DE-924D High Performance Dynamic Signal Test and Analysis System

DESCRIPTION

DE-924D is a high performance dynamic signal test and analysis system.
Mainly used for vibration (acceleration, speed, displacement), impact, acoustics, voltage and other physical quantities of the test and analysis.

High testing accuracy and strong anti-interference ability to ensure accurate and reliable test results.

Built-in 24V/4mA bias circuit

The output signals of IEPE (ICP) piezoelectric acceleration sensor and microphone are collected

Vibration acceleration, vibration speed, vibration displacement (simulation quadratic integral optional) testing and analysis;
Optional charge adjuster, and piezoelectric sensor, accurate measurement of dynamic pressure and acceleration;

Voltage input, accurate measurement of various voltage signals.

FEATURES

Supports intelligent wire identification and automatically sets measuring point parameters according to predefined templates;

Support TEDS sensor access, according to international standards, automatic sensor parameters import;

Gigabit Ethernet communication, real-time communication with the computer can be a long time real-time, uninterrupted recording of multi-channel signals, all channels parallel synchronous work, continuous sampling rate up to 128kHz/channel;

Each channel contains an independent DSP real-time signal processing system and A double 24-bit A/D converter;

Ramo connector: the input connector adopts high-performance Ramo head, which greatly improves the reliability of small signal input and is very convenient to operate;

SPECIFICATIONS

Number of input channels	2 channles/card, 8/16 card slots
Input Coupling	GND, Sin-DC, AC, Sin-IEPE
Input Impedance	10MΩ//100pF
Input Voltage Range	NA
Indication Error	±0.5% of F.S.
Stability	<±0.05%/24h
Nonlinearity	0.05% of F.S.
Noise	NA
Zero Drift	<3μV/h
Extended Mode	Ethernet extends to unlimited multichannel
Sync Mode	Synchronous clock box
Strain Measurement	
Input Strain Range	NA
Indication Error	NA
Self-Balancing Range	NA
Bridge Excitation	
Bridge Configuration	Full, half, three-wire quarter bridge
Bridge Completion Resistors	120Ω/350Ω(Three-wire quarter bridge) 50Ω~10000Ω(Half bridge/Full bridge)
Bridge Voltage	2V, 5V, 10V, 24V DC Within 0.1%
Current	Max. 50mA
LPF	
Cut-off Frequency（-3dB±1dB）	NA
Flatness:	NA
Stop-band Attenuation:	NA
HPF	
SIN-DC	1Hz
AC	0.3Hz,1Hz
IEPE-SIN	0.3Hz,1Hz
Communication	Gigabit Ethernet or USB3.0
A/D Converter	Double 24 bits
Freq. Response	DC~50kHz(+0.1dB~-3dB)
Sampling rate	up to 128kHz/channel
Anti-aliasing filter	
Filtering Mode	Analog filter and real-time digital filter
Cut-off Frequency	1/2.56 of sampling rate
Stop-band Attenuation:	-160dB
Flatness:	<0.1dB Within analysis frequency range
Power Supply	$220V_{AC}$±10%/10~$30V_{DC}$, 160W(16 channles)/320W(32 channles)
Dimensions	237×133×338mm (semi 19" chassis) 482×133×338mm (19" chassis)
Weight	Approx. 8kg (semi 19" chassis and 16 channels) Approx. 14kg (19" chassis and 32 channels)
Environmental Conditions	
Operating Temperature	-10 to 50°C
Operating Humidity	20~90%RH@40°C
Storage Temperature	- 40 to 60°C
Storage Humidity	90%RH24h@50°C
Vibration Resistance	Frequency cycle range: 5~55~5Hz Drive amplitude (peak): 0.19 mm Sweep frequency: ≤ 1 Oct. / min Duration of resonant: 10min Vibration direction: x, y, z

SYSTEM CONFIGURATION

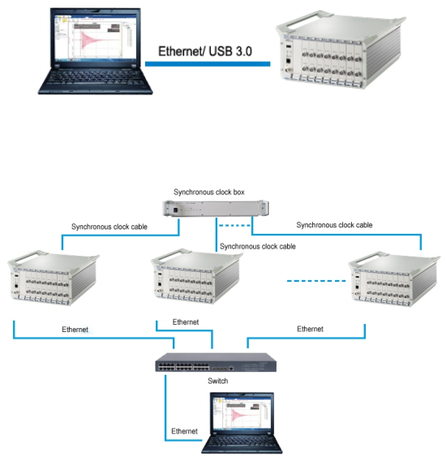
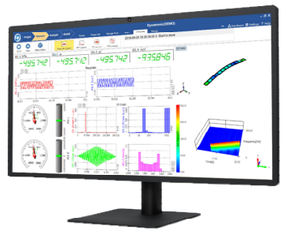


Figure 2 Multi-system block diagram

SOFTWARE

DE-BPS Basic Platform Software:
Running on XP/Win7/Win8/Win10 operating system.
Parameters setting, Function control, Real-time/post-acquisition analysis, data browsing, cursor readouts, scaling curve, data management and simple processing, report generation, long-term continuous data recording, etc..



