

## VENZO 8160 Shaker Control System



### State-of-the-art Hardware

- 2~16 Analog input channels
- 1~2 Drive Channel (can be adopted in dual-axis control application)
- 450MHz DSP Processing
- 100 Mbps Ethernet port connecting to PC
- 30~70°C Working Temperature
- No-fans structure to reduce the background noise
- 160 dB / Octave Anti-aliasing Filter
- AUX Channel
- 24-bit ADC/DAC, 135dB dynamic range
- 204.8 kHz Sampling Rate, 80kHz Frequency Range
- 1GB Internal Flash Memory Stores Test Configuration
- Floating Ground Design Reduces Ground Loop Problems

### Full and Innovative Control Functions

- Random, Vibro-Shock
- Random-on-Random
- Sine, Step Sine, Resonance Search and Tracked Dwell
- Sine and Random-on-Random
- Classical Shock, Transient Time History, SRS
- Field Data Replication
- Sine-on-Random
- Kurtosis Control
- Sine-on-Sine
- Limiting and Notching
- Multivariable Control

### Hardware Specifications

- Input:** 2~16 channels, extendable to 64 channels
- Input Interface:** BNC Connector
- Input Resolution:** 24-bit ADC
- Coupling:** AC Gnd, AC Dif, DC Gnd, DC Dif, Charge, IEPE
- TEDS:** IEEE 1451.4 compliant, automatic-reading
- Anti-aliasing Filter:** analog and digital anti-aliasing low-pass filters
- Input Dynamic Range:** 135 dB
- SNR:** > 100 dB
- Input Voltage Ranges:**  $\pm 10$ ,  $\pm 1$  or  $\pm 0.1 V_{PEAK}$
- Input Impedance:** 1 M $\Omega$  (Single-ended) 2 M $\Omega$  (differential)
- Input Protection Voltage:**  $\pm 36 V_{PEAK}$  without damage
- Input Channel Crosstalk:** <-100 dB@1kHz
- Amplitude Channel Match:**  $\pm 0.05$  dB, up to 20 kHz
- Channel Phase Match:** better than  $\pm 0.5$  degree, up to 20 kHz
- Input Signal Type:** Charge, Voltage, High-integrated
- Total Harmonic Distortion:** <-100dB @ 1kHz
- Output:** 1~2 Drive Channels
- 1 AUX Channel:** can be configured as drive channel in dual-axis control
- Output Interface:** BNC Connector
- Output Resolution:** 24-bit DAC
- Frequency Range:** 25.6 kHz
- Dynamic Range:**  $\geq 108$  dB
- Output Voltage Range:**  $\pm 10V_{pk}$
- Max Output Current:** 20 mA
- Total Harmonic Distortion:** <-100 dB @ 1 kHz
- Anti-aliasing Filter:** 160 dB/Oct digital and analog filters
- PC Configuration:** Windows XP/Vista/ 7 /8 OS and an Ethernet port. Microsoft Word / Excel and PDF are recommended.

## Analysis Capabilities and Auxiliary Functions

THD Detection  
Data Recorder  
FFT Analysis  
SRS Analysis  
FRF  
Waterfall View  
Signal Calculation  
Signal Cache  
Signal Editor  
Word/PDF Test Report  
Email Report  
Off-line Viewer  
Transient Capture, Force/Deflection Analysis,  
Shock Response Analysis  
Playback Analysis



## Main Classis

**Dimension (mm):** 435\*280\*60 (VENZO 8160)

**Weight:** 5.0 kg (VENZO 8160)

**Front Panel:** three LED lights indicate the status of "Power", "Ready" and "Control". The red Abort button is for emergency stop of the vibration test system.

**Rear Panel:** connectors include 16 Analog Input Channels, a Drive Channel, a 100 BASE-T Network Port, an AUX channel (for VENZO 880 and VENZO 8160 can be adjusted to dual-axis drive control channel), a grounding-end, an External Emergency Abort Jack and a terminal block of digital I/O lines.

**Working Temperature:** -30~70℃

**Humidity:** 5%~95% RH

**Consumption:** 20W (VENZO 8160)

**Power:** 90~280VAC (50~60Hz)

**Enclosure Rating:** IP42 (for CE Marking)

**PC Connection:** high-speed standard Ethernet interface

**Anti-vibration Performance:** 10-60 Hz @ 0.15 mm peak; 60-150 Hz @ 2 gn, conform to IEC 68-2-6; 5~55 Hz~5Hz @ 0.19 mm peak, conform to GB/T6587-2012 standard II

**Anti-impact Performance:** Half sine 10 gn for 16 ms, conform to IEC-60068-2-27; Half sine 30 gn for 11 ms, conform to GB/T 6587-2012 standard II

**EMC Standards:** EN 55022:2010, EN55024:2010, EN 60950-1:2006+A12:2011

**Safety:** EN 61010-13rd

**Compliance:** CE Marking