



8600 Series

Wide-Bandwidth, High-Voltage
Switch-Mode Amplifiers

AE Techron's 8600 Series amplifiers are 400Vp, low-noise, DC-to-50 kHz switch-mode amplifiers. The 8600 series provides a unique combination of switch-mode and linear amplifier abilities. Switch-mode efficiency is combined with what are typically benefits of linear amplifiers, low noise floor and THD, high slew rates, and wide bandwidth.

The 8600 series is also able to safely drive both reactive and resistive loads of varying impedances with no loss in rated output power. 8600 series amplifiers pack a lot of power into a small package. They are able to produce surge power ratings at up to 20kW, and process apparent power at levels up to 2X the continuous power ratings.

This makes an 8600 series amplifier an ideal choice for applications that require wide bandwidth, high power and great value. The 8600 series is also AC and DC capable, useful for producing power with quick surges or drop-outs, like those required for

Bandwidth DC to 50 kHz

Slew rate Up to 80V/ μ s

Voltage 0 to 260 V_{RMS}
0 to 400 VDC

Current Up to 80 A_{RMS}*

Distortion <0.2%

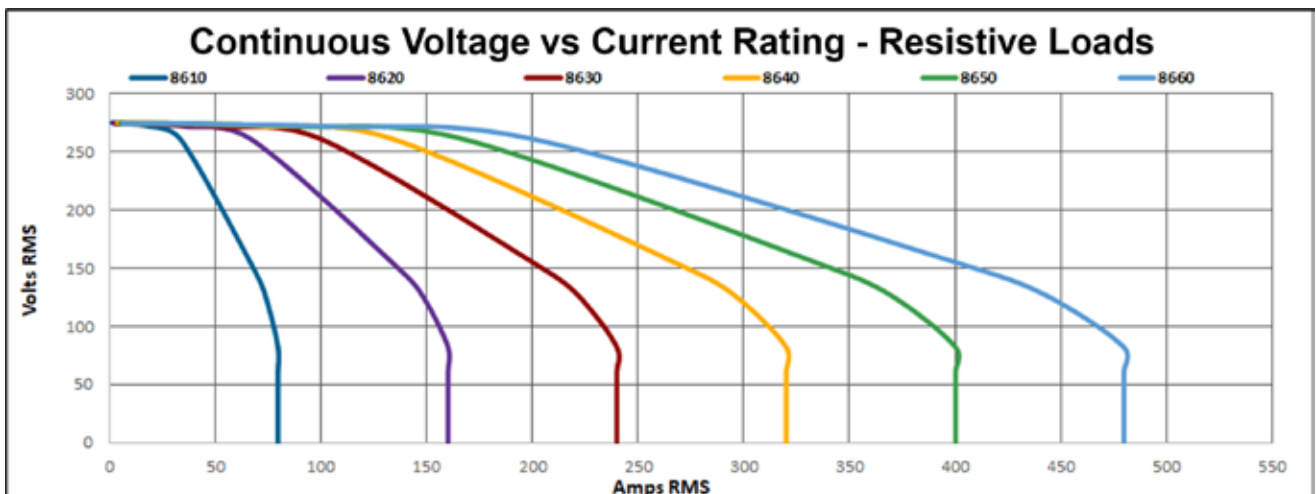
Power 10 kW*

**Power levels up to 2X rated power
when driving reactive loads**

89% power efficiency

*Models available with output power from 10 kW to 60 kW (capable of up to 120 kVA).

conducted immunity testing of AC or DC power systems found in military, commercial, or general aviation.



Specifications

8610

Maximum Continuous Output Current: 80A_{RMS}
Surge Rating: 20kW power at up to 400 V_p or 150A
Apparent Power Rating: Up to 2X continuous power rating at up to 400 V_p or 150A
Supply Voltage: Three-phase, 208V ±10%, 30A, 50/60 Hz; 400VAC ±10%, 5-Wire 20A version available
Source Impedance: 7 mΩ + 3 μH
Dimensions (HxWxD): 5.25 x 19.0 x 25.26 in. (13.34 x 48.26 x 64.16 cm)
Weight: Approximately 64 lbs. (29.3 kg)

8620

Maximum Continuous Output Current: 160A_{RMS}
Surge Rating: 40kW power at up to 400 V_p or 300A
Apparent Power Rating: Up to 2X continuous power rating at up to 400 V_p or 300A
Supply Voltage: Three-phase, 208V ±10%, 60A, 50/60 Hz; 400VAC ±10%, 5-Wire 40A version available
Source Impedance: less than 70 mΩ + less than 10 μH
Dimensions (HxWxD): 35.05 x 22.56 x 31.56 in. (89.03 x 57.3 x 80.16 cm)
Weight: Approximately 250 lbs. (113.4 kg)

