

POWER PERFECT BOX – HEAVY DUTY

SINGLE SPLIT-PHASE ELECTRICITY CONDITIONER



ES1PN + ES1PN Series Accreditations



Description /Code

Made in Montana • Made in USA • UL / CSA - E337361 - Open Energy Management Equipment 3ZJ9 • FCC - Approved (UL Tested for Compliance) • CE - Low Voltage Directive 2006/95/EC • CE - Electromagnetic Compatibility (EMC) 2004/108/EC • RoHS - Lead Free - Restriction of Hazardous Substances

Power Perfect Box {ES1PN} Highlights

- 120/208, 120/240 Volt Single Split-Phase Electricity Conditioner
- Low Power Losses, < 0.5 Watts per 1000 VAR
- Operating Temperature Range of -55oC to +90oC
- General Enclosure: NEMA 4X Indoor/Outdoor
- Electrical Harmonics Elimination (THD Reduction)
- Three-Way Electrical Protection
- Self-healing metalized Harmonic Rectifiers ("Smarter" Capacitors)
- Robust Tri-circuit Integrated Surge Protection
- EMI/RFI Noise Reduction 0-50 dB
- Wire Rating: 600 Volts, THHN/ MTW/ THWN-2
- Box Size 14" x 7.25" x 4"
- EMF/EMR Reduction
- Voltage Moderation
- Power Factor Compensation
- Surge Suppression

Power Perfect Box {ES1PN + ESPP} Characteristics

Max AC Voltage (Charge Potential)	300 Volts
Single Split-Phase Voltages Available	120 / 208, 120 / 240 Volts (300 Volt L1-to-L2 MAX)
Input Power Frequency	50/60 Hz
Wire Rating	600 Volts, MTW/ THHN/ THWN-2
Current Requirements @ 120/240 Volts	L1 4.75 Amps
(Terminated to a Double Pole 15A Breaker)	L2 4.75 Amps
	N 1.88 Amps
Operating Temperature	-55oC to +90oC
Operating Humidity	5% to 95%, Noncondensing
Operating Altitude	Up to 16,000 ft (5000m)
Seismic Withstand Capability (Meet or Exceed Specifications)	IBC 2006, CBC 2007, UBC Zone 4

Harmonic Rectifier {ES1PN} Circuit Qualities

Total Unit Reactive Power @ 300 V (L1-L2, L1-N, L2-N) + (L1-L2, L1-N, L2-N)	120 µF
Per Circuit Reactive Power @ 300 V (L1-L2, L1-N, L2-N) + (L1-L2, L1-N, L2-N)	20 µF
Reactive Bank Composition	36 PFC Modules

Harmonic Dissipations - PFC Module Specs.

Tangent of Loss Angle: C > 1 µF at 1 kHz	<= 30 * 10 ⁻⁴
Rated Voltage Pulse Slope (dV/dt)	150 V/ µs
RC Between Leads	>5000 s
Withstanding (DC) Voltage (Cut-off Current 10 mA)	1850 V
EMI/RMI Filtering Attenuation	Up to 50 dB from 10 kHz to 100 MHz
Protection Modes	(L1-L2, L1-N, L2-N) + (L1-L2, L1-N, L2-N)

Surge Suppression

Voltage	(Continuous)	150V L1-N, L2-N 250V L1-L2	Volts _{RMS}
	(Max Clamping)	424	Volts _{DC}
		650	Volts _{RMS}
Current	(Peak Surge)	6.5	kAmps
	(Rating)	6500	Amps
Transient Dissipation Potential Each Circuit (Surge Energy)		1300	Joules/µs
Protection Modes	(Tri-Circuit Integration)	(L1-L2, L1-N, L2-N) + (L1-L2, L1-N, L2-N)	

