



8700 Series

Ultra-Wide-Bandwidth,
High-Power Switch-Mode
Amplifiers

AE Techron's 8700 Series amplifiers are 400Vp, low-noise, DC-to-250 kHz switch-mode amplifiers. The 8700 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 8700 series is also able to safely drive both reactive and resistive loads of varying impedances with no loss in rated output power.

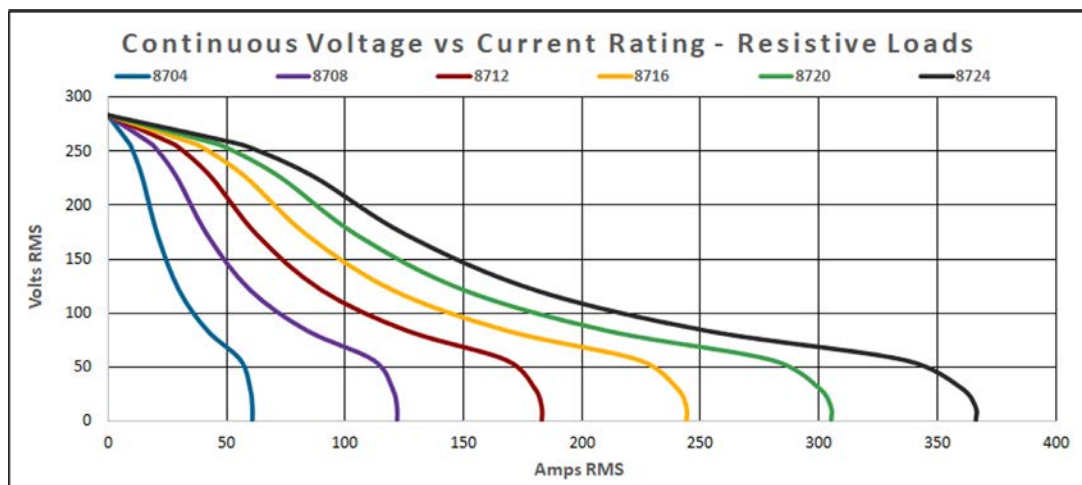
8700 series amplifiers pack a lot of power into a small package. They are able to produce surge power ratings at up to 2.5X continuous and process apparent power at levels up to 5X the continuous power ratings. This makes an 8700 series amplifier an ideal choice for many difficult-to-drive reactive loads.

This combination of features makes the 8700 series an ideal solution for a wide range of high-current,

| | |
|--|---|
| Bandwidth | DC to 250 kHz |
| Slew rate | Up to 300V/ μ s |
| Voltage | 0 to 250 V _{RMS} 0 to 350 VDC |
| Current | Up to 60 to 360 A _{RMS} * |
| Distortion | <0.8% |
| Power | 4 kW to 24 kW* |
| Power levels up to 5X rated power when driving reactive loads | |
| Drives loads PF 0 to 1 | |

*Models available with output power from 4 kW to 24 kW (capable of up to 120 kVA).

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.



Specifications

8704

Maximum Continuous Output Current: 60A_{RMS}
Surge Rating: 2X power at up to 400 V_P or 150A
Apparent Power Rating: Up to 5X continuous power rating at up to 400 V_P or 150A
Supply Voltage: Single-phase, 208V ±10%, 30A, 50/60 Hz; 230V/240V ±10%, 30A version available
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)

8708

Maximum Continuous Output Current: 120A_{RMS}
Surge Rating: 2X power at up to 400 V_P or 300A
Apparent Power Rating: Up to 5X continuous power rating at up to 400 V_P or 300A
Supply Voltage: Three-phase 208V ±10%, 30A, 50/60 Hz; 400V ±10%, 30A 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)

8712

Maximum Continuous Output Current: 180A_{RMS}
Surge Rating: 2X power at up to 400 V_P or 450A
Apparent Power Rating: Up to 5X continuous power rating at up to 400 V_P or 450A
Supply Voltage: Three-phase 208V ±10%, 30A, 50/60 Hz; 400V ±10%, 30A 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)

8716

Maximum Continuous Output Current: 240A_{RMS}
Surge Rating: 2X power at up to 400 V_P or 600A
Apparent Power Rating: Up to 5X continuous power rating at up to 600 V_P or 300A
Supply Voltage: Three-phase 208V ±10%, 60A, 50/60 Hz; 400V ±10%, 60A 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)

8720

Maximum Continuous Output Current: 300A_{RMS}
Surge Rating: 2X power at up to 400 V_P or 750A
Apparent Power Rating: Up to 5X continuous power rating at up to 400 V_P or 750A
Supply Voltage: Three-phase 208V ±10%, 60A, 50/60 Hz; 400V ±10%, 60A 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)

8724

Maximum Continuous Output Current: 360A_{RMS}
Surge Rating: 2X power at up to 400 V_P or 900A
Apparent Power Rating: Up to 5X continuous power rating at up to 400 V_P or 900A
Supply Voltage: Three-phase 208V ±10%, 60A, 50/60 Hz; 400V ±10%, 60A version available.
Dimensions (HxWxD): 51.05 x 22.56 x 31.56 inches (129.67 x 57.3 x 80.16 cm)
Weight: Approximately 620 lbs. (281.2 kg)

Note: 8708, 8712, 8716, 8720 and 8724 model dimensions and weights are subject to change.

| | Continuous Output Current | | | | | |
|----------|---------------------------|------|------|------|------|------|
| | 8704 | 8708 | 8712 | 8716 | 8720 | 8724 |
| 13.5 VDC | 55A | 110A | 165A | 220A | 275A | 330A |
| 24 VDC | 55A | 110A | 165A | 220A | 275A | 330A |
| 48 VDC | 55A | 110A | 165A | 220A | 275A | 330A |
| 60 VAC | 60A | 120A | 180A | 240A | 300A | 360A |
| 120 VAC | 32A | 64A | 96A | 128A | 160A | 180A |
| 230 VAC | 10A | 20A | 30A | 40A | 50A | 60A |

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

Common Data (all 8700 series models)

Operating Modes: AC, DC and AC + DC

Frequency, AC Mode Output (-3 dB): DC - 250 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%, 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: <1.0%

Voltage Slew Rate: Load dependent; up to 300V per μs, typically 8 μs for 10% to 90% of full-scale change, depending on load and power

Efficiency: 85%, typical

Power Factor: .72, typical

Source Impedance: 2.7 mΩ + 1.25 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

 This product bears the CE mark

