



8300 Series

AE Techron's Revolutionary Switch-Mode Design, with Half the Power at a Lower Cost

AE Techron's 8300 Series amplifiers are 200Vp, low-noise, DC-to-50 kHz switch-mode amplifiers. The 8300 series provides a unique combination of switch-mode and linear amplifiers. Switch-mode efficiency is combined with a low noise floor and THD, while also benefitting from high slew rates and wide bandwidth. The 8300 series is also able to safely drive both reactive and resistive loads of varying impedances with no loss in rated output power.

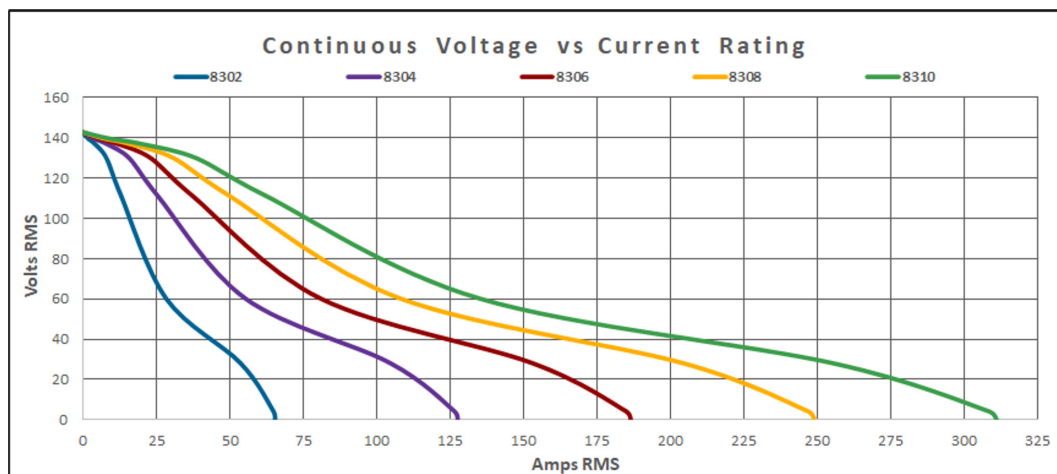
This combination of features makes the 8300 series an ideal solution for a wide range of high-current, low-voltage applications that require both DC power and quick surges or drop-outs, like those found in conducted immunity testing of DC-powered systems in the automotive and aviation markets.

- Bandwidth** DC to 50 kHz
- Slew rate** Up to 65V/ μ s
- Voltage** 0 to 140 V_{RMS}
0 to 200 VDC
- Current** Up to 65 to 300 A_{RMS}*
- Distortion** <0.2%
- Power** 2 kW, up to 10 kVA*
- Power levels up to 5X rated power when driving reactive loads**
- Drives loads PF 0 to 1**

*Models available with output power from 2 kW to 10 kW (capable of up to 50 kVA).

| | Continuous Output Current * | | | | |
|----------|-----------------------------|------|------|------|------|
| | 8302 | 8304 | 8306 | 8308 | 8310 |
| 13.5 VDC | 65A | 115A | 175A | 230A | 292A |
| 24 VDC | 50A | 90A | 135A | 180A | 225A |
| 48 VDC | 30A | 54A | 81A | 108A | 135A |
| 60 VAC | 28A | 50A | 75A | 100A | 125A |
| 90 VAC | 17A | 30A | 46A | 61A | 76A |
| 120 VAC | 10A | 18A | 27A | 36A | 45A |

*Power ratings shown are for 240V or 208V units. Contact AE Techron for performance ratings for alternate AC voltage units.



Specifications

8302

Maximum Continuous Output Current: 65A_{RMS}
Surge Rating: 2X power at up to 200 V_P or 150A
Apparent Power Rating: Up to 5X continuous power rating at up to 200 V_P or 65A
Supply Voltage: 120V ±10% 20A, 208V ±10% 20A, or 240V ±10% 20A, 50/60 Hz
Dimensions (HxWxD): 5.25 x 19.0 x 25.26 in. (13.34 x 48.26 x 64.16 cm)
Weight: Approximately 84 lbs. (38.1 kg)

8304

Maximum Continuous Output Current: 125A_{RMS}
Surge Rating: 2X power at up to 200 V_P or 300A
Apparent Power Rating: Up to 5X continuous power rating at up to 200 V_P or 115A
Supply Voltage: Three-phase 208V ±10%, 20A, 50/60 Hz; 400V ±10%, 20A version available.
Dimensions (HxWxD): 35.05 x 22.56 x 31.56 in. (89.03 x 57.3 x 80.16 cm)
Weight: Approximately 290 lbs. (131.5 kg)

8306

Maximum Continuous Output Current: 180A_{RMS}
Surge Rating: 2X power at up to 200 V_P or 450A
Apparent Power Rating: Up to 5X continuous power rating at up to 200 V_P or 175A
Supply Voltage: Three-phase 208V ±10%, 20A, 50/60 Hz;

400V ±10%, 20A version available.
Dimensions (HxWxD): 35.05 x 22.56 x 31.56 in. (89.03 x 57.3 x 80.16 cm)
Weight: Approximately 370 lbs. (167.8 kg)

8308

Maximum Continuous Output Current: 240A_{RMS}
Surge Rating: 2X power at up to 200 V_P or 600A
Apparent Power Rating: Up to 5X continuous power rating at up to 200 V_P or 230A
Supply Voltage: Three-phase 208V ±10%, 40A, 50/60 Hz; 400V ±10%, 40A version available.
Dimensions (HxWxD): 42.05 x 22.56 x 31.56 inches (106.81 x 57.3 x 80.16 cm)
Weight: Approximately 460 lbs. (208.7 kg)

8310

Maximum Continuous Output Current: 300A_{RMS}
Surge Rating: 2X power at up to 200 V_P or 750A
Apparent Power Rating: Up to 5X continuous power rating at up to 200 V_P or 750A
Supply Voltage: Three-phase 208V ±10%, 40A, 50/60 Hz; 400V ±10%, 40A version available.
Dimensions (HxWxD): 45.80 x 22.56 x 31.56 inches (116.33 x 57.3 x 80.16 cm)
Weight: Approximately 540 lbs. (244.9 kg)

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 - 140 V_{RMS}
AC + DC: 0 - ±200 V_P
Load Regulation (full scale): <0.025%, DC to 100 Hz;
<0.05%, 100 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 60V per μs, typically 10 μs to 30 μs for 10% to 90% of full-scale change, depending on load and power
Efficiency: 85%, typical
Power Factor: .72, typical

Source Impedance: 3 mΩ + 3 μH
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

