

FURMAN®

120V PRO LINE PRODUCT BROCHURE



Start with **POWER**

ADVANCED POWER
MANAGEMENT SOLUTIONS
FOR AUDIO, VIDEO, AND
BROADCAST PROFESSIONALS

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HEAR WHAT OUR CUSTOMERS ARE SAYING:

"I recently purchased a Furman P-2400 IT for my recording studio with the primary goal of lowering the noise floor. What I got in addition to this 3-RU, heavy duty (nearly 100lb) box was a measure of sonic fidelity I had no idea my gear could achieve..."

I can hear more depth, transients have more punch, there's a crispness in the upper frequencies and a tightness in the low mids...the biggest thing I was struck by was how much of a blatant improvement it was...The Furman P-2400 IT has taken my potential to a whole new level because I can simply hear things more accurately. Grimy power no longer creeps into the chain and fogs the information I'm hearing...I have no doubts that the

Furman P-2400 IT is the most important piece of gear that I own."

– Lucas Jones

Electrical protection and filtering are very important to me...I want the gear I invested in to sound its absolute best. Furman is the brand that I completely trust for protection and filtering!

– Jeff Hansen

Furman goes to my short list of 5 star companies that: 1) make quality products; and 2) have quality service.

– Al Johnson

I wanted to let you know that a PL-8C saved my equipment this weekend. I truly

believe had I not had your equipment protecting my equipment that I would probably be replacing my DSP and 2 amps.

Thank you Furman!

– Richard Covington

I've been skeptical in the past about the benefits of power conditioning and filtering equipment, but no more. You can bet I'll be back for more Furman power conditioning equipment.

– Eric Wadley

The PF-Pro R is awesome.

My amp never sounded this good.

– Bob Boisselle

FurmanPower.com - more TESTIMONIALS

PURIFYING
POWER
FOR OVER

4  YEARS

FURMAN®

FOUNDED IN 1974, Furman is the leading provider of power management solutions for audio, video and broadcast professionals. From pioneering the concept of power conditioning in 1983 to introducing advanced technologies such as Series Multi-Stage Protection and Linear Filtering Technology, Furman is committed to providing the highest level of performance and protection to equipment used in mission-critical applications around the world.

AWARDS:



WHAT ARE YOU PLUGGING INTO?

Plug Into What The Pros Use! Furman is the go-to name in AC power management for professional musicians, sound engineers, broadcasters, and systems integrators around the world.

THE FURMAN DIFFERENCE

For over 40 years, Furman has been the industry's most trusted name in AC conditioning, regulation, balanced isolation transformers, sequencing and distribution for audio, video, and broadcast professionals. Our clients include respected professional musicians, renowned recording studios, commercial contractors, and touring groups that handle major concert tours across North America and across the world. They choose Furman because of our reputation for reliability, our engineering expertise, and our years of experience focusing on the specific needs of industry professionals who cannot afford equipment failure or downtime.

Furman has earned its reputation of trust around the world as a result of the billions of dollars worth of equipment saved from power problems, and because of its innovative technologies which maximize an A/V system's performance. For our clients, operating a system without the safe, clean power delivered by a Furman unit is simply out of the question.

FURMAN FEATURES AND TECHNOLOGIES



SERIES MULTI-STAGE PROTECTION (SMP)

Audio/video professionals can never accept down time, corrupted data, or unreliability. It is for this reason that a robust, professional level transient voltage surge suppression system, such as **SMP**, is the best choice for critical applications.

With SMP, there is virtually no downtime. In fact, the circuit is tested to handle multiple 6000 volt or 3000 amp pulses without sustaining any damage. This is far beyond the demands placed on typical surge suppressors. But because of the extreme conditions and critical applications faced by Furman's clients, the **SMP** circuit has been designed to pass this severe test and ensure that equipment damage or maintenance is extremely unlikely.

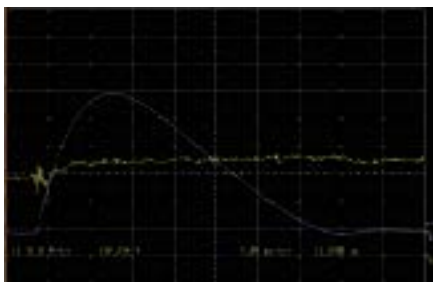
Furman's **SMP** relies on a network of components to slow down the impact of a potentially catastrophic surge by capturing it, dissipating it in the form of heat, and absorbing the remaining excess energy. When tested with multiple 6,000V/3,000A surges, the SMP circuit's maximum let-through voltage is 188V Pk (133V RMS - only 11% higher than a nominal 120V line). Due to the design of the circuit, it will not degrade over time (unlike most standard surge suppressors) and will show minimal increase in line impedance (unlike many advanced surge suppressors).

The **SMP** circuit is not simply designed to protect from a catastrophic surge, such as a lightning strike - it is engineered to provide maximum life to connected equipment. This means it not only protects from devastating spikes and surges, but also offers protection from the dozens to hundreds of small spikes and surges your equipment is exposed to on a daily basis.

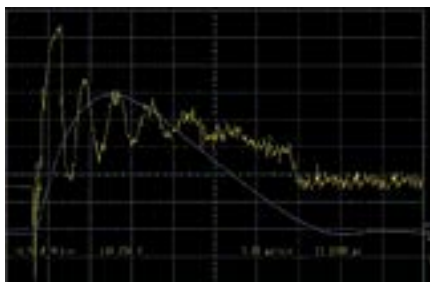


Engineered to provide maximum life to connected equipment.

These common voltage surges, although small, can have a serious adverse effect over the long-term. Even when protected by a standard surge protector, digital circuits can see long-term damage due to exposure to voltage on the ground line, causing intermittent behavior, equipment lock-ups, and data loss. By absorbing these everyday surges without deterioration of the circuit or contamination of the ground line, Furman's **SMP** maximizes the longevity of connected equipment and minimizes the risk of downtime or failure in mission-critical applications.



Furman's SMP Circuit:
188V Pk measured let-through voltage



Typical non-sacrificial circuit:
461V Pk measured let-through voltage

With the Furman P-1800 PF R I Know I'll get the tone I expect at every show. I wouldn't perform without my Furman.

- John 5

Furman eliminates noise and interference I was getting before, and my tone is consistent now... Plus it gives me peace of mind knowing that my gear is fully protected. I will never be caught without a Furman again.

- Jason Hook, 5 Finger Death Punch

The last thing you want to worry about during a show is power. Protect yourself with a Furman.

- Bradley Johnson, live sound engineer

Whether I'm on stage with Shinedown or in the studio, Furman powers my world.

- Eric Bass, Shinedown

All of your equipment is only as good as the electricity you're using. With Furman I know what I'm getting!

- Mick Thomson, Slipknot

Surge protection and power conditioning seem like very small parts of a complex system like a stadium's slow-motion video, but if there comes a time when you really need it, it's suddenly the most important.

- Mark Sackett, Project Manager & Systems Engineer for Diversified Systems

The CN Series is the one element of the system that makes sure all the rest of them are safe.

- Seung Yoon (DMC-E), System Engineer, Audio Visual Associates

With Furman in my rack, I can concentrate on playing – and not worry about my rig!

- Jerry Horton, Papa Roach

For the last 10 years I've gotten paid to do what I do for over a dozen platinum selling artists. My artists trust me... and I trust Furman!!!

- Hoogie, guitar and bass tech

The CN-2400S is reliable, simple to install, intuitive to program and easy to for end users to operate. It's become our first choice for power protection.

- Nathan Miller, Owner, Commercial Sound And Video

FurmanPower.com
more TESTIMONIALS



EXTREME VOLTAGE SHUTDOWN (EVS)

Transient spikes and ground contamination are not the only problems faced by today's sensitive electronics. There are also sustained over-voltage conditions, sometimes called extreme voltages. Many surge suppression devices will not be able to protect equipment from sustained over-voltages. These conditions can occur for multiple reasons: a power pole may be damaged during a storm or accident; or, in many countries, such as USA and Canada, lost or intermittent neutral wiring of a multiple-zone system can result in a sudden connection well in excess of

Furman's EVS constantly monitors incoming voltage, and once any over-voltage condition over 137 volts AC is detected, a relay opens which immediately shuts down the unit and all connected equipment. An indicator light informs the user there is a problem, and once the condition has been corrected, the unit may be reset or auto-reset (depending on model) and will operate normally.

Without proper protection, the end result is destroyed equipment, or at best, a destroyed surge suppression system.

208 volts AC. Many surge suppression devices are not equipped to handle these kinds of conditions. Without proper protection, the end result is destroyed equipment, or at best, a destroyed surge suppression system.



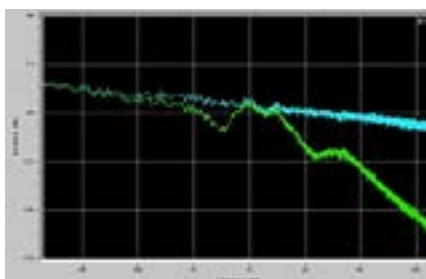
Standard power strips are not equipped to handle sustained over-voltage conditions.



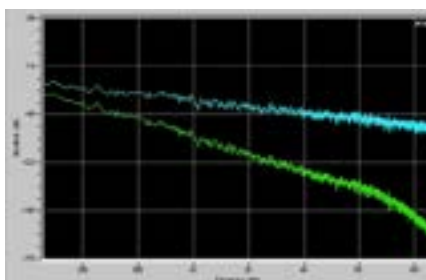
LINEAR FILTERING TECHNOLOGY (LiFT)

While delivering your power, your AC tap also delivers a significant amount of line noise. This is due to many reasons: the widening popularity of switching power supplies and the harmonics they backfeed into our AC power mains, the deterioration of our power grid from age and use, and the noise pollution generated from the massive amounts of electronic devices on our grid at any given time, among others. When this AC noise couples into critical circuits, it will distort and mask low-level signal information. This information is vital to today's high-performance, high-definition video and audio.

