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CHINA WTR BRAND

CONDITION MONITORING PRODUCT

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Check-2 Hand-held Miniature Vibration Meter

The WTR-Check-2 vibration meter is a miniature vibration measuring instrument that can measure vibration: acceleration/high frequency acceleration, speed, displacement, peak of display vibration, RMS, peak-to-peak value, and can be used in various mechanical equipment states. Monitoring is an ideal tool for diagnosing equipment imbalances and not being moderately faulty.

Features

(1) Built-in sensor,easy carrying and high reliability

(2) Optional external sensor is available for better measurement results

(3) LCD digital display

(4) Measurement data is automatically maintained

(5) True RMS measurement, high measurement quality

(6) Automatic delay power off

(7) Built-in charge amplifier and integrator

(8) Battery low voltage alarm

(9) Small size and light weight

(10) With different sizes of probes

(11) CE certification

(12) EX intrinsic explosion-proof certification

Technical Data

(1) Vibration sensor: shear piezoelectric accelerometer

(2) Measurement range / Frequency range / Accuracy

Parameter	Range	Frequency Range	Accuracy
Vibration displacement (peak)	1-1999 μm	10-500 Hz	(±5%)
Vibration speed (true RMS)	0.1-199.9 mm/s	10-1000 Hz	(±5%)
Vibration acceleration (peak)	0.1-199.9 m/s^2	10-5000 Hz	(±5%)
Vibration high frequency acceleration (peak)	0.1-199.9 m/s^2	1000-5000 Hz	(±5%)

(3) Working temperature: 0-40 ° C (external); relative humidity <85%.

(4) Battery: 6F22-9V, can work continuously for more than 25 hours.

(5) Size: 129 × 60 × 24mm.

(6) Weight: 250 grams (including battery, sensor).

Note: The shear piezoelectric acceleration sensor can be external or built-in.

WTR-INS Comprehensive Inspection Instrument

Function

Measuring vibration

Temperature measurement

Measuring speed

Frequency of measurement

Auscultation function

Features

WTR-INS is a comprehensive tool for multi-parameter vibration, temperature and speed detection. It is ideal for detecting early faults of machines, bearings and gears. It is a comprehensive measuring instrument for fault diagnosis of machines and bearings.

(1) Measuring Vibration: It can measure the speed, displacement, acceleration and high-frequency acceleration (envelope) of the shafting vibration. It can judge the

imbalance, misalignment and looseness caused by the shafting or mechanical structure according to the vibration characteristics.

(2) Measuring bearing surface temperature

(3) Measure the rotating speed of the equipment and display the fundamental frequency.

WTR-INS has built-in ISO10816 standard. After measuring vibration, it directly displays four evaluation conclusions with red, yellow and green lights. After measuring the envelope value, the red, yellow and green lights show the rolling bearing and gear fault status.

With vibration measurement, storage, playback and other functions, it can store data and waveforms of 50 measuring points, and connect with management software to connect computer to realize data management. Spectrum analysis can be performed on waveforms. The data of each measuring point includes: high frequency acceleration. Acceleration, velocity, displacement and other values. The waveform of each measurement point is 1024 point waveform. The measured vibration value can be played back at the measurement site.

Technical Date

1. Measurable parameter

Acc (m/s2)	Equivalent peak	VEL (mm/s)	True rms/equivalent peak
Disp (μm)	Equivalent peak-to-peak	Env (m/s^2)	Average peak
Tep (℃)	Infrared measurement surface temperature	RPM (rpm/min)	

2. Measuring range

Acc (m/s^2)	0.1~199.9	VEL (mm/s)	0.1~199.9
Disp (μm)	1~2000	Env (m/s^2)	0.1~30
Tep (℃)	-20~180	RPM (rpm/min)	1~9999

