

The **AR-15** VOLTAGE REGULATOR / POWER CONDITIONER

FURMAN
PURIFY YOUR POWER



AR-15 Features:

- Delivers a stable 120 \pm 5 VAC whenever the input AC line voltage is between 97V and 137V
- Linear Filtering Technology (LiFT) with zero ground contamination
- Series Multi-Stage Protection Plus (SMP+) with Extreme Voltage Shutdown
- Output capacity 15 amps
- Low noise torodial autoformer
- BNC connector on the rear panel allows you to attach any standard 12V goose-neck lamp to illuminate the rear of your rack
- Eight outlets on the back panel, one on the front

Introducing the AR-15

Delivers a constant, clean flow of power

The 15 amp AR-15 delivers a stable 120 volts of AC power to protect equipment from problems caused by AC line voltage irregularities such as sags, brownouts, or overvoltages - all of which can cause sensitive electronic equipment to malfunction or sustain damage. AR-15 accepts any input voltage from 97V to 137V and transforms it to a constant 120V, \pm 5V. Voltages beyond that range may also be converted to usable levels, depending on the range variance.

Additionally, the AR-15 is the only regulator that filters and purifies AC power, reducing line noise and ensuring optimum performance. Not only will your equipment perform better with Furman's advanced filtering technology, but it will also be fully protected by our exclusive Series Multi-Stage Protection Plus circuitry (SMP+), Extreme Voltage Shutdown (EVS) and a high current TVZ MOV. This circuitry provides the highest level of power protection available.

Many competitive voltage regulators use noise-inducing, motorized transformer-based technology. This results in large, expensive, and less reliable units which can not match the level of performance delivered by the AR-15. Essentially, Furman's advanced technology allows us to offer superior performance in a one rack space unit at a cost effective price point.

The AR-15 circuitry monitors the incoming line voltage with each cycle, comparing it to an extremely precise voltage reference, accurate to \pm 0.15%. If a voltage fluctuation requires that a different tap be selected, the new tap is switched electronically at the zero-crossing, to avoid distorting the AC waveform. (Most commercial voltage regulators using multiple-tapped transformers switch taps at uncontrolled times, thereby creating voltage spikes, and often creating clicks that can leak into the audio.) The design is not sensitive to small errors in line frequency, making it ideal for use with generators.

The AR-15 has eight outlets on the rear panel and one on the front panel. All outlets are regulated, spike-suppressed, and filtered against RFI. There are no controls except the on-off switch. A bar-graph meter comprised of 10 LED's indicates input voltage, while another LED indicates "In Regulation" status (i.e. that the output voltage is within \pm 5V of 120V). The unit is housed in a compact, single-space rack mount chassis, 1.75" high and 11.63" deep and weighs only 12 lbs. (5kg).

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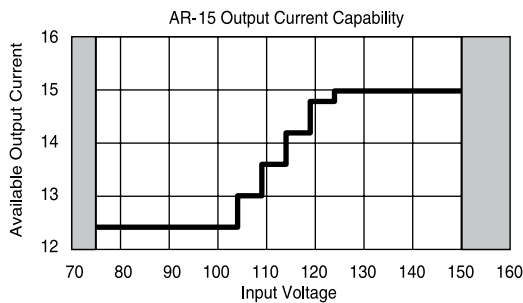
LiFT (Linear Filtering Technology)

Unfortunately, traditional AC filter conditioners have been designed for unrealistic laboratory conditions. Prior technologies could actually harm audio and video performance more than they help, due to the resonant peaking of their antiquated, non-linear designs. Under certain conditions, these designs can actually add more than 10 dB of noise to the incoming AC line! Worse still, lost digital data, the need to re-boot digital pre-sets, or destroyed digital converters are frequently caused by excessive voltage spikes and AC noise contaminating the equipment ground. Furman's SMP+ with LiFT takes another approach, ensuring optimal performance through linear filtering and no leakage to ground.

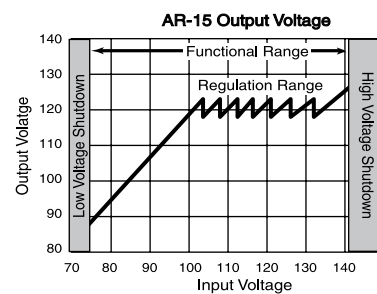
SMP+ (Series Multi-Stage Protection Plus)

Traditional surge suppression rely on circuits that "sacrifice" themselves when exposed to multiple transient voltage spikes, requiring the dismantling of your system and repair of your surge suppressor. With Furman's SMP+, however, damaging transient voltages are safely absorbed, clamped and dissipated. No sacrificed parts, no service calls, no down time.

Unique to Furman's SMP+ is its unparalleled clamping voltage. While other designs offer clamping voltages that are well above 300Vpk, Furman's SMP+ clamps at 188Vpk, 137 VAC RMS, even when tested with multiple 6000Vpk - 3000 amp surges! This unprecedented level of protection is only available with Furman's SMP+ technology. Additionally, Furman's trusted over-voltage circuitry protects against all too frequent accidental connections to 208 or 240VAC, by shutting off the incoming power until the over voltage condition is corrected.



AR-15 Available Output Current vs. Input Voltage



AR-15 Output Voltage vs. Input Voltage

SPECIFICATIONS

Spike Protection Modes:

Line to neutral, zero ground leakage

Spike Clamping Voltage:

188 Vpk @ 3,000 amps, 133 VAC RMS
(tested to UL-1449 6,000 Vpk @ 3,000 amps)

Response time:

1 nanosecond

Maximum surge current:

6,500 amps

Voltmeter Accuracy:

±5V

"In Regulation" Ranges:

AR-15 II: Provides regulation ±5V in 120V mode from

97 to 137V

AR-15 I/II: Provides regulation ±4V in 100V mode from 80 to 122V.

Noise attenuation:

10 dB @ 10 kHz
40 dB @ 100 kHz
100 dB @ 10 MHz
Linear attenuation curve from 0.05 - 100 ohms line impedance

Shutdown Range:

Above 137 V (typically)

Dimensions:

19" W x 11.63" D x 1.75" H
(48.26 x 29.54 x 4.45 cm)

Weight:

14.5 lbs. (6.58 kg)

Current Rating:

The AR-15 II is capable of 15 amps for input voltages of 124V (104V in 100V mode) or higher; derate at 113 mA per volt to a minimum of 12:3A

Three Year Limited Warranty:

The AR-15 is protected by a limited three-year warranty covering defects in materials and workmanship. (See manual for details.)