Furman's **LiFT** employs a finely tuned low-pass filter to reduce the differential AC noise coming through your line. What is significant about Furman's filtering is that it reduces the AC noise in a linear fashion across a very wide bandwidth. Prior filtering schemes (such as those found in most AC



Output of real-time noise analysis software, showing the noise attenuation curve of a standard AC noise filter. Note the uneven shape of the output curve (the green line).



conditioners and in Furman's own conditioners prior to developing **LiFT**) reduce noise unevenly, creating a noise attenuation curve that resembles a roller coaster. This is akin to a poor job of equalizing a recording.

With Furman's **LiFT**, differential AC noise is reduced linearly, across a very wide bandwidth, even extending into the video frequencies. This results in a lower noise floor for your audio system, improved picture on your video display, and protection from possible data corruption and losses caused by low-level differential AC noise fed into digital systems.

Output of the same analysis using Furman's Linear Filtering Technology. As you can see, the output noise attenuation curve is smooth and linear, without the resonant peaking seen in the standard filter.



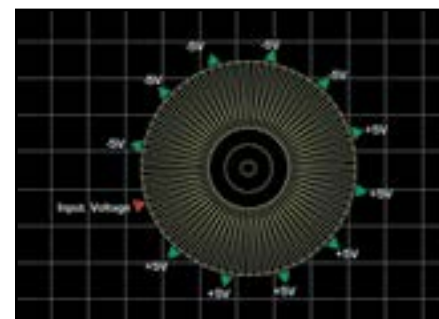
TRUE RMS VOLTAGE REGULATION

Another power quality issue facing today's electronics is irregular voltage. While we may expect a constant 120V to be supplied by our power utility, such an expectation is not realistic.

The only national standard regarding voltage is known as ANSI C84.1. It establishes recommended voltage ranges as 114V to 126V as the service voltage, (typically the connection point between utility and customer) and 104V to 127V as the utilization voltage, (typically the termination point to the equipment). While these standards were well within the operating parameters of most equipment in use when the standard was written in 1954, today's sensitive equipment is much more susceptible to such large irregularities in the incoming voltage.

Today's power supplies are designed to operate at the optimum 120V input. When the voltage is higher than 120V, your equipment is subject to extra electricity that can overheat or damage your equipment. When the voltage is lower than 120V, your equipment's power supply must work harder to create more electrical current in order to make up for the difference, creating a "tug-of-war" in your power supply. This can cause your equipment to malfunction or sustain permanent damage.

Furman's **True RMS Voltage Regulation** is designed around an ultra-low noise toroidal autoformer. A microprocessor within the regulator monitors the incoming RMS voltage with each cycle, measuring the phase angle in time with the advancing cycle. Most commercial voltage regulators using multiple-tapped transformers switch taps at uncontrolled times. This creates voltage spikes and clicks that can leak into audio. When a voltage fluctuation requires correction, Furman's **True RMS Voltage Regulation** advances a new tap with less stress than other technologies and, in turn, avoids distortion to the AC waveform. Hysteresis in the circuitry avoids



True RMS Voltage Regulation is achieved through the use of an ultra-quiet, micro-processor controlled autoformer with solid-state switching.



the unnecessary switching back and forth between the adjacent taps (or "chatter") found in many commercial voltage regulators. If necessary, Furman's **True RMS Voltage Regulation** technology can switch taps as often as once each cycle and do so with a shorter recovery time than a commercial voltage regulator. In addition, and unlike voltage regulators that employ ferroresonant transformers, Furman regulators are not sensitive to small errors in line frequency, making them ideal for use with generators. The autoformer's toroidal design assures minimal leakage of stray magnetic fields.



POWER FACTOR TECHNOLOGY

Furman's Power Factor Technology was designed to address problems with instrument amplifiers in various locations. A common complaint of musicians is that their equipment will sound great at one club or venue, yet sound squashed and lack definition at other locations. This lack of consistency is typically due to resistance in the AC line.

Power Factor Technology provides current-on-demand for instrument amplifiers for consistent equipment performance regardless of local power quality

For example, at the location where the amplifier rig sounded good, the amp was connected to only 35 feet of AC line from the power panel, causing a low resistance. At the locations where the amp sounded squashed and lacked definition, the AC outlets were 300 feet from the power panel, resulting in a higher resistance, not supplying the amplifier with the current it needed to reproduce the signals accurately.

Furman's **Power Factor Technology** has a current reserve of 45 amps peak, so when the power company cannot deliver the current needed or if your AC line has a high resistance, your amplifier will be able to tap the current in the Power Factor's reserve. This means your amplifier will always get the current needed to reproduce signals accurately and consistently, no matter what venue or club or how close or far away from the power panel your amplifier is. In simple terms, Furman's **Power Factor Technology** keeps your instrument amplifier's tone consistent and sounding its best at all times.



Jason Hook, Five Finger Death Punch



CLEAR TONE TECHNOLOGY

Available in Furman's Power Factor models, **Clear Tone Technology** works in unison with Power Factor Technology and Linear Filtering Technology to add an additional layer of AC noise filtration specifically engineered for

instrument amplifiers. Clear Tone Technology provides tuned filtering circuits that unveil instrument tone, harmonics, and clarity, resulting in a fuller sound and improved dynamic response.



POWER SEQUENCING

Power Sequencing is useful whenever various kinds of equipment must be powered up or down in groups, rather than all simultaneously. In audio systems, sequenced powering is often necessary to allow turn-on transients from low level amplifiers and processors to settle down before any power

amps are turned on, because simultaneous powering would result in a loud, annoying, and potentially destructive "pop" reaching the speakers. And in any large system whose components present an inductive load to the AC line (including electric motors, power supplies, and power amplifiers of

all kinds), sequenced powering can avoid excessive inrush currents that can cause circuit breakers to trip even though the steady-state currents are not excessive. Power sequencing is particularly suited to applications where large installations must be switched by inexperienced personnel.



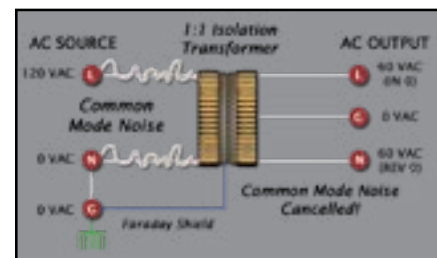
SYMMETRICALLY BALANCED POWER

To understand the incredible need for clean, noise-free AC power, it's important to note that today's sophisticated studio equipment features tremendous dynamic range. Most of the signal content that defines high resolution such as harmonics, instrument timbre, high frequency extension, spatial cues, and fast transient attacks in audio are inherently low in signal level. When AC noise is induced into recording and reproduction equipment, these all-important low level signals are distorted or masked. Once signals are masked there is no way to retrieve the lost content.

For the most critical, low-noise applications, Furman's **Symmetrically Balanced Power** provides an invisible noise floor, while completely breaking ground loops

without dismantling equipment or rewiring. True symmetrically balanced power is achieved by running the incoming AC line into a one-to-one ratio isolation transformer with a precisely placed center tap on the transformer's output. The incoming voltage (120V on the line terminal, 0V on the neutral and ground) are split in perfect halves on the secondary of the transformer. The output line terminal now has 60V and the neutral terminal has 60V when referenced to its new center tap ground (which remains at 0V). What's significant about this is that the two 60V AC terminals are now in opposite polarity, so the symmetrical AC noise, or common mode fields, cancel. This noise reduction is extraordinarily efficient and linear across a huge frequency range. The transformer has

completely re-worked your incoming AC and the result is perfectly clean power devoid of the masking effects of AC noise.



Furman's Symmetrically Balanced Power utilizes a 1:1 transformer for noise-free output and 100% isolation from ground



BATTERY BACKUP

Battery Backup provides temporary power when power is interrupted, allowing the opportunity to save any data and shut down equipment properly. Good candidates for such battery backup in Pro A/V applications are computers and external hard drives in studios, DLP projectors, digital video recorders, and digital mixing consoles. Essentially, any component that holds critical data, has volatile memory, or needs to run a shutdown procedure to power off safely will benefit from battery backup.



Blue**BOLT**[®]
Compatible

BlueBOLT[™]

Provides remote access to reboot components, power equipment on or off, and monitor power quality over the Internet from anywhere in the world.

CLASSIC SERIES POWER CONDITIONERS

An update to Furman's popular Series II line, all Classic Series models provide advanced features such as SMP Surge Protection, EVS Protection, Linear Filtering Technology, pull-out LED lights, and isolated rear panel outlet banks.

PL-8C 15A Advanced Power Conditioner



SMP Advanced
Surge Protection



Linear Filtering
Technology



EVS Voltage
Protection



9 Outlets



15A Rating



Diagnostic Lights



Wall Wart
Spacing



Isolated Outlet
Banks



Front Panel
Retractable
Lights



Rear Panel BNC
Connector for
Gooseneck Lamp

PL-PLUS C 15A Advanced Power Conditioner



SMP Advanced
Surge Protection



Linear Filtering
Technology



EVS Voltage
Protection



9 Outlets



15A Rating



Diagnostic Lights



Wall Wart
Spacing



Isolated Outlet
Banks



Front Panel
Retractable
Lights



Rear Panel BNC
Connector for
Gooseneck Lamp



LED Voltmeter

PL-PLUS DMC 15A Advanced Power Conditioner



SMP Advanced
Surge Protection



Linear Filtering
Technology



EVS Voltage
Protection



9 Outlets



15A Rating



Diagnostic Lights



Wall Wart
Spacing



Isolated Outlet
Banks



Front Panel
Retractable
Lights



Rear Panel BNC
Connector for
Gooseneck Lamp



Dual Voltage/
Current Meter

REAR PANEL (All Models)



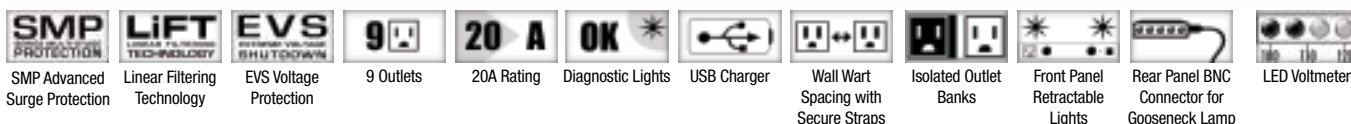
Classic Series (15A) Specifications: **Maximum Output Current:** 15 Amps. **Line Cord:** 10 ft. captive, 14 AWG, with NEMA 15 plug. **Lamps:** Two multi-LED dimmable lamps.