3. Frequency and frequency response error

Acc	10Hz~5000Hz, 5%	VEL	10Hz~1000Hz, 5%
Disp	10 Hz~500Hz, 5%	Env	2Hz~30kHz ,

4. Working temperature: 0～50℃, Relative humidity: <85%.

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ITM Integrated Transmitter

Introduction

The ITM integrated vibration transmitter can be easily installed on the equipment and can be used directly with on-site monitoring systems such as panel meters, DCS, PLC, etc. It is especially suitable for long-term condition monitoring of important equipment. The integrated vibration transmitter is a true effective value or displacement peak-to-peak value of the output vibration after integrating the magnetoelectric speed sensor and the transmitter; (4-20mA current signal)

ITM series transmitters include: ordinary single display type, double display type, split type, waterproof type, explosion-proof type and so on.

Technical Data

1. Basic data

Power	20～30Vdc	Cable socket model	(SY)X12KX3P
Sensor housing	Aluminum material, cured package	Sensor sensitivity	Self-compensation
Lead-out method	Side out or top out	Electrical insulation of the outer casing	
Sensor installation	One M8	Size	Φ40 x 80 mm
weight	370g	Output current	4～20mA
Output impedance	≤500Ω	Measuring direction	General purpose

2. Measuring range

Vibration displacement			
D01	0～100μm	D02	0～200μm
D03	0～500μm		
Vibration intensity			
V04	0～10.0mm/S	V 05	0～20.0mm/S
V06	0～50.0mm/S		

M-INS Multi-function Vibration Inspection Instrument

—— Intelligent data acquisition terminal

Function

The M-INS Multi-Function vibration inspection instrument can measure a variety of parameters: vibration, temperature, bearings, rotating speed,frequency.

Built-in the latest ISO10816 international standard, the red, yellow and green directly display the health status of the device after measurement, and the computer-specific analysis and diagnosis software is provided, and the display screen supports touch input.

Analysis of faults caused by equipment shaft rotation and structural problems, such as unbalance, shaft misalignment, looseness, etc., can measure high-frequency acceleration envelope values caused by bearing defects or gear meshing problems, and can also measure bearing surface temperature And the speed of the equipment. Ideal for early detection of machines, bearings and gears. It is a comprehensive measuring instrument for troubleshooting machines and bearings. With multi-protocol compatibility, industrial grade design (IP64) and other advantages, it can be widely

used in major industrial and mining enterprises.

Technical Data

(1) Mating triangular shear piezoelectric acceleration sensor

(2) Built-in infrared temperature sensor

(3) Built-in non-contact photoelectric speed sensor

(4) Built-in RFID card reader ISO14443A/B,

(5) Display screen: support touch input, resolution: 240 × 320 color 3.2 inch QVGA display, TFT-LCD, 65K

(6) External interface: USB interface (10PIN, USB 2.0)

(7) Memory capacity: 128MB RAM / 1GB Flash storage

(8) Expansion slot: SIM card, PSAM card, SD (TF) card, maximum support 8G

(9) Data storage: Save 5000 sets of vibration values: 2000 waveforms of 1024 points.

(10) Power supply: dedicated 3.7V 2000mAH rechargeable polymer battery, operating current 10~40mA (when lighting laser) standby current 5mA; continuous working time 20 hours.

(11) Working temperature: 0 ~ 50 ° C, relative humidity: <85%

(12) Volume: 186.5mm × 75mm × 38.9mm

(13) Weight: 100g (including battery)

(14) IP64 (waterproof and dustproof) design

(15)

Measuring Vibration Parameters

1. Measuring Parameter

(1) Displacement peak-to-peak value

Maximum vibration distance between positive and negative directions - rigidity of reaction equipment foundation

(2) Speed RMS (Vibration Intensity): Evaluating the intensity of machine vibration.

(3) Acceleration peak: evaluation of the state of rolling bearings and gears

(4) High-frequency acceleration envelope RMS: mainly reflects the impact energy generated when the rolling bearing and gear are damaged.

