



9100 Series

Wide-Bandwidth, High-Power Switch-Mode Amplifiers

AE Techron's 9100 Series amplifiers are 200Vp, DC-to-250 kHz capable amplifiers that offer a unique combination of switch-mode efficiency and linear-amplifier-like fidelity in a single, compact package. They are able to drive virtually any type of load without a reduction in rated power, with low distortion and low DC drift. They are also fast enough to meet 5 μ s surge and dropout requirements.

The 9100 series is a powerful and flexible partner when the environment is difficult or existing AC Mains options are limited. It is able to be powered from any normal single-phase AC mains voltage (100VAC – 250VAC). It is power-efficient, producing up to 2,000 watts output from a 20A, 120V AC mains supply, and up to 5 kW* from 230V or 240V sources.

This combination of features makes the 9100 series an ideal solution for a wide range of high-current, low-voltage applications that require both DC power and quick surges or drop-outs, like those found in conducted immunity testing of DC-powered systems in the automotive and aviation markets.

*9105 output is 4.5 kW from 230V or 240V sources; output for all other models is 5 kW.

	Continuous Output Current		
	9105	9110	9115
13.5 VDC	30A	60A	90A
24 VDC	30A	60A	90A
48 VDC	30A	60A	90A
60 VAC	30A	60A	80A
120 VAC	16A	40A	40A

Performance data is for a purely resistive load; performance will be improved into loads that are partially or completely reactive.

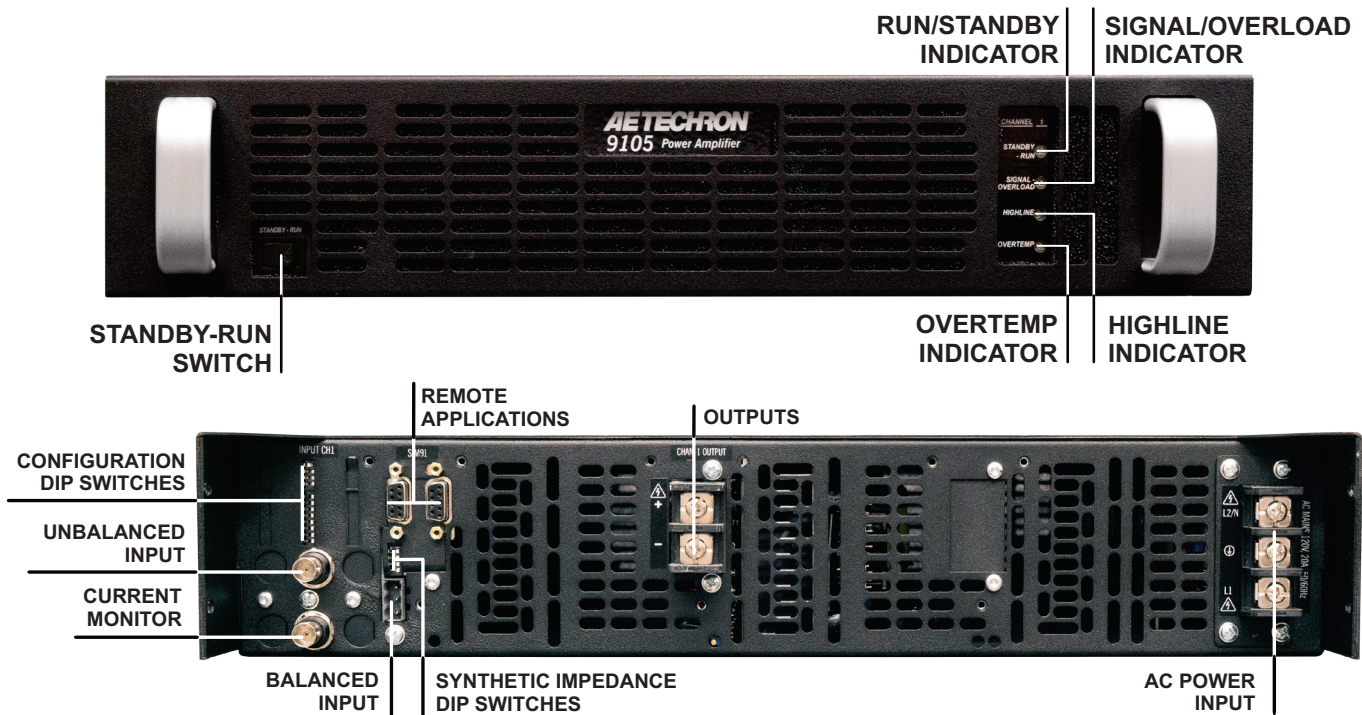
Features

- Stable when driving highly capacitive loads.
- Four-quadrant operation.
- Fixed or variable gain.
- User-selectable current limit to protect fragile DUTs or where specified in the Standard.
- DC enabled or DC blocked and DC Servo (for driving transformer-coupled loads or coils).
- Balanced and/or unbalanced input.
- Operate as a voltage-controlled voltage source or voltage-controlled current source.
- Variable output impedance from 0 to 1 ohm (Voltage mode).