Over Voltage Shutdown: 140 VAC typically. **Spike Protection Mode:** SMP, Line to neutral, zero ground leakage. **Maximum Operating Voltage:** 139V RMS. **Let Through Voltage:** 188Vpk (133V RMS). **Noise Attenuation (Transverse Mode):** 10 dB @ 10 kHz, 40 dB @ 100 kHz, 50 dB @ 500 kHz. **BNC Connector:** 12VAC 500MA max (lamp not included). **Dimensions:** 1.75" H x 19" W x 7.5" D. **Weight:** 12 lbs. **Safety Agency:** cTUVus. **Warranty:** Five Year.

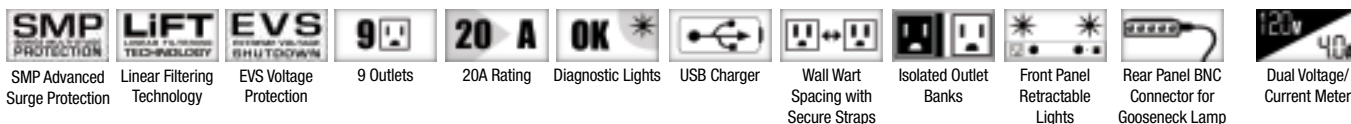
CLASSIC SERIES POWER CONDITIONERS (PRO MODELS)

Furman's Classic Series Pro Models provide additional features such as a higher current capacity (20A), USB front panel chargers, and Secure Straps to lock large AC transformers ("wall warts") in place.

PL-PRO C 20A Advanced Power Conditioner



PL-PRO DMC 20A Advanced Power Conditioner



REAR PANEL (Both Models)



Classic Series (20A) Specifications: **Maximum Output Current:** 20 Amps. **Line Cord:** 10 ft. captive, 12 AWG, with 3-conductor Edison plug. **USB Circuit:** 500 mA@5VDC, USB-A Connector. **Lamps:** Two multi-LED dimmable lamps. **Over Voltage Shutdown:** 140 VAC typically. **Spike Protection Mode:** SMP, Line to neutral, zero ground leakage. **Maximum Operating Voltage:** 139V RMS. **Let Through Voltage:** 188Vpk (133V RMS). **Noise Attenuation (Transverse Mode):** 10 dB @ 10 kHz, 40 dB @ 100 kHz, 50 dB @ 500 kHz. **BNC Connector:** 12VAC 500MA max (lamp not included). **Dimensions:** 1.75" H x 19" W x 7.5" D. **Weight:** 12 lbs. **Safety Agency:** cTUVus. **Warranty:** Five Year.

P-8 PRO C 20A Classic Series Power Conditioner

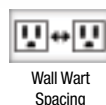
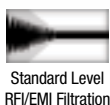


P-8 PRO C Specifications: **Current rating:** 20 Amps. **Operating Voltage:** 90 to 140 VAC. **Frequency:** 50/60Hz. **Over Voltage Shutdown:** 140 VAC typically. **Spike Protection Modes:** Line to neutral, zero ground leakage. **Spike Clamping Voltage:** 188 Vpk @ 3,000 Amps, (133 VAC RMS). **Maximum Surge Current:** 6,500 Amps. **Noise Attenuation (transverse mode):** 10 dB @ 10 kHz, 40 dB @ 100 kHz, 100 dB @ 10 MHz. **Dimensions:** " D x 1.75" H, **Weight:** 11 lbs (5 kg). **Power Consumption:** 12 watts. **Safety Agency Listings:** CSA UL1449. **Warranty:** Five Year.

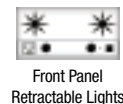
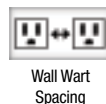
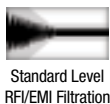
MERIT SERIES POWER CONDITIONER

Furman's most affordable rackmount power conditioners provide nine total outlets, standard level surge suppression, standard level EMI/RFI filtration, and a robust steel chassis.

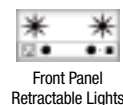
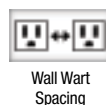
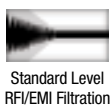
M-8x² 15A Power Conditioner



M-8Lx 15A Power Conditioner



M-8Dx 15A Power Conditioner



REAR PANEL (All Models)



Merit X Series Specifications: **Maximum Output Current:** 15 Amps. **Line Cord:** 6 ft. captive, 14 AWG, with NEMA 15 plug. **Lamps (M-8Lx/M-8Dx):** Two 120V incandescent bulbs, 4 watts each. **Spike Protection Mode:** Fused MOV, Line to neutral. **Maximum Operating Voltage:** 130V RMS. **Noise Attenuation (Transverse Mode):** 23dB (M-8x²) / 26 dB (M-8Lx/M-8Dx), 200Khz to 10 Mhz. **Dimensions:** 1.75" H x 19" W x 3.75" D (M-8x²) / 1.75" H x 19" W x 7.5" D (M-8Lx/M-8Dx). **Weight:** 4 lbs (M-8x²) / 6 lbs (M-8Lx/M-8Dx). **Safety Agency:** cTUVus. **Warranty:** Three Year.

POWER STATION POWER CONDITIONERS

Furman's Power Stations provide advanced protection and filtration in a convenient "surge strip" form factor, ideal for floor mounting or attaching to the side of an equipment rack. Coax and telco connections provide signal and data line protection.

PST-2+6 15A Plastic Chassis Power Conditioning Strip



Standard Level
Surge Protection



Standard Level
RFI/EMI Filtration



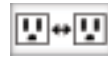
8 Outlets



15A Rating



Diagnostic Lights



Wall Wart
Spacing



Broadband Data/
Signal Line
Protection

PST 2+6 Specifications: **Maximum Output Current:** 15 Amps. **Line Cord:** 6 ft. captive, 14 AWG, with NEMA 15 plug. **Spike Protection Mode:** Fused MOV, Line to neutral. **Noise Attenuation (Transverse Mode):** >40 dB, 150kHz-100 MHz. **TVSS Modules:** 1 pair. **Coax TVSS Modules:** 1 pair (bidirectional, less than .1dB insertion loss). **Dimensions:** 1.7" H x 11.75" W x 5" D **Weight:** 3 lbs. **Safety Agency:** C-UL. **Warranty:** One Year.

PST-6 15A Aluminum Chassis Power Conditioning Strip



Standard Level
Surge Protection



Standard Level
RFI/EMI Filtration



6 Outlets



15A Rating



Diagnostic Lights



Wall Wart
Spacing



Broadband Data/
Signal Line
Protection

PST 6 Specifications: **Maximum Output Current:** 15 Amps. **Line Cord:** 6 ft. captive, 14 AWG, with NEMA 15 plug. **Spike Protection Mode:** Fused MOV, Line to neutral. **Noise Attenuation (Transverse Mode):** >40 dB, 150kHz-100 MHz. **TVSS Modules:** 1 pair. **Coax TVSS Modules:** 1 pair (bidirectional, less than .1dB insertion loss). **Dimensions:** 2.75" H x 3.75" W x 13.5" D. **Weight:** 3 lbs. **Safety Agency:** C-UL. **Warranty:** One Year.

PST-8 15A Aluminum Chassis Advanced Power Conditioning Strip



SMP Advanced
Surge Protection



Linear Filtering
Technology



EVS Voltage
Protection



8 Outlets



15A Rating

PST 8 Specifications: **Maximum Output Current:** 15 Amps. **Line Cord:** 6 ft. captive, 14 AWG, with NEMA 15 plug. **Spike Protection Mode:** SMP, Line to neutral, zero ground leakage. **Maximum Continuous Operating Voltage:** 139V RMS. **Let Through Voltage (@ 125 Amps, 8/20uS waveform):** 188Vpk (133V RMS). **Noise Attenuation (Transverse Mode):** 10 dB @ 10 kHz, 40 dB @ 100 kHz, 50 dB @ 500 kHz. **Telco TVSS Modules:** 1 pair. **Coax TVSS Modules:** 1 pair (bidirectional, less than .1dB insertion loss). **Dimensions:** 2.75" H x 3.75" W x 17.75" D. **Weight:** 3 lbs. **Safety Agency:** C-UL. **Warranty:** Three Year.



Diagnostic Lights



Wall Wart
Spacing



Broadband Data/
Signal Line
Protection

PST-8D 15A Aluminum Chassis Advanced Power Conditioning Strip With Isolated Outlet Banks



SMP Advanced
Surge Protection



Linear Filtering
Technology



EVS Voltage
Protection



8 Outlets



15A Rating

PST 8D Specifications: **Maximum Output Current:** 15 Amps. **Line Cord:** 6 ft. captive, 14 AWG, with NEMA 15 plug. **Spike Protection Mode:** SMP, Line to neutral, zero ground leakage. **Maximum Continuous Operating Voltage:** 139V RMS. **Let Through Voltage (@ 125 Amps, 8/20uS waveform):** 188Vpk (133V RMS). **Noise Attenuation (Transverse Mode):** 10 dB @ 10 kHz, 40 dB @ 100 kHz, 50 dB @ 500 kHz. **Telco TVSS Modules:** 1 pair. **Coax TVSS Modules:** 2 pairs (bidirectional, less than .1dB insertion loss). **Dimensions:** 2.75" H x 3.75" W x 18.5" D. **Weight:** 5 lbs. **Safety Agency:** C-UL. **Warranty:** Three Year.



Diagnostic Lights



Wall Wart
Spacing



Isolated Outlet
Banks



Broadband Data/
Signal Line
Protection

CONTRACTOR SERIES – POWER SEQUENCERS

WHY CHOOSE POWER SEQUENCING?

Many pro audio/video installations need audio power amplifiers to activate last. Our solution is the AC power sequencer. The power sequencer provides AC power to outlet groups one at a time, thus allowing equipment to be powered up and down in an orderly fashion by first providing power to signal processing equipment and then providing power to the amplifiers. When shutting down the A/V system, a sequencer will turn off the system in the reverse order, hence the amps will be turned off first, and then the signal processing equipment will be turned off last.