2. Range frequency and frequency response error

Parameter	Range	Frequency Range
Acc	0.1 to 199.9 m/s^2	10Hz~1000Hz
VEL	0.1 to 199.9 mm/s	10Hz~1000Hz
Disp	1 to 2000 μm	10 Hz~500Hz
Env	0.1 to 30	
Accuracy	± 5%	

Spectrum analysis, fault diagnosis

1. Measurement type: You can choose one of four types of acceleration, speed, displacement and envelope for testing.

2. Frequency range: You can select the frequency range 100HZ, 200HZ, 500HZ, 1000HZ, 2000HZ, 5000HZ, 10000HZ

3. View type: including waveform analysis, amplitude spectrum, time domain diagnosis, power spectrum, log spectrum, cepstrum

4. Measurement: According to the currently selected measurement type and frequency

measurement, until "stop measurement" is pressed.

Other Function

Measuring temperature, measuring speed, checking item function, reading item function

Supporting equipment management software system

VA-Ⅱ Dual Channel Vibration Analyzer

Function

VA-II dual-channel vibration analyzer, a multi-functional analytical instrument that combines vibration measurement analysis, data acquisition, trend analysis, fault diagnosis, hardware envelope demodulation, on-site dynamic balance, natural frequency and critical speed resonance frequency measurement.

(1) 5-inch true color large screen Chinese character display, new menu-style interface, USB2.0 interface and computer communication operation is more convenient,

equipped with equipment status monitoring and fault diagnosis software, establish equipment database, condition monitoring and analysis of equipment.

(2) 32-bit AD sampling, 96dB dynamic range

(3) On-site FFT spectrum analysis, strong vibration diagnosis

(4) Dual channel simultaneous acquisition, 4 times spectral refinement

(5) Hardware envelope demodulation detection and diagnosis of bearing gear failure

(6) Speed measurement, phase measurement, phase diagnosis

(7) Transfer function, static excitation test component natural frequency

(8) Large-screen graphics showing vibration waveforms and spectrum, cursor reading spectral values, spectral peak lists

(9) Set the trigger threshold manually. (large, medium and small)

(10) Large storage space, storing 400 sets of vibration value data and 400 sets of dual channel waveforms, sampling length of 4096 points, and can also store/play back 50 sets of rotor balance data/records

(11) The device does not need to be disassembled, the operation is simple, and the balance accuracy is high.

(12) Vector solution, balance calculation process and results at a glance

(13) After the measurement, you can choose to remove or retain the test weight.

(14) The result of the dynamic balance can be decomposed to the specified position.

(15) Automatic calculation of test weight quality according to rotor mass, speed, test weight radius, balance level requirements, etc.

(16) Automatic judgment of whether the weight and position are valid

Technical Data

(1) Vibration measurement and spectrum analysis frequency response: 0.5Hz-10KHz;

(2) Dynamic balance speed range: 120-60000 rpm

(3) Automatic range and manual range optional

(4) Can be connected to many types of sensors: speed, eddy current, piezoelectric acceleration, etc.

(5) Rechargeable battery power, continuous operation for more than 10 hours

(6) 8th order elliptical anti-aliasing filter, speed tracking bandpass filtering

(7) Spectrum analysis frequency: 8 files in 1, 2, 5 points

(8) Vibration measurement accuracy 5%

(9) Maximum range/highest resolution for vibration and spectrum analysis:

Measurement parameter	Maximum range	Maximum range
Acceleration peak	250 m/s^2	0.001 m/s^2
Speed effective value	200 mm/s	0.001 mm/s
Displacement peak-to-peak	5000 μm	1 μm
Envelope RMS	25 m/s^2	0.1 m/s^2
Voltage effective value	10 V	0.1 mV

(10) Small size (210 * 130 * 40mm), light weight (1200g)

(11) It can be equipped with equipment condition monitoring software, establish equipment maintenance database on the computer, perform trend analysis, spectrum analysis, waveform analysis, hundred-line spectrum analysis, and three-dimensional spectrum analysis.

