



Three Phase Electricity Conditioner

ES3PN + ES3PP 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 {ES3PN + ES3PP} Highlights

- 120/208 Volt Three Phase Electricity Conditioner
- Low Power Losses, < 0.5 Watts per 1000 VAR
- Operating Temperature Range of -55°C to +90°C
- General Enclosure: NEMA 4x/12 Indoor/Outdoor
- Electrical Harmonics Elimination (THD Reduction)
- Six-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 10" x 8" x 4"
- EMF/EMR Reduction
- Voltage Moderation
- Power Factor Compensation
- Surge Suppression

Power Perfect Box {ES3PN + ES3PP} Characteristics

Max AC Voltage (Charge Potential)	300 Volts
Three Phase Voltages Available	120/208 (300 Volt Line to Line MAX)
Input Power Frequency	50/60 Hz
Wire Rating	600 Volts, MTW/ THHN/ THWN-2
Current Requirements @ 120/208 Volts	3.52 Amps
(Terminated to a Triple Pole 15A Breaker)	0.34 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 {ES3PN + ES3PP} Circuit Qualities

Total Unit Reactive Power @ 300 V	(L1-L2 + L1-L3 + L2-L3) + (L1-N + L2-N + L3-N)	120 µF
Per Circuit Reactive Power @ 300 V	(L1-L2 & L1-L3 & L2-L3) & (L1-N & L2-N & L3-N)	20 µF
Reactive Bank Composition		36 PFC Modules

Harmonic Dissipations - PFC Module Specs.

Tangent of Loss Angle: C > 1 µF at 1 kHz	$\leq 30 \times 10^{-4}$
Rated Voltage Pulse Slope (dV/dt) P=22.5mm	150 V/ µs
RC Between Leads	>5000 s
Withstanding(DC) Voltage	1850 V
EMI/RMI Filtering Attenuation	Up to 50 dB from 10 kHz to 100 MHz
Protection Modes	(L1-L2 + L1-L3 + L2-L3) + (L1-N + L2-N + L3-N)

Surge Suppression

Voltage	(Continuous)	250	Volts _{RMS}
		424	Volts _{DC}
	(Max Clamping)	650	Volts _{RMS}
Current	(Peak Surge)	6.5	kAmps
	(Rating)	6500	Amps
Transient Dissipation Potential Each Circuit	(Surge Energy)	1300	Joules/µs
Protection Modes	(Hexa-Circuit Integration)	(L1-L2 & L1-L3 & L2-L3) & (L1-N & L2-N & L3-N)	