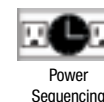


This is necessary because, as most sound reinforcement professionals know, the majority of equipment damage occurs when devices are either powered up or powered down. Power sequencing allows equipment to power up in sequence and prevent the dreaded “pop”. The “pop” is a speaker pop associated with on off switching of signal processing equipment while the audio power amplifiers are energized. If the signal processing “pop” is amplified sufficiently, the result can damage speaker components. Because it prevents this unwanted, and often costly, circumstance, AC power sequencing is extremely valuable.

Furman Contractor Series equipment also allow sound reinforcement equipment to be remotely powered up or powered down over a large distance, not just in the immediate vicinity of the operator. Additionally, Maintained or Momentary mode contact switching allows the user great flexibility when controlling the unit from a remote location. A remotely mounted switch or control pad can be used to sequence equipment on or off. In addition, Furman Contractor Series remote functions can be initiated across a room, on-site, or off-site with RS-232 protocol or our cloud-based BlueBOLT technology.

CN-1800S Contractor Series Smart Sequencer

BlueBOLT
Compatible



Furman's SmartSequencers combines AC power distribution, protection, filtration, and sequential system power on/off in a 1RU, 120VAC, rack-mount unit.

CN-1800S Specifications: **AC Voltage Input Range:** 90-139VAC, 50/60Hz. **Maximum AC Current Rating:** CN-1800S: 15 amps (Thermal breaker). **AC Cord:** 3/14AWG, 10 feet, black, fixed, NEMA 5-15P plug. **AC Receptacles:** Convenience Outlet (Front Panel) 1 Unswitched NEMA 5-15R. **Rear Panel Outlets:** 2 Unswitched NEMA 5 15R's (1 duplex), 6 Sequenced NEMA 5-15R's (3 duplexes each controlled by separate relay). **AC Surge Protection:** SMP. **Spike Protection Mode:** Line to neutral, zero ground leakage. **Spike Clamping Voltage:** 188VAC peak @ 6,000 volts/3,000 amps. **Response Time:** 1 nanosecond. **Maximum Surge Current:** 6,500 Amps. **AC Undervoltage Protection:** EVS, 77VAC+/-3VAC. **AC Overvoltage Protection:** EVS, 145VAC+/-5VAC. Manual and Auto-reset (configurable). **AC Filtering:** LIFT. **Noise Attenuation:** Linear, 10dB @10KHz, 40dB@100KHz, 50dB@500KHz. **Operating Temperature Range:** 5C (40F) to 40C (105F) degrees. **Humidity Range:** <90% rH (Relative Humidity). **Power Consumption (No Load):** 10 Watts. **Safety Agency:** NRTL-C. **RoHS Compliant:** Yes. **Warranty:** 15 Years.

CONTRACTOR SERIES – POWER SEQUENCERS

CN-2400S Contractor Series SmartSequencer

BlueBOLT®
Compatible



CN-2400S Specifications: **AC Voltage Input Range:** 90-139VAC, 50/60Hz. **Maximum AC Current Rating:** 20 amps (Thermal breaker). **AC Cord:** 3/12 AWG, 10 feet, black, fixed, NEMA 5-20P plug. **AC Receptacles:** Convenience Outlet (Front Panel) 1 Unswitched NEMA 5-15R. **Rear Panel Outlets:** 2 Unswitched NEMA 5 20R's (1 duplex), 6 Sequenced NEMA 5-20R's (3 duplexes each controlled by separate relay). **AC Surge Protection:** SMP. **Spike Protection Mode:** Line to neutral, zero ground leakage. **Spike Clamping Voltage:** 188VAC peak @ 6,000 volts/3,000 amps. **Response Time:** 1 nanosecond. **Maximum Surge Current:** 6,500 Amps. **AC Undervoltage Protection:** EVS, 77VAC+/-3VAC. **AC Overvoltage Protection:** EVS, 145VAC+/-5VAC. Manual and Auto-reset (configurable). **AC Filtering:** LIFT. **Noise Attenuation:** Linear, 10dB @10KHz, 40dB@100KHz, 50dB@500KHz. **Operating Temperature Range:** 5C (40F) to 40C (105F) degrees. **Humidity Range:** <90% rH (Relative Humidity). **Power Consumption (No Load):** 10 Watts. **Safety Agency:** NRTL-C. **RoHS Compliant:** Yes. **Warranty:** 15 Years.

CN-15MP

Contractor Series MiniPort



(shown without Phoenix-type connectors and security cover)

CN-20MP

Contractor Series MiniPort



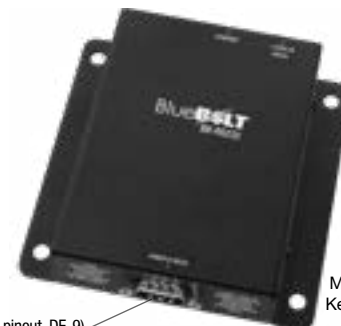
(shown with Phoenix-type connectors and security cover)

CN-15MP Specifications: **AC Voltage Input Range:** 90-139VAC, 50/60Hz. **Maximum AC Current Rating:** CN-15MP: 15 Amps (Thermal breaker). CN-20MP: 20 Amps. **AC Cord:** CN-15MP: 3/14AWG, 10 feet, black, fixed, NEMA 5-15P plug. CN-20MP: 3/12 AWG, 10 feet, black, fixed, NEMA 5-20P plug. **AC Receptacles:** CN-15MP: 2 NEMA 5-15R's (1 duplex). CN-20MP: 2 NEMA 5-20R's (1 duplex). **AC Undervoltage Protection:** EVS, 77VAC+/-3VAC. **AC Overvoltage Protection:** EVS, 140VAC+/-5VAC. EVS Enable/Disable (configurable). **Operating Temperature Range:** 5C (40F) to 40C (105F) degrees. **Humidity Range:** <90% rH (Relative Humidity). **Power Consumption (No Load):** 10 Watts. **Safety Agency:** CSA. **RoHS Compliant:** Yes.

BB-RS232

Contractor Series BlueBOLT Adapter

The BB-RS232 Adaptor provides Ethernet connectivity to BlueBOLT-supported products that are otherwise only capable of RS-232 communication. Once the Adaptor is connected between the BlueBOLT supported product (via RS-232) and the site's Local Area Network (via Ethernet), the product can communicate with our BlueBOLT servers or a local control system.



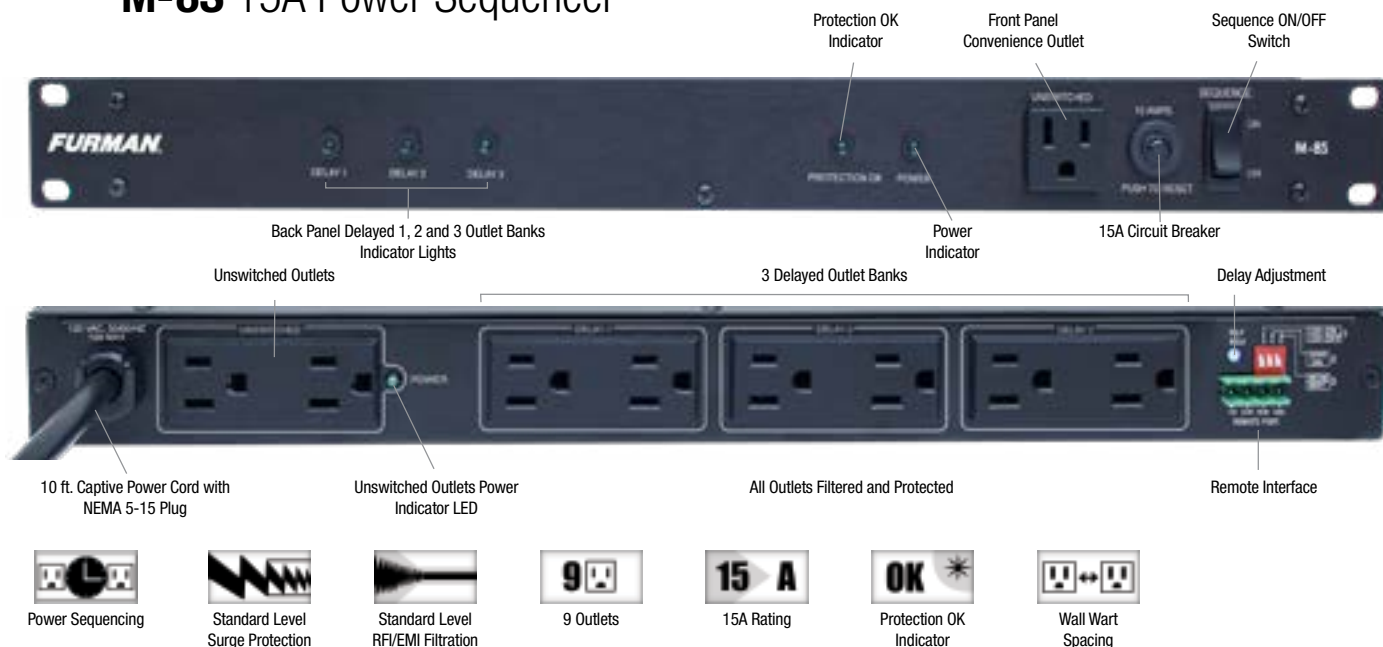
RS-232 (DTE pinout, DE-9)

MAC Address and Challenge Key Numbers (Labels on back of BB-RS232) and in box.

MERIT SERIES POWER SEQUENCER & REGULATOR

The Merit M-8s Power Sequencer is the perfect low-cost AC power solution for any rack mount system. Install an M-8s in to the top slot of your rack, and the six delayed outlets in the rear panel will power up sequentially and protect all your equipment up to a 15-amp load.

M-8S 15A Power Sequencer



M-8S Specifications: **Maximum Output Current:** 15 Amps. **Line Cord:** 10 ft. captive, 14 AWG, with NEMA 5-15 plug. **Spike Protection Mode:** Fused MOV, Line to neutral. **Maximum Operating Voltage:** 130V RMS. **Noise Attenuation:** >23dB, 100KHz to 1 Mhz. **Outlet banks** (2 outlets each): 1 unswitched (always on), 3 delay banks with adjustable delay. **Dimensions:** 1.75" H x 19" W x 6.5" D. **Weight:** 5.3 lbs **Safety Agency:** cCSAus. **Warranty:** Three Year.