VA-IV Four-channel Advanced Vibration Analyzer

Function

(1) The machine uses a large-size, color LCD screen that is clear and beautiful. The new Chinese Window style interface is easier to operate.

(2) 12800 line resolution spectrum, frequency range up to 25kHz, full-function high-speed dynamic analysis based on DSP, amplitude spectrum, power spectrum, log spectrum, correlation, coherence, transfer function, various time domain eigenvalue display, including peak, peak Peak value, effective value, peak-to-average ratio, twist, and kurtosis.

(3) A variety of measurement, triggering, and averaging methods to meet a variety of needs.

(4) The hardware envelope demodulation is used to detect and diagnose bearing gear faults, and the natural frequency and critical speed resonant frequency are used to measure the speed measurement, noise measurement, phase measurement, and phase diagnosis.

(5) 50 sets of rotor balance data/records can be stored/played back. The test weight can be selected as the removal or retention, the test weight quality estimation, and the dynamic balance result can be selected to be decomposed to the specified position.

(6) Dual-channel synchronous acquisition, 32-bit AD sampling, 64-times spectral refinement, USB2.0 interface can be equipped with high-speed uninterrupted acquisition and recording of the axis trajectory.

(7) The data collector can store 200 measuring points (each point includes the pass frequency and spectrum), 2000 segments of waveforms (minimum 1024 points per segment, maximum optional 32768 points).

Equipment condition monitoring and troubleshooting software

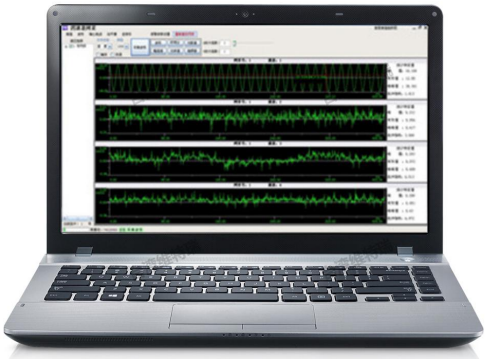
The equipment maintenance database can be established to monitor the running status of the equipment, and to keep track of the running status of the equipment. Once the vibration is found to increase, immediately collect vibration data and waveform maps for fine analysis.

Through spectrum analysis, waveform analysis, trend analysis, speed measurement, phase measurement, phase diagnosis, etc., find the cause of the fault in time, such as: unbalance, misalignment, shaft bending, looseness, resonance, bearing, gear, motor, etc., avoid equipment The state deteriorates further and achieves the purpose of predictive maintenance.

If the problem is diagnosed as a dynamic balance, then we can use the on-site dynamic balance function of the VA-IV advanced analyzer to balance and reduce the

vibration! 70% of mechanical vibration is caused by imbalance, so this most basic function must be mastered.

VAS-IV Four-channel Vibration Analysis System



Function

The VAS-IV four-channel vibration analysis system is designed for on-line condition monitoring and fault diagnosis of critical machinery.

The VAS-IV four-channel vibration analysis system is mainly for online condition monitoring and precision fault analysis and diagnosis of important equipment in petroleum, chemical, metallurgy, electric power, railway, machine tool, paper, cement, tobacco, textile and manufacturing.

Can be used in production sites to achieve the following functions:

(1) Establish a continuous online monitoring system for the equipment;

(2) Establish a fault analysis and diagnosis system for important equipment;

(3) Used as multi-channel dynamic signal analyzer and on-site single/double-sided dynamic balancer;

The VAS-IV four-channel vibration analysis system has many functions, high

reliability and easy to use. A device diagnostic system can be established to facilitate fault analysis and diagnosis of field devices. The equipment and equipment (including bearing gears) can be analyzed and diagnosed in detail on the spot, and various information reflecting the state of the machine can be uploaded to the computer database for storage for precise diagnosis and trend analysis. Continuous online monitoring of speed, vibration, amplitude, phase, current, etc.; with software, real-time monitoring of various parameter vibration values and time domain waveforms; data can be saved for equipment fault analysis and diagnosis, on-site dynamic balance and trend analysis; Analyze the time domain and frequency domain characteristics, vibration value and phase of the vibration waveform for precise fault diagnosis of the faulty device. The vibration value monitors the true RMS value, equivalent peak value and true value of the optional acceleration, velocity, displacement and high frequency envelope signals and other parameters such as peak and average.