Performance Overview:

Bandwidth:	DC to 250 kHz
Minimum Drop/Rise Time:	5 μ s
Slew Rate:	Up to 150 V/ μ s
Maximum Voltage:	0 to 200 V _p
Maximum Current:	Up to 50 to 150 A _p
Distortion:	<0.1% at 1 kHz below clip
Maximum Long-Term Power:	5 kW to 30 kW**
Typical Output Ripple:	0.6V RMS

**Models available with output power from 5 kW to 30 kW (capable of up to 60 kVA).



CURRENT MONITOR: 50A = 5V

9000 Series Default DIP Switch Settings

Red = Default

OFF	ON				
1	<input type="checkbox"/>	1	DC SERVO	OFF	ON
2	<input type="checkbox"/>	2	OPERATION MODE	CC	CV
3	<input type="checkbox"/>	3	COMPENSATION NETWORK 2	OFF	ON
4	<input type="checkbox"/>	4	COMPENSATION NETWORK 1	OFF	ON
1	<input type="checkbox"/>	5	<i>CONTROL CONFIGURATION</i>	FOLLOWER	MASTER
2	<input type="checkbox"/>	6	COUPLING	AC	DC
3	<input type="checkbox"/>	7	GAIN BIT 3 (MSB)	OFF	10
4	<input type="checkbox"/>	8	GAIN BIT 2	OFF	5
5	<input type="checkbox"/>	9	GAIN BIT 1 (LSB)	OFF	2.5
6	<input type="checkbox"/>	10	<i>ELECTRONIC GAIN MATCHING</i>	OFF	ON
7	<input type="checkbox"/>	11	CURRENT LIMIT BIT 2 (MSB)	OFF	+30A
8	<input type="checkbox"/>	12	CURRENT LIMIT BIT 1 (LSB)	OFF	+15A

NOTE: ALL BIT SWITCHES ARE ADDITIVE. RIGHT = ON.

SIM-91 Default DIP Switch Settings (Single-Channel Models Only)

Red = Default

OFF	ON			
1	<input type="checkbox"/>	1	SYNTHETIC IMPEDANCE BIT 3 (MSB)	OFF 0.5Ω
2	<input type="checkbox"/>	2	SYNTHETIC IMPEDANCE BIT 2	OFF 0.25Ω
3	<input type="checkbox"/>	3	SYNTHETIC IMPEDANCE BIT 1 (LSB)	OFF 0.125Ω
4	<input type="checkbox"/>	4	UNUSED	OFF -----

NOTE: ALL BIT SWITCHES ARE ADDITIVE. RIGHT = ON.

Specifications

9105

Maximum Continuous Output**Current:** 30A_{RMS} AC or DC**Power:** 2 kW from 20A, 120VAC; 5 kW from 30A, 230/240VAC**Supply Voltage:** Universal power supply with PFC, single-phase, 100V to 240VAC $\pm 10\%$, 30A, 50/60 Hz**Dimensions (HxWxD):** 3.47 x 17.3 x 22.8 in. (8.81 x 43.94 x 57.91 cm)**Weight:** Approximately 40 lbs. (18.14 kg)

9110

Maximum Continuous Output**Current:** 60A_{RMS} AC or DC**Power:** 5 kW**Supply Voltage:** Universal power supply with PFC, single-phase, 100V to 240VAC $\pm 10\%$, 30A, 50/60 Hz**Dimensions (HxWxD):** 3.47 x 17.3 x 22.8 in. (8.81 x 43.94 x 57.91 cm)**Weight:** Approximately 45 lbs. (20.41 kg)

9115

Maximum Continuous Output**Current:** 90A_{RMS} AC or DC**Power:** 5 kW**Supply Voltage:** Universal power supply with PFC, single-phase, 100V to 240VAC $\pm 10\%$, 30A, 50/60 Hz**Dimensions (HxWxD):** 3.47 x 17.3 x 22.8 in. (8.81 x 43.94 x 57.91 cm)**Weight:** Approximately 50 lbs. (22.68 kg)

Common Data (all models)

Operating Modes: AC, DC, and AC + DC**Frequency, AC Mode Output (-3 dB):** DC - 250 kHz**Max Voltage Ranges (no load),**AC: 0 - 130 V_{RMS}AC + DC: 0 - ± 200 V_p**Load Regulation (ref to full scale):** <0.05%, DC to 100 Hz; <0.1%, 10 Hz to 10 kHz**Line Regulation (full scale):** <0.1% for 10% line change**Harmonic Distortion (80 kHz, low-passed):** Less than 0.3% from 10 Hz to 30 kHz; 0.5% up to 50 kHz**Harmonic Distortion (30 kHz, low-passed):** Less than 0.1% from 10 Hz to 50 kHz**DC Offset:** <10 mV**Distortion:** <0.2%**Voltage Slew Rate:** Up to 150V per μ s, typically 5 μ s to 10 μ s for 10% to 90% of full-scale change, depending on load and power**Efficiency:** 85%, typical**Power Factor:** .98, typical**Source Impedance:** 3 m Ω + 3 μ H**Cooling:** Internal forced-air fans**Protection:** Over/under voltage, over current, over temperature**Input, Signal In:** BNC connector (unbalanced)**Output:** High-current barrier strip**Operating Environment,****Temperature:** 5 °C to 50 °C (41 °F to 122 °F);

Maximum output power de-rated above 30 °C (86 °F)

Humidity: Maximum relative humidity 80% for temperatures up to 31 °C decreasing linearly to 50% relative humidity at 40 °C**Altitude:** 3000 m Maximum**Environment:** Indoor Use Only, Pollution degree 2**Equipment Class:** Group 1 Class A**Transient Overvoltage:** Overvoltage Category II