M-8x AR 15A Merit Series Voltage Regulator

The Merit M-8x AR voltage regulator ensures a stable 120V ($\pm 5V$) from any voltage input between 97V and 141V

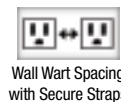
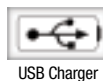


M-8x AR Specifications: **Maximum Output Current:** 15 Amps. **Line Cord:** 10 ft. captive, 14 AWG, with NEMA 5-15 plug. **Spike Protection Mode:** Fused MOV, Line to neutral. **Maximum Operating Voltage:** 130V RMS. **Regulation Capture Range:** 97VAC to 141VAC **Output Voltage:** 120VAC $\pm 5V$ **Noise Attenuation:** -16dB @ 10KHz, -33dB @ 100 kHz, -48dB @ 400KHz. **Dimensions:** 1.75" H x 19" W x 11" D. **Weight:** 5.75 lbs **Safety Agency:** cCSAus. **Warranty:** Three Year.

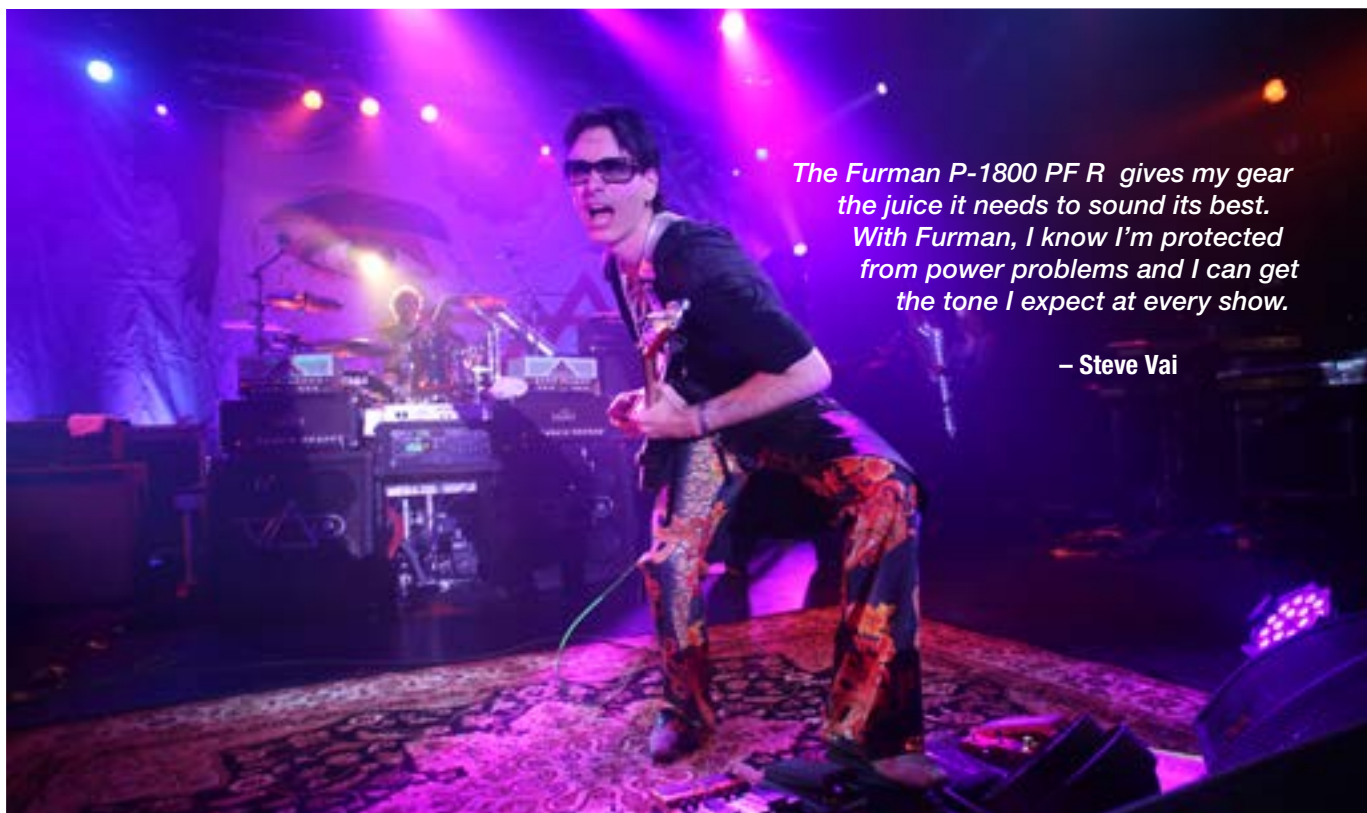
POWER FACTOR POWER CONDITIONERS

Furman's Power Factor Power Conditioners are the only power management solutions specifically engineered to extract optimal performance from instrument amplifiers. Furman's unique Power Factor Technology gives amps the current they need when they need it.

P-1800 PF R 15A Advanced Power Conditioner with Power Factor Technology



P-1800 PF R Specifications: **Maximum Output Current:** 15 Amps. **Line Cord:** 10 ft. captive, 14 AWG, with 3-conductor Edison plug. **USB Circuit:** 500 mA@5VDC, USB-A Connector. **Spike Protection Mode:** SMP, Line to neutral, zero ground leakage. **Maximum Operating Voltage:** 139V RMS. **Let Through Voltage:** 188Vpk (133V RMS). **Noise Attenuation (Transverse Mode):** 30 dB @ 2 kHz, 40 dB @ 10 kHz, 50 dB @ 20 kHz, 70 dB @ 100 kHz. **Reactive Power:** 460 VA. **BNC Connector:** 12VAC 500MA max (lamp not included). **Dimensions:** 1.75" H x 19" W x 10.5" D. **Weight:** 13 lbs. **Safety Agency:** cETLus. **Warranty:** Five Year.



The Furman P-1800 PF R gives my gear the juice it needs to sound its best. With Furman, I know I'm protected from power problems and I can get the tone I expect at every show.

– Steve Vai

ADVANCED VOLTAGE REGULATORS / POWER CONDITIONERS

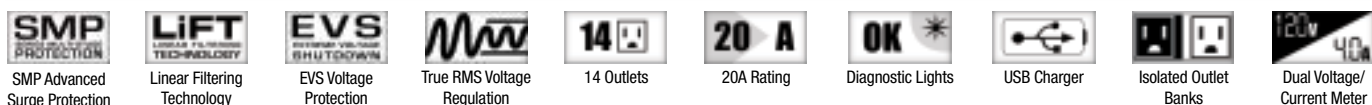
Furman's Advanced Voltage Regulators/Power Conditioners provide consistent 120V ($\pm 5V$) output to correct unstable voltage while also offering all of the advanced protection and noise filtering benefits of Furman's power conditioning technologies.

P-1800 AR 15A Advanced Voltage Regulator/Power Conditioner



P-1800 AR Specifications: Maximum Output Current: 15 Amps. In Regulation Range: 97 to 137 VAC. Output Voltage: 120V $\pm 5V$. Line Cord: 10 ft. captive, 12 AWG, with 3-conductor Edison plug. USB Circuit: 500 mA@5VDC, USB-A Connector. Spike Protection Mode: SMP, Line to neutral, zero ground leakage. Maximum Continuous Operating Voltage: 139V RMS. Let Through Voltage (@ 125 Amps, 8/20uS waveform): 188Vpk (133V RMS). Noise Attenuation (Transverse Mode): 10 dB @ 10 kHz, 40 dB @ 100 kHz, 50 dB @ 500 kHz. BNC Connector: 12VAC 500MA max (lamp not included). Dimensions: 19" W x 12.0" D x 1.745" H. Weight: 15 lbs. Safety Agency: cETLus. Warranty: Five Year.

P-2400 AR 20A Advanced Voltage Regulator/Power Conditioner



P-2400 AR Specifications: Maximum Output Current: 20 Amps. In Regulation Range: 97 to 137 VAC. Output Voltage: 120V $\pm 5V$. Line Cord: 10 ft. captive, 12 AWG, with NEMA 20 plug. Spike Protection Mode: SMP, Line to neutral, zero ground leakage. Maximum Continuous Operating Voltage: 139V RMS. Let Through Voltage (@ 125 Amps, 8/20uS waveform): 188Vpk (133V RMS). Noise Attenuation (Transverse Mode): 10 dB @ 10 kHz, 40 dB @ 100 kHz, 50 dB @ 500 kHz. Dimensions: 3.50" H x 19" W x 12" D. Weight: 39 lbs. Safety Agency: cETLus. Warranty: Five Year.

WORLD TOUR VOLTAGE REGULATOR / POWER CONDITIONER

Ideal for installation in equipment racks that travel to different regions around the globe, the one-of-a-kind Furman P-3600 AR G provides stable 120V ($\pm 5\%$) output from any voltage source between 88V-134V and 170V-265V.

P-3600 AR G 30A Global Voltage Regulator



SMP Advanced Surge Protection



Linear Filtering Technology



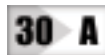
EVS Voltage Protection



Global Voltage Regulation



11 Outlets



30A Rating



Diagnostic Lights



Digital Voltmeter



Digital Ammeter



P-3600 AR G Specifications: **Maximum Output Current:** 30A. **In Regulation Range (Low):** 88-134 VAC @50/60Hz. **In Regulation Range (High):** 170-265 VAC @ 50/60Hz. **Output Voltage:** 120V $\pm 5V$. **Line Cord:** L-14 Male Twistlock. **Spike Protection Mode:** SMP, Line to neutral, zero ground leakage. **Maximum Continuous Operating Voltage:** 145 V Nominal (120V Input), 275 VAC Nominal (240V Input). **Let Through Voltage @ 125 Amps, 8/20uS waveform:** 188Vpk (133V RMS). **Noise Attenuation:** 10 dB @ 10kHz, 40 dB @ 100 kHz, 50 dB @ 500kHz. **Dimensions:** 19" W x 12" D x 5.25" H. **Weight:** 50 lbs. **Safety Agency:** cTUVus. **Warranty:** Five Year.

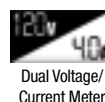
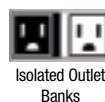
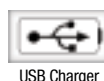
The Furman P-3600 AR G is a valuable and essential asset in my touring rig. Built like a tank it keeps the voltage supply to my rig stable and consistent.