MODULES / ACCESSORIES

DE-924D DAQ Card
2 input channels.

Input mode DC, AC, GND, IEPE(single end/differential)

All channels are sampled synchronously in parallel, and the maximum sampling rate of each channel is 128kHz

Double 24-bit A/D converters per channel

Support smart wire and TEDS sensor identification

DE-92U Semi-19" Chassis
8 Card Slots.
Including control card, Gigabit Ethernet communication Interface.
$220V_{AC}$/$12V_{DC}$ power supply.

DE-93U 19" chassis
16 Card Slots.
Including control card, Gigabit Ethernet communication Interface.
$220V_{AC}$/$12V_{DC}$ power supply.

DT5857-8 Charge Conditioner(Optional)
1 input channel.
Max. input charge: 10^5pC
Input Impedance: $>10^{11}$Ω
Amplifier output sensitivity: 0.1mV/pC and 10mV/pC
Indication error: <1%
Noise: $<10\times10^{-3}$pC
Max. bandwidth: 0.3Hz～300kHz(+0.5dB～-3dB)
Distortion: <0.5%（Frequency < 30kHz）

DT5855-8 Charge Quadratic Integral Conditioner (Optional)
1 input channel.
Max. input charge: 10^5pC
Input Impedance: $>10^{11}$Ω
Amplifier output sensitivity: 0.1mV/pC and 10mV/pC
Accuracy: <1%
Noise: $<10\times10^{-3}$pC
Freq. Response: 0.3Hz~300kHz(+0.5dB~-3dB)
Distortion: <0.5% (within 30kHz)
Integral Type: No integral, Primary integral, Quadratic integral
Integral Frequency Range:
Primary integral: 10Hz~10kHz or 1Hz~1kHz
Quadratic integral: 10Hz~1kHz or 1Hz~100Hz
Integral Error:
Primary integral: <3%

DT5856-8 IEPE Quadratic Integral Conditioner (Optional)
Built-in 4mA/24V biasing circuit.
Freq. Response: 0.3Hz~100kHz(+0.5dB~-3dB)
Distortion: <0.5%(within 30kHz)
Integral type: No integral, Primary integral, Quadratic integral
Integral Frequency Range:
Primary integral: 10Hz~10kHz or 1Hz~1kHz
Quadratic integral: 10Hz~1kHz or 1Hz~100Hz
Integral Error:
Primary integral: <3%
Quadratic integral: <5%
Dimensions: 50mm(W)×35mm(H)×110mm(L)

DT3811-8 Current Loop Conditioner(Optional)
1 input channel
Suitable for 2-wire/3-wire 4~20mA sensor
24VDC power supply
Dimensions: 30mm(W)×20mm(H)×80mm(L)

DT3814-8 Thermistor Conditioner(Optional)
1 input channel.
Suitable for Pt10，Pt100、Pt1000 sensors.
Measuring temperature range from -200°C to 850°C.
Accuracy: 0.5%±0.5°C
Iout:1mA±2μA

TC-01 Tachometer/Counter Module(Optional)
Number of channel: 2 input channels
Rotation rate measurement:

					Range: 30~600000 rpm; Accuracy: < 0.05%±1r; Input signal pulse width: ⩾10μs PPR: 1~4096 Axis ratio: 0.01~100 Counter measurement: Operating mode: support positive/reverse, pulse accumulative count, pulse count per unit time Reset mode: manual/atuomatic Pulse count range: 0~100k/s Power supply: 5VDC/50mA **DT5944 Signal Source Output Card (Optional)** Number of Channel: 2 channels Voltage Range: ±10V_P Current: Max. 5mA Frequency: 0.1~20kHz D/A Resolution: 24 bits Accuracy: 1% within 2kHz Signal Type: constant frequency sine wave, sweep frequency sine wave, square wave, random, burst **DT5945 CAN Bus Card (Optional)** Number of channel: 2 channels Protocol: CAN2.0B Baud rate: 4800bps~1Mbps Communication mode: duplex CAN bus for sending and receiving Support dbc file import. Supports standard and extended frame formats. Minimum sending interval: 1s **DT5946 RS485 Communication Card (Optional)** Number of channel：2 channels Baud rate: 1200bps~115200bps **DT5947 Digital I/O Card (Optional)** Number of channel: 8-Ch DI and 8-Ch DO Digital input: Support Dry/Wet Contact Digital output: Power Output (Ch1-Ch4) and TTL Output (Ch5-Ch8) Power Output: Max. 24V/1A