VESSTA 4EX MIMO Vibration Controller

Instrument Description

VESSTA MIMO Vibration controller is based on PXIe Bus and DSP board Structure, by the combination of different data acquisition card and output interface card, it can realize large-scale-channel distributed data acquisition, centralized processing, one-way transmission speed is up to 250 MB/s, it can ensure the multichannel parallel acquisition and real time closed-loop control.

●System Features

Performance

●Module

Input Module: Each input module has 8 input channels

Output Module: Each output module has 8 output channels

I/ O Module: Digital Input/ Output interface, 8-bit digital signal input/ output, it can communicate with peripheral equipment: Abort interface, to ensure that failure emergency stop.

●Input Module

Input interface: SMB, equipped with BNC Connector

Input: 2~128 Channels

Input impedance: 1M (single-ended), 2M (differential)

Input Resolution: 24 bit ADC

Anti-aliasing filter: 1 analog anti-aliasing filter, 1 160dB/ octave digital anti-aliasing filter

Coupling: AC Gnd, AC DIF, DC Gnd, DC Dif, Charge, IEPE, TEDS

Input Voltage Ranges: ±10, ±1, ±0.1VPEAK

Input Protection Voltage: ±36 V_{PEAK}

Input Dynamic Range: 135dB

Total Harmonic Distortion: <-100dB

- Full Test Functions: Random, Sine, Classical Shock, Transient Capture, Shock Response Spectrum (SRS), and Field Data Replication **- High Precision**: 135dB dynamic range, 24bit AD/DA, 32-bit DSP processing **- Powerful Transmission**: Bus point-to-point one-way transmission rate is up to 250 MB/s, 450MHz DSP Processing. **- Low Power Consumption:** Adopting the lowest power consumption floating digital signal processor, to reach the higher energy efficiency and the lower heat consumption. **- Extension:** single mainframe input up to 128 channels, output up to 16 channels. **●Applications:** - MIMO (Multiple Input, Multiple Output) - MESA (Multiple Exciter, Single Axis) - MEMA (Multiple Exciter, Multiple Axes) (Suitable for both Electromagnetic vibration shaker and hydraulic vibration shaker) **●Test Functions:** - MIMO Random Test - MIMO Sine Test - MIMO Classical Shock Test	Input Channel Crosstalk: <-100dB Channel Match: Amplitude is less than 0.1dB, Phase is less than ±1.0° (DC~20kHz) SNR: >100dB **●Output Module** Output interface: SMB, equipped with BNC connector Output Channel: 2~16 Output Resolution: 24-bit DAC Voltage Range: ±10 V_{PEAK} Output Dynamic Range: ≥108dB Total Harmonic Distortion: <-100dB@1kHz Anti-aliasing Filter: 160dB/Oct digital and analog anti-aliasing Filter:

- MIMO Transient Time History - MIMO Shock Response Spectrum (SRS) - MIMO Field Data Replication **●Extension Control Functions:** - Rectangular Matrix Control - Virtual channel/ Degrees of freedom synthesis and decomposition - Multivariable control - Random channel limit control - Sine channel limit control	