— Edward Van Halen

BALANCED POWER CONDITIONER

Designed for the most critical low-noise applications, Furman's flagship P-2400 IT provides pristine balanced power to connected equipment with 100% isolation from the power grid.

P-2400 IT 20A Balanced Power Conditioner



P-2400 IT Specifications: **Maximum Output Current:** 20 Amps. **Line Cord:** 10 ft. captive, 12 AWG, with NEMA 5-20 plug. **Spike Protection Mode:** SMP, Line to neutral, zero ground leakage. **Maximum Continuous Operating Voltage:** 139V RMS. **Let Through Voltage (@ 125 Amps, 8/20uS waveform):** 188Vpk (133V RMS). **Noise Attenuation (Transverse Mode):** 10 dB @ 10 kHz, 40 dB @ 100 kHz, 50 dB @ 500 kHz. **Noise Attenuation (Common Mode):** >80 dB @ 20 kHz, >40 dB @ 20 kHz-1 MHz. **Dimensions:** 5.25" H x 19" W x 14" D. **Weight:** 90 lbs. **Safety Agency:** cETLus **Warranty:** Five Year.



Furman's 90 lb. isolation transformer works much like balanced audio... at a higher voltage. The incoming AC is split from 120V on the line to 60V on the line and neutral when referenced to the new 0V ground. Since these voltage paths are in opposite polarity, all noise on the incoming AC line is cancelled, resulting in a substantially lower noise floor and allowing harmonics and overtones in audio content to shine through without the masking effects of AC noise. Further, Furman's P-2400 IT is the only balanced power conditioner that provides 100% isolation from line, neutral and ground, providing your equipment with total isolation from the power grid.

COMPACT POWER CONDITIONER

Ideal for flat panel televisions, video projectors, or anywhere advanced power conditioning is needed for components away from the main equipment rack, the AC-215A provides advanced protection and filtration in a compact, 1.75" H x 5"W x 8.5"D chassis.

AC-215A 10A Compact Advanced Power Conditioner



SMP Advanced
Surge Protection



Linear Filtering
Technology



Auto-Reset EVS
Voltage Protection



2 Outlets



10A Rating



Diagnostic Lights

AC-215A Specifications: **Maximum Output Current:** 10 Amps. **Line Cord:** 6 ft. removable, 14 AWG, with NEMA 15 plug. **Spike Protection Mode:** SMP, line to neutral, zero ground leakage. **Maximum Continuous Operating Voltage:** 139V RMS. **Let Through Voltage (@ 125 Amps, 8/20uS waveform):** 188Vpk (133V RMS). **Noise Attenuation (Transverse Mode):** 10 dB @ 10 kHz, 40 dB @ 100 kHz, 50 dB @ 500 kHz. **Dimensions:** 1.75" H x 5" W x 8.5" D. **Weight:** 3 lbs. **Safety Agency:** cCSAus. **Warranty:** Three Year.



The AC-215A's compact size makes it ideal for mounting to the back of flat-panel displays.

IN-WALL SOLUTIONS

Innovative in-wall solutions provide discreet, in-wall surge protection and signal line management in a standard 2-gang form factor – ideal for flat panel screens and projectors.



MIW-POWER-PRO-PFP In-Wall Surge/Over-Voltage Protection System

MIW-POWER-PRO-PFP delivers surge and voltage protected AC power to flat panel displays, ceiling mounted video projectors and powered sub-woofers. Discreetly hides behind electronic equipment for a neat, clean, code compliant and professional installation.

- Provides surge protection and Extreme Voltage Shutdown • Ultra-thin profile can allow equipment to hang less than one inch from the wall • Standard Level EMI/RFI noise filtration • CSA Certified for code compliant installations
- 3 Year Product Warranty



MIW-POWER-PRO-PFP Specifications: **AC Outlets, Total:** 2. **Line Voltage:** 120V, 50/60Hz. **Total Current Capacity:** 15A. **UL 1449 2nd Ed. Suppressed Voltage (@500A):** 330V. **Protection Modes:** L-N, L-G, N-G. **Energy Dissipation:** 546 Joules. **Peak Impulse Current:** 32,500 Amps. **Maximum Continuous Operating Voltage:** 133V RMS. **Catastrophic Surge Circuit:** Yes. **Thermal Fusing:** Yes. **Dimensions (Installed):** 4.75" H x 4.75" W x 2.5" D. **Weight:** 2 lbs. **Safety Agency:** cCSAus. **Warranty:** Three Year.



MIW-SURGE-1G In-Wall Surge Protection System

Two AC receptacles provide surge protection. Fits most standard single gang plastic or metal boxes.

- DECORA® Faceplate Interface. This piece surrounds the receptacles and fits within a standard cover plates DECORA cutout. • Uses standard wiring device screw-hole. • Both outlets with Protect or Disconnect™ Circuitry.
- Bi-color Indicator LED. Green = Power On Red = Line Fault • 3 Year Product Warranty

MIW-SURGE-1G Specifications: **AC Outlets, Total:** 2. **Line Voltage:** 120V, 50/60Hz. **Total Current Capacity:** 15A. **UL 1449 2nd Ed. Suppressed Voltage (@500A):** 330V. **UL 1449 3rd Ed. Voltage Protection: (@3000A):** 400V. **Protection Modes:** L-N, L-G, N-G. **Energy Dissipation:** 1350 Joules. **Dimensions :** 4.25" H x 1.375" W x 2.25" D. **Weight:** 2 lbs. **Safety Agency:** cCSAus. **Warranty:** Three Year.

DECORA is a registered trademark of Leviton Manufacturing Company



POWER DISTRIBUTION

Furman's Power Distribution models provide convenient rackmount solutions for delivering AC power to multiple circuits when a hard-wired, built-in system is not available.

ASD-120 2.0 120 Amp Sequenced Power Distro



New Version!

Optimized for easier installation and operation



ASD-120 2.0 Specifications: **Input Current:** 120 amps maximum. **Input Voltage:** Selectable between 120V single phase/240V single phase/208V 3-phase. **Output:** Six identical 20 amp, 120V circuits. **Delay Interval:** 0.5 seconds to 7 minutes per step, adjustable with front panel DIP switches and potentiometer. **Dimensions:** 3.5" H x 19" W x 10" D. **Weight:** 16 lbs. **Safety Agency:** cETLus **Warranty:** Three year.

POWER RELAY

Furman's PS-REL works in tandem with Furman's Power Sequencers, Controllers and Distros to provide modular solutions for any power sequencing scenario.

PS-REL Power Relay Accessory



The PS-REL AC Relay provides an alternate way of closing switch contacts. It is a relay that detects the presence of AC power and, in response, closes relay contacts that are wired to a terminal strip. A PS-REL is useful in determining when a certain outlet has come on after a sequenced delay, and to extend that outlet's capacity.

POWER RELAY CONTROL PANELS

Furman's Power Relay Control Panels allow remote operation of Furman's Power Sequencers, Controllers, Distros and Relays.

RS-2 Remote System Control Panel



The RS-2 Remote System Control Panel provides a simple way to control AC equipment from one or more locations, using only inexpensive low-voltage wiring. The RS-2 can be operated via a maintained contact "Start ON/OFF Sequence" keyswitch or a momentary push button. The rear of the panel has a circuit board with a full size barrier strip for field wiring connections.



BATTERY BACKUP (UPS)

Furman's UPS solutions provide power backup in the event of a blackout and a full feature set designed specifically for A/V professionals.

F-1000 UPS 1000VA Simulated Sine Wave Battery Backup



F1000-UPS Specifications: **Maximum Output Current:** 12 Amps. **Battery Output:** 120V $\pm 5\%$, Simulated Sine Wave. **Battery Capacity:** 1000VA, 600W @ 0.6pf. **In Regulation Range:** 85 to 137 VAC. **Line Cord:** 10 ft. captive, 14 AWG, with 3-conductor Edison plug. **Spike Protection Mode:** SMP, Line to neutral, zero ground leakage. **Maximum Continuous Operating Voltage:** 139V RMS. **Let Through Voltage (@ 125 Amps, 8/20uS waveform):** 188Vpk (133V RMS). **Noise Attenuation (Transverse Mode):** 10 dB @ 10 kHz, 40 dB @ 100 kHz, 50 dB @ 500 kHz. **Dimensions (with rack ears):** 3.5" H x 19" W x 13" D. **Weight:** 36 lbs. **Safety Agency:** cULus. **Warranty:** Three Year (product), Two Year (Battery).

F1500-UPS 1500VA True Sine Wave Battery Backup

BlueBOLT™
Compatible *



* with addition of BlueBOLT-CV2 card (sold separately)

F1500-UPS Specifications: **Maximum Output Current:** 12 Amps. **Battery Output:** 120V $\pm 5\%$, True Sine Wave. **Battery Capacity:** 1500VA, 900W @ 0.6pf. **In Regulation Range:** 85 to 137 VAC. **Line Cord:** 10 ft. captive, 14 AWG, with 3-conductor Edison plug. **Spike Protection Mode:** SMP, Line to neutral, zero ground leakage. **Maximum Continuous Operating Voltage:** 139V RMS. **Let Through Voltage (@ 125 Amps, 8/20uS waveform):** 188Vpk (133V RMS). **Noise Attenuation (Transverse Mode):** 10 dB @ 10 kHz, 40 dB @ 100 kHz, 50 dB @ 500 kHz. **Dimensions (with rack ears):** 3.5" H x 17" W x 19.2" D. **Weight:** 72 lbs. **Safety Agency:** cULus. **Warranty:** Three Year (product), Two Year (Battery).

BATTERY BACKUP (EXTRAS)

CASE STUDY: F1500-UPS O.co Coliseum

AV systems designer and integrator Diversified Systems installed a new Grass Valley slow-mo video playback system, consisting of a Grass Valley® Dyno slow-motion controller and Summit video server, replacing an older Grass Valley Profile slow-motion system at the **MLB's Oakland Athletics' 35,000-plus-seat O.co Coliseum**, which it shares with the NFL's Oakland Raiders. As part of this system upgrade, a Furman F1500-UPS uninterruptible power supply and battery backup/power conditioner was included, to protect the rack containing the Summit server.

