SE-844U Static Stress-strain Testing and Analysis System

DESCRIPTION

It is a LCD static strain tester specially designed for laboratory.
Each hardware includes 8, 16 or 24 measurement channels.
Each measuring channel can measure force, displacement or strain.
When measuring, the functions of sampling control and data analysis are realized by LCD or computer.
The system can be widely used in the static structural performance test of universities, industrial research institutes, engineering testing sites and product development process.

FEATURES

Ø It can realize multi-channel parallel acquisition and high-speed and long-time continuous sampling.
Ø One computer can control multiple acquisition instruments for sampling, which can meet the needs of multi-channel and high-precision measurement.
Ø The computer communicates with the instrument through Ethernet, carries out parameter setting (range, sensor sensitivity, etc.), clearing, sampling, stopping and other operations of the collector, and transmits the sampling data in real time.
Ø It can cooperate with various bridge sensors to accurately test the force, pressure, displacement and other physical quantities.
ØAny measuring point can be set as compensation measuring point, or common compensation terminal can be used for compensation.
ØAccording to the output sensitivity of the sensor, the unit dimension of the measured physical quantity is normalized and displayed directly.
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Ø DC power supply can be used, and lithium battery power supply module can also be selected.
>LCD control function, screen size is 7.0 inches.

SPECIFICATIONS

Number of Input Channel	8channels/16 channels/24channels(Three Types)
Full-scale Voltage Value	±30mV, 0 ~ 2V switching
Strain Measurement	
Full-scale Strain Value	±60000με
Min. Resolution	0.1με
Indication Error	≤0.5%±3με
Noise	≤0.5μεRMS
Zero Drift	≤2με/4h
Self-Balancing Range	±30000με (±2% of strain gauge resistance)
Strain Gauge Sensitivity Coefficien	1.0 ~ 3.0 (Auto. calibrating)
Bridge Excitation	
Bridge Configuration	Full, half, three-wire quarter bridge, public compensation quarter bridge
Bridge Completion Resistors	120Ω, 350Ω (Three-wire quarter bridge) 60Ω~20000Ω (Half bridge / Full bridge)
Bridge Voltage	
Output voltage range (DC)	2V
Accuracy	≤0.1%
Stability	≤0.05% per hour.
Maximum output current	30mA per channel.
Resistance correction range	0～100Ω
A/D Converter	24 bits
Sampling Rate	
Static Sampling	1Hz, 2Hz, 5Hz per channel
Dynamic Sampling	10Hz, 20Hz, 50Hz, 100Hz, 200Hz per 4 channels(each module)
Communication	Gigabit Ethernet
Working Mode	
Offline work	touch screen operation, data storage to the chassis, and support data recovery
Online work	realize communication and data transmission with calculation through Ethernet
Power Supply	
AC power input	220 V (± 10%) 50 Hz (± 2%)
DC power input	10 ~ 36 VDC
	Vehicle 12 VDC
Dimensions	395×275×107mm
Weight	4.5kg
Environmental Conditions	
Operating Temperature	0°C to 40°C
Operating Humidity	20 ~ 90%RH@40°C
Storage Temperature	- 40°C to 60°C
Storage Humidity	90%RH24h@50°C
Vibration	Frequency cycle range: 5Hz ~ 55Hz ~ 5Hz Drive amplitude (peak): 0.19mm Sweep frequency: ≤1Oct./min Duration of resonant: 10min Vibration direction: x, y, z

SYSTEM CONFIGURATION

Connection with Sensor:

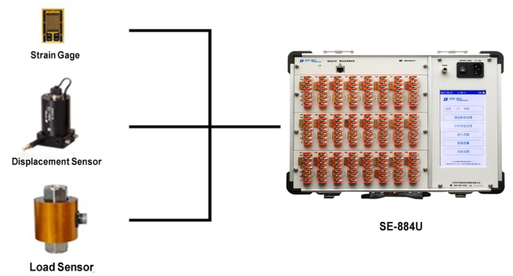


Figure 1 Single System Block Diagram (With Sensor)

Ethernet communication:

Figure 2 Single System Block Diagram

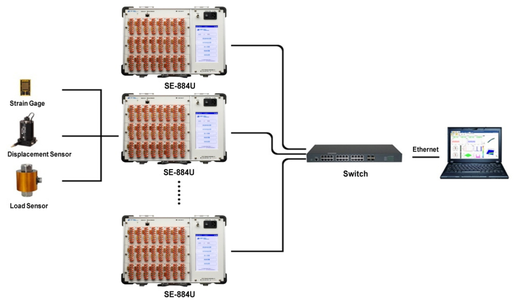
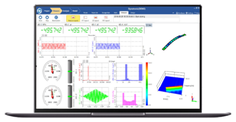


Figure 3 Multiple System Block Diagram (Wireless AP)

SOFTWARE

DE-BSP Basic platform software:
Ø Running on XP/Win7/Win8/Win10 operating system.
Ø 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

SE-844U DAQ Unit
The continuous sampling rate of all channels is 5Hz;
Built-in HD LCD color screen,
Display test results and set channel parameters;
The computer controls an unlimited number of instruments through 100 gigabit Ethernet,
Each of the four channels is used at 200Hz

SE-844U Battery module(Optional):
Optional lithium battery power supply module
Work continuously for at least 6 hours after full charge