Product Features

(1) Vibration acceleration, velocity, displacement, high frequency envelope value are measured continuously, acceleration, speed and displacement parameters are selectable;

(2) Four-channel data synchronous acquisition, can be connected to various sensors such as ICP acceleration, eddy current displacement or electromagnetic speed sensor;

(3) Four-channel vibration synchronously acquires original waveforms of different parameters;

(4) Vibration analysis, including time domain waveform map, frequency domain

amplitude spectrum, time domain diagnosis, power spectrum, log spectrum, cepstrum, etc.

(5) Start shutdown characteristic diagram: The change of the frequency or harmonic amplitude or phase with the speed of the unit during the start-stop process;

(6) Axis trajectory: shows the combined motion of the vibration signal measured by the two-axis vibration sensor installed at 90 degrees to each other at the same axis section;

(7) Over-limit alarm: Each channel is configured with two-level limit, which automatically alarms and saves dynamic waveform data;

(8) Cascade diagram: the trend of the magnitude of each harmonic in the speed of the unit during the start-stop process with the speed;

(9) Waterfall map: the vibration spectrum of the unit changes with time;

(10) Historical trend graph: the trend of each parameter over time;

(11) Reporting and printing: list/graphic display or printing various reports;

(12) Waveform recording/playback: Timed/manual save/playback of dynamic waveform data;

(13) On-site trigger sampling, which can realize cascade connected collectors;

(14) 32-bit A/D sampling, 180DB dynamic range;

(15) 16-order elliptical anti-aliasing filter, the cutoff frequency can be programmed;

(16) The automatic setting of frequency keeps the best range, and can also be set by the user through computer software.

(17) System data transmission is stable and reliable, and fast;

(18) Provides the speed measurement channel, which can also be used as the input of the external trigger signal, dynamic balance and speed range: 0—100000 rpm;

(19) Precision hardware envelope demodulation;

(20) Electrical isolation, reducing ground loop interference, improving reliability and safety;

(21) Record vibration data and waveforms for a long time to facilitate fault analysis and diagnosis of equipment;

(22) The storage space is the same as the computer hard disk space;

Software Features

Supporting multi-function monitoring and diagnosis software, vibration value online monitoring alarm, trend analysis, time domain analysis, spectrum analysis, parking analysis, axis trajectory measurement, fault diagnosis expert system (rotor, shafting, sliding bearing, rolling bearing, gear box).

(1) High-speed dynamic analysis function, including amplitude spectrum, original waveform analysis, time domain diagnosis, power spectrum, log spectrum, cepstrum, correlation, coherence, transfer function, various time domain eigenvalue display, including peak, peak-to-peak, effective Value, peak-to-average ratio, twist, kurtosis;

(2) A variety of measurement, triggering, and averaging methods to meet various needs;

(3) Spectral changes can be observed by three-dimensional spectral analysis;

(4) Spectrograms can be stepped and 25600 times fine spectral refinement;

(5) Axis trajectory map detection and parking analysis can be performed;

(6) Fault analysis software can recall multiple vibration data and waveforms at the same time;

(7) Compare and analyze multi-channel vibration data waveforms and spectra;

(8) The system fault analysis software is powerful, the picture is exquisite, and the operation is convenient;

(9) The entire 4-channel vibration analysis and diagnosis system is stable and reliable, with high precision and full functions;

(10) It is configured as various vibration sensors, data collectors, supporting host computers, and multi-function fault analysis and diagnosis software.

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