One day in mid July, a power surge due to an electrical storm hit the control room racks overnight, taking several of them offline – except for the rack holding the Summit slow-motion server, which never even blinked during the power surge.

"The (video) switcher and the router were knocked off line briefly, but the Furman F1500-UPS protected the server, exactly as it was designed and intended to do," **says Mark Sackett**, project manager and system engineer. "Surge protection and power conditioning seem like very small parts of a complex system like a stadium's slow-motion video, but if there comes a time when you really need it, it's suddenly the most important component in the rack. We were very happy we had a Furman unit in there.

It really made the difference."

Blue**BOLT**

BlueBOLT-CV2 Online Remote Power Management Now with Embedded Web Control (For use with the F1500-UPS)

Provides secure, local and hosted IP system control and monitoring for the F1500-UPS as well as additional BlueBOLT® compatible products from Furman and Panamax

Features: • Control for individual outlet banks featuring power, trigger and delay settings • Auto rebooting for connected network devices • Remote diagnostics: check unit status and incoming line voltages • Easy, plug-in installation • Email alerts for over and under-voltages help you anticipate or prevent service calls



BATT1500-EXT (For use with the F1500-UPS)

Extend Runtime with External Battery Pack Component for F1500-UPS up to 100 minutes when used in combination with F1500-UPS.

One BATT1500-EXT may be used at a time.



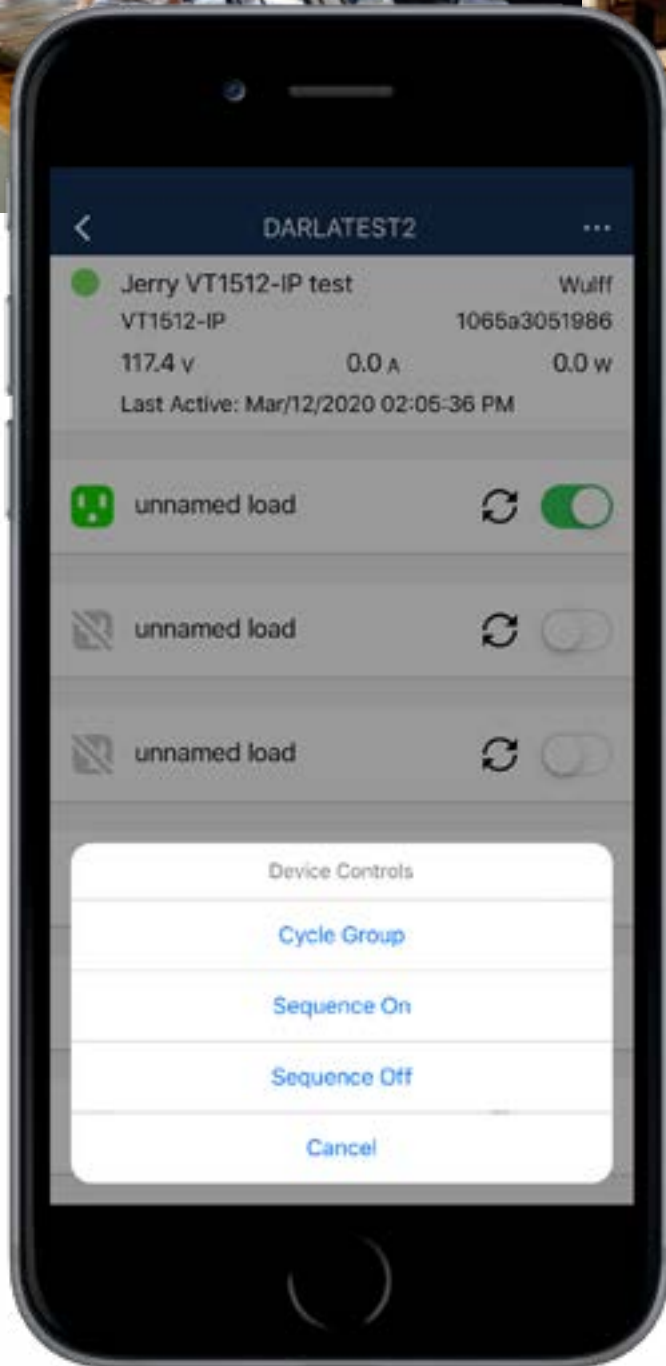
Run Times

Extended Run Time with F1500*

Half Load.....	100 Min.
Full Load	45 Min.

BlueBOLT™ REMOTE POWER MANAGEMENT

Commercial Integration Application Guide



What Is BlueBOLT?

BlueBOLT is a free, cloud-based platform for control and monitoring of Panamax and Furman power management products. BlueBOLT can be used in integrated electronics systems to drastically reduce service calls by remotely rebooting problem components, send alerts regarding onsite system issues, manage energy use, monitor network connectivity, and much more.

Applications:

Retail
Restaurants/Bars
House of Worship
Medical Offices
Fitness Centers
Education
Dance Clubs
Property Management
Research/Labs
Corporate Meeting Rooms
Auditoriums
Hotels/Hospitality



What can you do with BlueBOLT?

Power-cycle A/V equipment remotely

A valuable technology for System Support Providers, reducing onsite service calls by as much as 80%.

Automatic alerts instantly warn you of power issues, like power outages

Know the moment it happens so you can act.

Scheduled power conservation

Power off unused equipment when not needed to save money and equipment lifespan.

Verify network connections

Ping networked devices and build in corrective actions to restore networks.

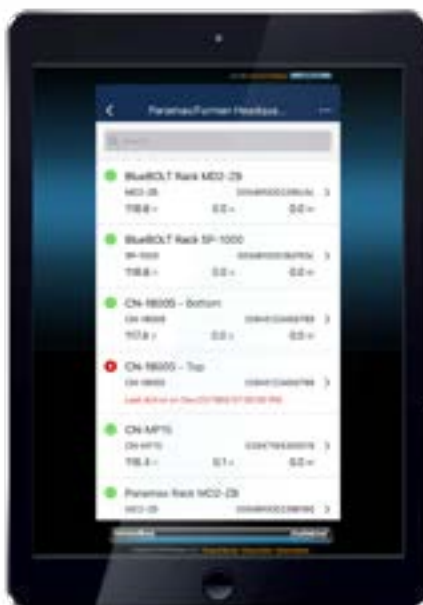
BlueBOLT will allow you to control power to your equipment from your computer, tablet or smartphone.

It's as easy as:

1. Choose from the variety of BlueBOLT enabled hardware devices (page 24-28).
2. Create your free BlueBOLT account at www.mybluebolt.com.
3. Connect hardware to the internet.
4. Add hardware to a location you create for the system you want to monitor and control.
5. Plug in your equipment and you're good to go!

BlueBOLT Cloud Control GUI

BlueBOLT's cloud-based communications provides an incredibly easy setup procedure - simply plug your BlueBOLT-enabled power management component into the wall, connect it to a standard Ethernet cable with an active Internet connection, and plug in your electronic components. BlueBOLT will automatically detect your device as active and you can immediately register it and begin monitoring and control from your computer, tablet or smartphone: no static IP addresses or port forwarding needed.



PANAMAX PRO

PANAMAX

Designed for the needs of professionally installed integrated electronic systems, Panamax Pro products from Furmans sister company, Panamax, deliver power protection and filtering along with BlueBOLT cloud-based systems management for remote power, energy, and network monitoring and control.

BlueBOLT
Enabled



M4000-PRO 15 Amp BlueBOLT Enabled



Linear Filtering
Technology



Automatic Voltage
Monitoring



8 Outlets



15A Rating



15A Rating



Diagnostic Lights



USB Charger

M4000-PRO Specifications: **Maximum Output Current:** 15 Amps. **Line Cord:** 8 ft. removable, 14 AWG, with 3-conductor Edison plug. **Spike Protection Mode:** Protect-Or-Disconnect. **Maximum Operating Voltage:** 134V RMS. **Let Through Voltage:** 200Vpk. **Noise Attenuation (Transverse Mode):** 18.7 dB @ 10 kHz, 50.5 dB @ 100 kHz, 43.9 dB @ 1 MHz. **Dimensions:** 1.75" H x 17" W (19" W w/ rack ears, included) x 13" D. **Weight:** 10.6 lbs. **Safety Agency:** cETLus. **Warranty:** Three Year.

POWER CONDITIONER

M4315-PRO 15 Amp BlueBOLT Enabled

ALSO AVAILABLE:

M4320-PRO 20 Amp BlueBOLT Enabled

BlueBOLT
Enabled



Linear Filtering
Technology



Automatic Voltage
Monitoring



9 Outlets



15A Rating



Diagnostic Lights



Isolated Outlet
Banks



Dual Voltage/
Current Meter

M4315-PRO Specifications: **Maximum Output Current:** 15 Amps. **Line Cord:** 10 ft. removable, 14 AWG, with 3-conductor Edison plug. **Spike Protection Mode:** Protect-Or-Disconnect. **Maximum Operating Voltage:** 134V RMS. **Let Through Voltage:** 200Vpk. **Noise Attenuation (Transverse Mode):** Banks 1,2,3: 76dB 5kHz-250kHz, Bank 4 (High Current Outlets): 46dB, 250kHz-1MHz. **Dimensions:** 1.75" H x 17" W (19" W w/ rack ears, included) x 12.25" D. **Weight:** 12 lbs. **Safety Agency:** cETLus. **Warranty:** Three Year.

PANAMAX

VT1512-IP

BlueBOLT Enabled Vertical Rack Power Conditioner with 12 AC Outlets

- Protect-or-Disconnect surge protection
- Standard EMI/RFI Filtration
- Over/Under voltage load disconnect
- Power Sequencing
- IP Monitoring and Control - BlueBOLT™ enabled for IP monitoring and control
- 12 individually controlled outlets, 3 spaced for wall warts, 6 turned 90°
- Ground lug to attach Panamax signal-line protection modules
- Steel chassis
- Sleek design ideal for vertical mounting to an equipment rack with included brackets
- 10 foot power cord with removable plug to customize length
- 15A Capacity with circuit breaker
- 3 year limited product warranty with \$5,000,000 Connected Equipment Protection Policy when used with Panamax signal-line protection modules.