8630

Maximum Continuous Output Current: 240A_{RMS}
Surge Rating: 60kW power at up to 400 V_p or 450A
Apparent Power Rating: Up to 2X continuous power rating at up to 400 V_p or 450A
Supply Voltage: Three-phase, 208V ±10%, 90A, 50/60 Hz; 400VAC ±10%, 5-Wire 60A version available
Source Impedance: less than 60 mΩ + less than 10 μH
Dimensions (HxWxD): 35.05 x 22.56 x 31.56 in. (89.03 x 57.3 x 80.16 cm)
Weight: Approximately 310 lbs. (140.6 kg)

8640

Maximum Continuous Output Current: 320A_{RMS}
Surge Rating: 80kW power at up to 400 V_p or 600A
Apparent Power Rating: Up to 2X continuous power rating at up to 400 V_p or 600A
Supply Voltage: Three-phase, 208V ±10%, 120A, 50/60 Hz; 400VAC ±10%, 5-Wire 80A version available
Source Impedance: less than 50 mΩ + less than 10 μH
Dimensions (HxWxD): 48.55 x 22.56 x 31.56 inches (123.32 x 57.3 x 80.16 cm)
Weight: Approximately 380 lbs. (172.4 kg)

8650

Maximum Continuous Output Current: 400A_{RMS}
Surge Rating: 100kW power at up to 400 V_p or 750A
Apparent Power Rating: Up to 2X continuous power rating at up to 400 V_p or 750A
Supply Voltage: Three-phase, 208V ±10%, 150A, 50/60 Hz; 400VAC ±10%, 5-Wire 100A version available
Source Impedance: less than 40 mΩ + less than 10 μH
Dimensions (HxWxD): 48.55 x 22.56 x 31.56 inches (123.32 x 57.3 x 80.16 cm)
Weight: Approximately 450 lbs. (204.2 kg)

8660

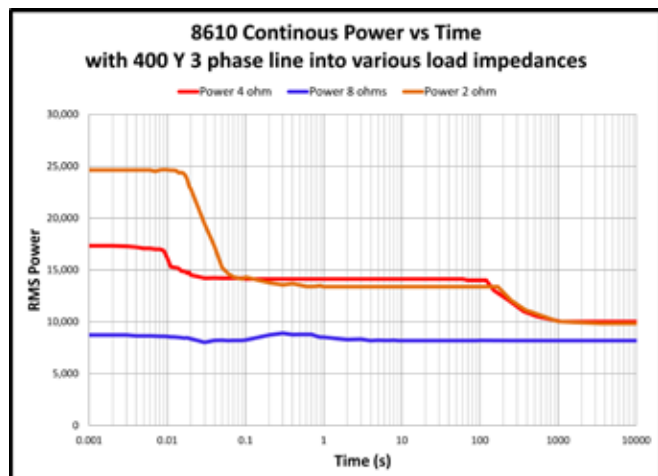
Maximum Continuous Output Current: 480A_{RMS}
Surge Rating: 120kW power at up to 400 V_p or 900A
Apparent Power Rating: Up to 2X continuous power rating at up to 400 V_p or 900A
Supply Voltage: Three-phase, 208V ±10%, 180A, 50/60 Hz; 400VAC ±10%, 5-Wire 120A version available
Source Impedance: less than 30 mΩ + less than 10 μH
Dimensions (HxWxD): 48.55 x 22.56 x 31.56 inches (123.32 x 57.3 x 80.16 cm)
Weight: Approximately 520 lbs. (235.9 kg)

Note: 8620, 8630, 8640, 8650 and 8660 model dimensions and weights are subject to change.

	Continuous Output Current					
	8610	8620	8630	8640	8650	8660
13.5-125 VDC	80A	160A	240A	320A	400A	480A
125-370* VDC	10kW	20kW	30kW	40kW	50kW	60kW
60 VAC	80A	160A	240A	320A	400A	480A
120 VAC	70A	140A	210A	280A	350A	420A
230 VAC	35A	70A	105A	140A	175A	210A

8610 power ratings shown are for 240V units. Performance data is for a purely resistive load; performance will be improved into loads that are partially or completely reactive.

* kW/V = A Limit



Common Data (all models)

Operating Modes: AC, DC and AC + DC
Frequency, AC Mode Output (-3 dB): DC - 50 kHz
Max Voltage Ranges (no load),
 AC: 0 - 260 V_{RMS}
 AC + DC: 0 - ±400 V_p
Load Regulation (full scale): <0.025%, DC to 100 Hz;
 <0.05%, 10 Hz to 10 kHz
Line Regulation (full scale): <0.1% for 10% line change
External Sense: Voltage-drop compensation sense line
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: Load dependent; up to 80V per μ s,
 typically 10 μ s to 30 μ s for 10% to 90% of full-scale
 change, depending on load and power

Efficiency: 89%, typical
Power Factor: .92, typical
Cooling: Internal forced-air fans
Protection: Over/under voltage, over current,
 over temperature
Input, Signal In: BNC connector (unbalanced);
 terminal strip (balanced)
Output: 3/8-inch high-current post connectors
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

