AETECHRON

HVR 1000

Electric Vehicle High-Voltage Ripple Test System

- Rugged construction with comprehensive protections
- Reduced user training time
- Customizable test modifications
- No recurring licensing fees
- Small in-lab footprint

STANDARDS TESTING LIST
Comprehensive Solution for:

MBN LV123	VW 80300
ISO 21498-2	VW 80303
MAN CVS 43:2021-01	

Key Performance Capabilities:

Ripple

- From 10 Hz to 200 kHz
- Up to 50 Vp, 200 Ap
- Adjustable ripple current limit

System

- Up to 1000V output
- Up to 60 kW, 160A DC
- Adjustable DC current limit
- Bi-directional DC capability

High-voltage electric vehicle testing is a rapidly growing automotive test requirement. With the **HVR 1000**, AE Techron introduces a complete high-voltage test system. This powerful new test system will be very competitive with the few limited options in the market today.

Focused on standards compliance, this system offers ease of use, rugged construction, and comprehensive system protections and limits.

The HVR 1000 is designed to be forgiving of accidental misuse while being safe for the user and for the equipment being tested.

When compared to other options, this system features reduced user training time, greater system up time, customizable test modifications, no recurring license fees (future updates to standards are included in the initial purchase price), and a small in-lab footprint.

Specifications

Performance

Voltage Output Range,
DC: 0 – 1000V
AC: 0 – 50Vp
Output Current Range,
DC: 0 – 80A
AC: 0 – 50Ap, 200Ap
Ripple Bandwidth: 10 Hz to 200 kHz
DC Source Impedance: 0.4 - 650Ω*
Operation,
AC: 4-quadrant, bi-polar operation
DC: 2-quadrant, bi-directional operation
Output Rise Time, DC Supply: 10 ms from 10% to 90% of full scale voltage

Input and Output Connectors

System,
Output, DUT Supply +/-: High-voltage barrier block connectors, accepts up to 6 AWG
Voltage Monitor: Unbalanced BNC connector; 20V/V
Current Monitor: Unbalanced BNC connector; 20A/V
Keyboard: USB connector on cabinet back
Mouse: USB connector on cabinet back
USB Drive: USB connector on cabinet back
Video Output: HDMI connector on cabinet back
LAN: RJ-45 connector on cabinet back
Signal Generator,
Signal Input: Unbalanced BNC used for factory diagnotics
Signal Output: Unbalanced BNC (analog – 10Vp)
DC Supply: USB port for factory configuration

Status Displays

Signal Generator: LEDs for Power, System Fault, Signal-In Enabled
Amplifier: LEDs for Run/Standby status, Signal presense/ Overload condition, Power Supply Fault, Overtemp/Over Current
DC Supply: LEDs for Power, Remote control, Error, CC operation, DC output On, DC output Off

* For high-voltage ripple testing, this impedance value will change.

Controls

Software,
Trigger: User, GPIO or LAN
Loop: Fixed, variable, scripted variable
Template: Creation and playback
Remote Output: GPIO or LAN
Signal Generator: Front-panel on/off power switch
Amplifier: Front-panel Run/Standby switch
DC Supply: Front-panel push button for factory configuration

Protection

Amplifier,
Over/Under Voltage: ±10% from specified supply voltage amplifier is forced to Standby
Over Current: Breaker protection on both main power and low-voltage supplies
Over Temperature: Separate output transistor, heat sink, and transformer temperature monitoring and protection
DC Supply,
Over Voltage: Adjustable 0 – 110% $U_{Nominal}$
Over Current: Adjustable 0 – 110% $I_{Nominal}$
Over Power: Adjustable 0 – 110% $P_{Nominal}$
Over Temperature: DC output shuts down in case of insufficient cooling

Physical Characteristics

AC Supply Requirements: 3-phase 400V-480V AC ±10%, **30**A, 50/60 Hz
Operating Environment,
Temperature: 10°C to 50°C (50°F to 122°F), Maximum output power de-rated above 30°C (86°F).
Humidity: 70% or less, non-condensing
Atmospheric Pressure: 86 kPa (860 mbar) to 106 kPa (1,060 mbar)
Cooling: Forced-air fans
Dimensions (HxWxD): 49.64 x 22.22 x 39.58 inches (126.09 x 56.44 x 100.53 cm)
Weight: Approximately 300 lbs. (136 kg)

HVR 1000 OPTIONS FOR DC CURRENT

30 Ap DC Up to 1000 VDC	60 Ap DC Up to 1000 VDC	2x30 Ap DC* Up to 1000 VDC **Specific to VW 80303 Test*

HVR 1000 OPTIONS FOR AC RIPPLE CURRENT

50 Ap AC Up to 50 Vp	200 Ap AC Up to 50 Vp