BlueBOLT
Enabled



Linear Filtering Technology



EVS Voltage Protection



Automatic Voltage Monitoring



12 Outlets



15A Rating



Diagnostic Lights



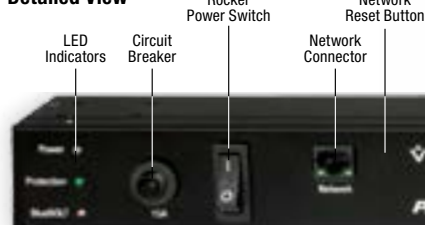
Isolated Outlet Banks

VT1512-IP Specifications: **Maximum Output Current:** 15 Amps. **Line Cord:** Captive 10ft. cord with removable NEMA 5-15P plug. **Spike Protection Mode:** Protect-or-Disconnect. **Initial Clamping Level:** 200V Peak, 141 RMS. **Voltage Protection Rating:** 500Vpk. **Over-Voltage Load Disconnect:** 140Vac. **Under-Voltage Load Disconnect:** 85Vac. **Dimensions:** 37 in. L X 1.75 in. W X 1.75 in. H. **Weight:** 5.85 lbs. **Warranty:** Three Year.



NEMA 15A straight plug

Detailed View



SM3-PRO

15 Amp BlueBOLT Enabled Compact Power Conditioner

BlueBOLT
Enabled



Linear Filtering Technology



Automatic Voltage Monitoring



3 Outlets



15A Rating



Diagnostic Lights



Isolated Outlet Banks

SM3-PRO Specifications: **Maximum Output Current:** 15 Amps. **Line Cord:** 3 ft. removable, 14 AWG, with 3-conductor Edison plug. **Spike Protection Mode:** Protect-Or-Disconnect. **Maximum Operating Voltage:** 134V RMS. **Let Through Voltage:** 200Vpk. **Noise Attenuation (Transverse Mode):** Banks 1,2,3: 15.9 dB @ 10 kHz, 43.5 dB @ 100 kHz, 49.3 dB @ 1 MHz. **Dimensions:** 7 in. W X 10 in. D X 1.6 in. H. **Weight:** 4.8 lbs. **Safety Agency:** cETLus. **Warranty:** Three Year.

BlueBOLT SMARTPLUGS

Bring BlueBOLT Power and Energy Management to any standard 120V Outlet

BlueBOLT

MD2-ZB

2 Surge Protected AC Outlets, individually monitored & controllable Outlet Status, Wiring, Network Status Indicators

Join Network Pushbuttons

Requires BB-ZB1 Sold Separately, See Below



MD2-ZB Specifications: AC POWER. **Protect or Disconnect™ Circuitry:** Yes. **Line Voltage:** 120VAC, 50/60Hz. **Initial Clamping Level:** 200V. **Voltage Protection Rating:** (UL1449 3rd Edition, 3,000A) L-N 400V, L-G 500V, N-G 400V. **Nominal Discharge Current:** 3,000A. **Protection Modes:** L-N, L-G, N-G. **Maximum Current Rating:** 15A (1800W). **EMI/RFI Noise Filtration:** 50dB (100kHz – 1 MHz). **Response Time:** < 1 nanosecond. **Single Pulse Energy Dissipation:** 1350 Joules. **Peak Impulse Current:** 60,000 A. **Catastrophic Surge Circuit:** Yes. **Thermal Fusing:** Yes. **ELECTRICAL RATINGS. Line Voltage:** 120 Vac, 60Hz. **Current Rating:** 12 A. RF / ZigBee. ZigBee/802.15.4 Radio. 2.405-2.475 GHz, unlicensed ISM band.

SP-1000

2 AC Outlets, one bank of monitoring & control

Power and Network Status Indicators

Power/Join Network Pushbutton

Requires BB-ZB1 Sold Separately, See Below

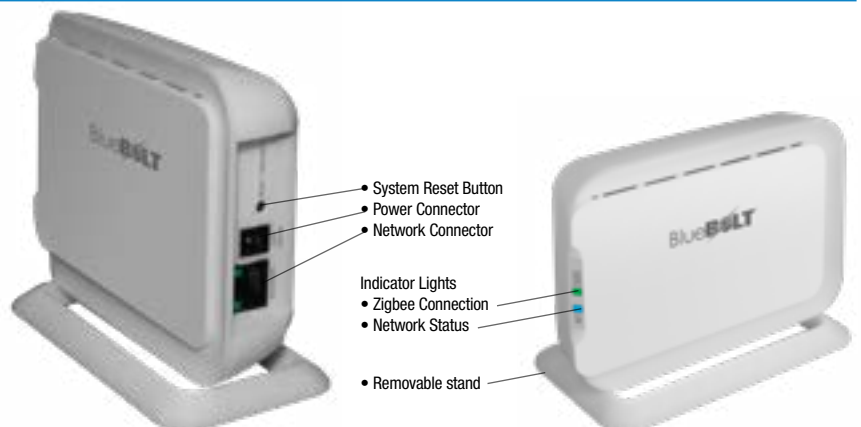


SP-1000 Specifications: ELECTRICAL RATINGS. **Line Voltage:** 120 Vac, 60Hz. **Current Rating:** 12 A. RF / ZigBee. ZigBee/802.15.4 Radio. 2.405-2.475 GHz, unlicensed ISM band.

BB-ZB1 Gateway

Allows easy access to multiple MD2-ZB & SP-1000 via a standard BlueBOLT account from any web enabled device.

Supports up to 15 Smartplugs



BB-ZB1 Specifications: WIRELESS MESH NETWORK TECHNOLOGY. **Management:** BlueBOLT cloud access, HTTP web interface. **Indicators:** BlueBOLT access status, ZigBee network status, Ethernet network link/activity. **Dimensions:** 5.3 in. x 4.0 in. x 1.3 in. ZIGBEE. **Antenna:** Internal. **RF:** ZigBee, 802.15.4. **Ports:** 1 RJ-45 port. **Physical Layer:** 10/100Base-T (auto sensing). **Power Input:** 5VDC (power supply provided). **Power Consumption:** 1W

POWER ACCESSORIES

D10-PFP Rackmount Power Distributor



The PF Power D10-PFP provides 10 circuit-breaker protected outlets in a compact, 1RU steel chassis. Safety Agency: cULus

VT-EXT Equipment Rack Power Distribution with Ground Isolation

8 outlet power strip designed specifically to be mounted to the vertical leg section of an equipment rack. The perfect way to extend the protection and filtration from an existing Panamax or Furman power conditioner. 10 ft. power cord. Safety Agency: cULus



VERTEX PANAMAX FURMAN

PLUGLock Locking Outlet Strip

The PF Power PlugLock provides 5 circuit-breaker protected outlets with innovative locking mechanisms to secure wall warts and plugs in place. The PlugLock can be installed to a rack with attached mounting holes. Safety Agency: cTUVus



SS-6B Steel Power Strip

The SS-6B is a 6-outlet steel power block with standard level surge protection, EMI/RFI filtration, heavy duty steel construction, and 15 ft. power cord. Safety Agency: cULus



ADP-1520B Adaptor Cord

The ADP-1520B is an adapter cord for connection of a 20 amp device to a 15 amp power source. NEMA-20R Female receptacle to NEMA-15P Male plug. 12 AWG. Safety Agency: cULus.



RACK LIGHTS AND GOOSENECK LAMPS

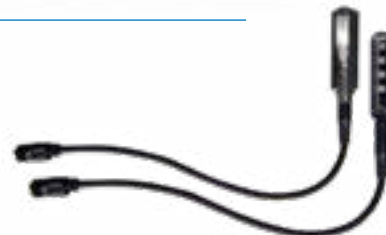
RL-LED Rack Lights

Furman's Rack Lights provide incandescent (RL-I) and LED (RL-LED) illumination on a 1RU, 19" rackmountable plate.



GN-I / GN - LED Gooseneck Lamps

Furman's 12" gooseneck lamps provide incandescent (GN-I) and LED (GN-LED) illumination with a locking BNC connector, ideal for use with many Furman products that provide a rear BNC connector for discreet illumination at the back of an equipment rack.



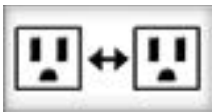
ICON GLOSSARY

For advanced technology descriptions, see page 4 - 9



ISOLATED OUTLET BANKS

Isolation of rear panel outlet banks provides further noise reduction at the point of use by eliminating electrical crosstalk, which can be particularly troublesome when analog and digital equipment is plugged into the same circuit.



“WALL WART” SPACING

Many Furman products feature spaced outlets on the rear panel to accommodate bulky “wall wart” transformer plugs. 20A Classic Series and Prestige models also include “Secure Straps” to hold wall warts in place.



FRONT PANEL RETRACTABLE LIGHTS

Furman’s signature front panel retractable lights provide convenient, discreet illumination to a rack full of equipment. Standard models include incandescent lights. Advanced models feature long-lasting, cool running LED lights.



DIAGNOSTIC LIGHTS

Diagnostic lights provide information regarding power quality and operational status of the Furman unit, including Protection OK indicator, Extreme Voltage indicator, and color-coded Voltage Range indicator (on select models).



LED VOLTMETER

Segmented LED Voltage Meter. Indicates incoming voltage in 2V steps ranging from 90V to 128V. The LED’s are color coded (Red=Stop, Yellow=Caution, Green=Go) to inform users at a glance if voltage is within a nominal range.



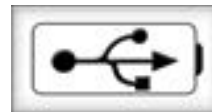
DIGITAL VOLTMETER

Laboratory-precision Digital Voltmeter displays incoming voltage $\pm 1.5V$.



DIGITAL VOLTMETER/AMMETER

Switchable, dimmable digital meter displays incoming voltage $\pm 1.5V$, switchable to output current in amps. Display also features Protection OK, Extreme Voltage, and color-coded Voltage Range indicators for comprehensive power monitoring.



USB CHARGER

Front-panel USB charger provides convenient charging outlet for most personal media devices and cell phones.



REAR PANEL BNC CONNECTOR

Rear-panel BNC Connector allows connection of BNC gooseneck lamp for rear rack illumination.



STANDARD LEVEL SURGE PROTECTION

Standard level, MOV-based sacrificial surge protection.



STANDARD LEVEL EMI/RFI FILTRATION

Standard level non-linear AC noise filtration.



FURMAN®

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