AV aerovironment™

Power Cycling & Test Systems
The Standard for Advanced Energy Testing

AV-900 EX

Dynamic. Accurate. Scalable

Powering Up To 1 MW

The AV-900 EX is ideal for testing and emulating energy storage and drive train components. The increased performance (rise time/slew rate) and increased accuracy make the AV-900 EX ideal for applications like Heavy Industrial (ships, trains, trucks, and aircraft), Military (hybrid drives and aircraft launch systems), Power Electronics (solar panels, inverters), and Hardware in the loop testing. Digital controls protect critical systems and components, and the system can self-adjust to external environmental events like unstable power sources. The bi-directional system can operate at ± 250kW, or combined, it can scale to ±1MW. The AV-900 EX, with new LCD touchscreen display, is an intelligent system that will give you the accuracy, speed, and control to add value to your tests.

KEY FEATURES

- Industry standard for high performance testing
- Flexibly test virtually any DC source, load, or battery storage system
- Enhanced error detection & fault correction
- Test faster and more efficiently > Save time & money
- Regenerative to the grid > Save energy and money
- More accurately represent real world conditions > More predictive results
- Two channels for flexibility in testing/simulating multiple devices with a single machine
- Open communication protocol allowing easy integration into any test set-up
- Self-contained cooling system requiring no external cooling system
- Control Modes: Voltage, Current, Power, Resistance, Voltage with Internal Resistence
- Updated Look & Feel: Touch Screen HMI & Error messages displayed on screen
- Camlocks: available with or without

Some features are only available with appropriate software. For further info, please contact AV at p3sales@avinc.com. All specifications are subject to change. Trademark usage in image shown may vary slightly.

SPECIFICATIONS

	INDEPENDENT	PARALLEL	MULTI-UNIT
VOLTAGE	900V	900V	900V
CURRENT	500A	1000A	4000A
POWER	250kW	250kW	1000kW
COMMAND LATENCY	250µs (Ethernet)		
ENERGY RECOVERY EFFICIENCY	93%		
MEASUREMENT ERROR-VOLTAGE	±0.05V or ±0.05% of reading		
MEASUREMENT ERROR-CURRENT	±160mA or ±0.05% of reading		
RISE TIME VOLTAGE - STEP (0-500V)	3ms*	7ms*	7ms*
RISE TIME CURRENT - STEP (0-300A)	0.5ms*	0.6ms*	0.9ms*
RISE TIME POWER - STEP	0.4ms* (0-100kW)	0.6ms* (0-250kW)	0.7ms* (0-500kW)
SLEW RATE VOLTAGE	171V/ms	89V/ms	76V/ms
SLEW RATE CURRENT	769A/ms	1282A/ms	1935A/ms
SLEW RATE POWER	274kW/ms	500kW/ms	833kW/ms
TRACKING BANDWIDTH VOLTAGE	50Hz (500V) 75Hz (250V)	50Hz (500V)	50Hz (500V)
TRACKING BANDWIDTH CURRENT	175Hz (500A)	150Hz (700A)	50Hz (700A)
TRACKING BANDWIDTH POWER	100Hz (150kW)	150Hz (250kW)	50Hz (250kW)
COMMUNICATION (CONTROL) WITH COMMAND LATENCY	Fiber to Ethernet 275µs CAN 35ms RS-232 50ms		
INPUT VOLTAGES (+10%/-15%)	380V, 400V, 415V, 440V, 480V (50/60 Hz)		
WEIGHT	6063 lb (2750 kg)		
DIMENSIONS	72" W x 76.5" H x 39" D (183cm W x 194cm H x 99cm D)		

(*Typical values, all else Maximum values)

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OPERATING RANGE

CONFIGURATION	VOLTAGE (Vdc)	CURRENT (Adc)	POWER (kW)
INDEPENDENT	+8 to +750	-500 to +500	-250 to +250
	+751 to +825	-400 to +400	-225 to +225
	+826 to +900	-300 to +300	-200 to +200
PARALLEL	+8 to +750	-1000 to +1000	-250 to +250
	+751 to +825	-800 to +800	-225 to +225
	+826 to +900	-600 to +600	-200 to +200

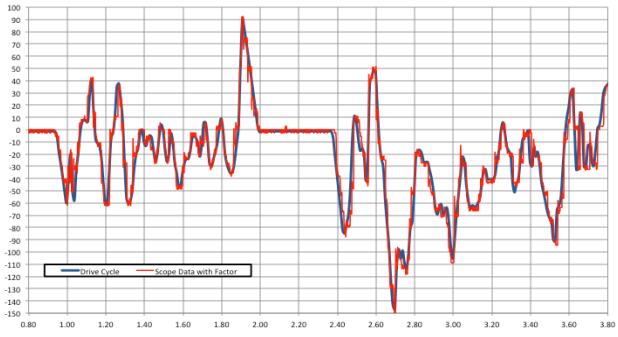
TOUCHSCREEN HMI

Touchscreen HMI for local control & easy identification of operating state

APPLICATION GUIDE

Battery Testing and Cycling	Battery Pack	•
	Production Testing	•
Simulation	Battery	•
	Powertrain	•
	Fuel Cell	•
	Hardware in the Loop	•
Energy Storage Charging and Testing	Fuel Cell	•
	Super & Ultra Capacitors	•
	Flywheels	•
Power Generation Equipment Testing	Electric Components	•
	Microgrids	•
	Power Supplies	•
	Generators	•
	Stationary Power	•
	Inverters	•
	Military & Aerospace	•
	Life, Run-in, Burn-in	•
	Uninterruptable Power Supplies (UPS)	•
Hybrid and Electric Vehicle, End-of-line Testing	Powertrain	•
	Production Testing	•
	Medium & Heavy-duty (buses, trams, trolleys, trucks, trains)	•

DRIVE CYCLE TEST



100 Hz FUDS Drive Cycle Test

AV-900 EX can run all standard drive cycle simulations, including FUDS, SFUDS, GSFUDS, DST, ECE-ISL, etc.

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