



## HVR 1000

### High-Voltage Ripple Test System



#### STANDARDS TESTING LIST

##### Comprehensive Solution for:

MBN LV123	VW 80300
ISO 21498-2	VW 80303
MAN CVS 43:2021-01	Stellantis CS.00245

#### System Features:

- Easy-to-use software reduces user training time
- Multi-layer current protection
- Greater system uptime
- Customizable test modifications
- No recurring license fees
- Small in-lab footprint

#### 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 ripple testing is a rapidly growing automotive and aviation test requirement. With the **HVR 1000**, AE Techron introduces a complete high-voltage test system. This powerful new test system is designed for high-voltage ripple testing, providing unparalleled accuracy and efficiency in assessing EV component immunity to ripple voltages.

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 diagnostics

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 presence/Overload condition, Power Supply Fault, Overtemp/Over Current

DC Supply: LEDs for Power, Remote control, Error, CC operation, DC output On, DC output Off

### 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:  $\pm 10\%$  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  $\pm 10\%$ , 30A, 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)

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

## HVR 1000RG

- Many test labs have multiple DC supplies. We now offer the HVR 1000 as a ripple generator system, minus the DC supply included with the HVR 1000.
- The HVR 1000RG can be coupled with any DC supply. A customer's DC supply analog connection may be controlled with the 3110A software, included in the HVR 1000RG.

