for the bridge is 2 V, zero drift ≤ ± 3 μ ε / 4 h; with built-in Q-FAN temperature control system, the impact of the temperature to the measurement results is further reduced.

VTS-WSS10 wireless static strain measurement and analysis system

Features

Each computer can simultaneously control 3 2 acquisition module (256 measuring points);

Used the Independent of the module design, inter-module communication distance is up to 5 0 0 m

Z ig B ee wireless network, ensure that each module is a routing point, routing communications relays to ensure reliable long-distance data transmission;

All the measuring points of sampling can be completed in 1 second and self-balancing is remote;

According to measurement program, strain stress state of the static multi-circuit testing is completed in the full-bridge, half bridge, 1/4 bridge;

Cooperated with a variety of bridge sensors, multi-circuit testing of pressure, force, load, displacement and other physical quantities can be completed

Voltage signal circuit test can be taken where the output voltage is less than 2 0 mV, and the resolution can be 1μV;

Using intelligent power management of rechargeable lithium batteries, it can work for 8 hours (optional)

Using imported high-performance optical relay to switch of measuring point, the switch is faster and more stable;

Installed by optional magnetic suction cup, it is easier to install and uninstall;

As the balance indicator can indicate the balance of each measuring point, it is easy to check the status of measuring point.

Dynamic signal measurement and analysis system

VTS-DS-20 is a professional instrument for dynamic strain measurement, the system includes all the hardware for strain signal test, such as high-precision power supply for the bridge, DC amplifier, self-balancing circuit, low-pass filter, 24-bit A / D converter, etc.

Features

Used a standard portable chassis, which is designed as fully shielded chassis, effective anti-jamming capability is improved effectively.

By using reliable Ethernet data transmission, real-time data sampling, real-time transmission, real-time display, real-time archiving are ensured.

Each channel has independent 24-bit parallel A / D converter, and a separate amplifier for each channel to ensure synchronous sampling of all channels in parallel, and the sampling frequency is independent of channel restrictions;

By using DDS High-precision frequency synthesizer technology, the simultaneous acquisition of all channels in parallel is ensured;

Bridge can be set three types (full-bridge, half bridge, 1/4 bridge) for the stress-strain measurements, and the force, displacement, load and other physical can be measured by a variety of bridge sensors

As per system has 32/64 channels, a single computer can control up to 8192 channels for simultaneous real-time collection;

Synchronous acquisition in parallel can be taken by Multi-channel, and the sampling frequency for each channel is up to 10kHz.

Wireless telemetry dynamic strain measurement and analysis system

Features

Using Wi-Fi wireless transmission technology, reliable transmission distance of NTI-WDS-20 wireless remote dynamic strain;

Measurement and analysis system is about 200m;

Each acquisition module has 4 channel or 6-channel, which contains hardware system such as built-in sound signal Conditioning, voltage amplification, self-balancing, data collection and intelligent Li-ion battery and other components, and feature-rich software, data synchronization acquisition, synchronization, real-time display, real-time save are realized in each single modules;

Each computer can simultaneously control 32 acquisition module;

Half or full bridge access mode, voltage for the bridge is 2V, and automatic balance is remote;

Multi-file low-pass filter and full-scale value are all program-controlled switched;

24 A / D, the maximum sampling frequency of single-channel is 8kHz; when multiple modules simultaneously work, each channel sampling frequency is 2kHz (quad) or 1kHz (six channels)

Optional Installed by optional magnetic suction cup, it is easier to install and uninstall;

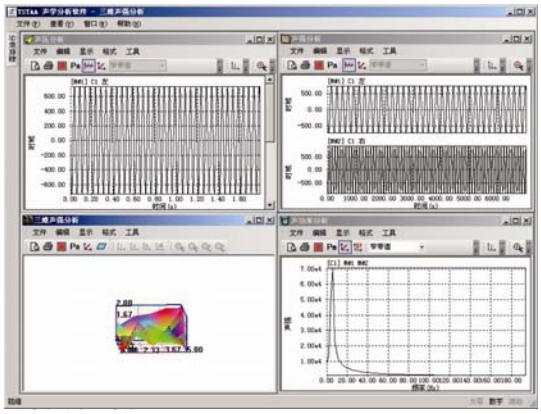
Optional GPS synchronization clock receiver unit realizes synchronous sampling by multiple acquisition modules.

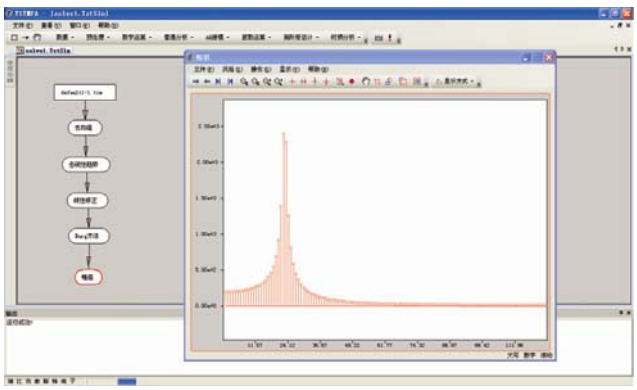
By Intelligent power management rechargeable lithium batteries, the system can work for 8 hours (optional).

Feature-rich control analysis software can complete the analysis of test data processing and generation of test report.

Static and dynamic strain measurement analysis software

VTS-SDS-10 control and signal analysis software is professional software for dynamic and static strain measurement and analysis, which can be applied in a variety of environments. The software can also cooperate with the appropriate instrument for signal acquisition, and provide specific user interface for convenient observation of the data and analysis.





Support Win7, Vista, XP, 2000 and other mainstream operating systems;
Real-time acquisition, real-time save, real-time display, real-time analysis;
Improved support for a variety of instruments: self-development of the WINDOWS underlying driver, good support rapid transmission of instructions and data;
Automatically identify the type of instrument, the user control of the instrument is more simple;
VC + + development platform, the core module using standard C + + written, easy to transplant;
Various parameters set the bar auto-hide, user-friendly graphical zoom area for easy observation signal;
A variety of styles of user interface, users can customize according to their preferences;

With Powerful parameter management module, all calculation can automatically finished by the software after the user enter the set parameter values;
Comprehensive online help, user can easily understand the function of each module, and operating procedures;
Modular design, easy to customize a variety of software features for users;
all VTS-SDS-10 package is research independently, and upgrades of the software is free for life.

Features

Data pre-processing, graphics, statistical analysis, amplitude domain analysis, frequency domain analysis, time-frequency domain analysis, acoustic analysis, rosette analysis, octave analysis, small strain pile testing, fatigue life analysis, cable force calculation;
Simple and reliable data management, free data format conversion, multi-window management, positioning signal function: You can generate multiple types of signals.

VTS-SDS-20 strain spend analysis software (optional)

Form the strain data measured by rosette, it can obtain principal stress measuring point size, orientation, and size of the maximum shear stress. Rosette has many forms such as right angles, three right angles, isosceles triangle, umbrella and fan-shaped;

Real-time calculation of rosette is support by the software where the real-time display of the spectrum of the rosette is realized.