Power Perfect Box

Single Split-Phase Electricity Conditioner

ES1PN Series Accreditations

Description /Code

Made in Montana • Made in USA • UL - 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 -55°C to +90°C
- General Enclosure: NEMA 3X Indoor/Outdoor
- Electrical Harmonics Elimination (THD Reduction)
- Three-Way Electrical Protection
- Self-healing metalized Harmonic Rectifiers
- Robust Tri-circuit Integrated Surge Protection
- EMI/RFI Noise Reduction 0-50 dB
- Wire Rating: 600 Volts, THHN/ MTW/ THWN-2
- Box Size 8" x 8" x 4"
- EMF/EMR Reduction
- Voltage Moderation
- Power Factor Compensation
- Surge Suppression

Power Perfect Box {ES1PN} Characteristics

Max AC Voltage (Charge Potential)		300 Volts
Single Split-Phase Voltages Available		120/ 240, 120 / 208 Volts (300 Volt L1 to L2 MAX)
Input Power Frequency		50/60 Hz
Wire Rating		600 Volts, MTW/ THHN/ THWN-2
Current Requirements @ 120/208 Volts	L1	2.45 Amps
(Terminated to a Double Pole 15A Breaker)	L2	2.45 Amps
	N	0.95 Amps
Operating Temperature		-55°C to +90°C
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)	60 µF
Per Circuit Reactive Power @ 300 V	(L1-L2 & L1-N & L2-N)	20 µF
Reactive Bank Composition		18 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) P=22.5mm		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)

Surge Suppression

Voltage – 3 circuits 120V, 120V, 240V	(Continuous)	150, 150, 250	$Volts_{RMS}$
		200, 200, 330	$Volts_{DC}$
	(Max Clamping)	450, 450, 650	$Volts_{RMS}$
Current	(Peak Surge)	15, 15, 6.5	kAmps
	(Rating)	130, 130, 650	Amps
Transient Dissipation Potential Each Circuit	(Surge Energy)	120, 120, 130	Joules/µs
Protection Modes	(Tri-Circuit Integration)	(L1-L2 & L1-N & L2-N)	