

Major1PC Single-Phase Power Conditioners 2-15 kVA

Major1PC power (2-15 kVA) conditioners are hardwired, single-phase units featuring automatic voltage regulation. **Major1PC** units provide full protection against electrical noise created by lightning, utility switching, and electric motors. Voltage sags and spikes, switching transients and induced surges are all eliminated using Microprocessor-controlled, Zero-Current tap switching technology and a surge suppression circuit, which is linked to a shielded isolation transformer (with input and output filters).

Major1PC units hold output voltage regulation to a maximum of $\pm 5\%$, with an input voltage window of $+15\%$ and -25% . Response time to any line variation is less than 1.5 cycles.



Product Features

- **Output Voltage regulation to $\pm 5\%$, protection against sag (-25%) and surge ($+15\%$)**
 - ▶ Assures power is within tolerance
 - ▶ Protects equipment from damage
- **Shielded isolation transformer**
 - ▶ Provides in excess of 150dB of common-mode noise attenuation with neutral-ground
 - ▶ K-13 rated for reliability and long life with harmonic loads
- **Surge suppression to ANSI/IEEE and IEC Standards**
 - ▶ Protects against high-energy surges and lightning strikes
 - ▶ meets ANSI/IEEE C62.41, 1991, IEC 1000-4 and 1000-5
- **High efficiency (97%) microprocessor controlled tap switcher**
 - ▶ Lower operating cost
 - ▶ Quieter operation
 - ▶ Less load on air conditioning
 - ▶ Highest system reliability (MTBF > 60,000 hours)
 - ▶ Fast response of less than 1.5 cycle (1 cycle typical) to voltage fluctuations
- **Automatic over and under voltage protection**
 - ▶ Prevents damage to the load should voltage exceed specifications of power conditioner
- **High overload capability**
 - ▶ Allows for heavy start-up load currents without over-sizing the power conditioner
- **Approvals UL 544, UL 1012, cUL (Canada) Listed, CE Mark (Europe)**
 - ▶ Complies with domestic, international, medical and dental standards
- **Includes Manual By-pass Switch**
- **2 year warranty**
- **Options**
 - ▶ 50 Hz input available
 - ▶ Other NEMA rated enclosures
 - ▶ Custom AC input voltage configurations available

Products Specifications

Electrical	
Power Ratings	2, 3, 5, 7.5, 10, and 15 kVA, Single Phase
Nominal Voltages	See Model Selection Guide Below
Input Voltage Range	-25% to +15% of nominal rated voltage.
Output Voltage Range	Regulated to $\pm 5\%$ of nominal voltage with an input voltage range of -25% to +15%
Response Time	Responds to any line variation in less than 1.5 cycles maximum. 1 cycle typical, under any condition of line, load or power factor.
Technology	Microprocessor controlled electronic tap switching: 6 taps switched at zero current crossing.
Operating Frequency	57 - 63 Hz
Load Power Factor	0.6 leading to 0.6 lagging
Efficiency	97% typical
Insulation Resistance	100 megohms from winding to core measured at 500 VDC
Overload Capability	125% of rated load for 1 minute
	200% of rated load for 10 seconds
	500% of rated load for 1 cycle
EMI	Less than 0.2 gauss at a distance of 3 ft.
Mean Time Between Failure (MTBF)	Exceeds 60,000 hours
Noise Suppression Performance	
Common Mode Noise Attenuation	150 dB at 100 kHz
Normal Mode Noise Attenuation	65 dB at 100 kHz
Surge Suppression	Meets ANSI / IEEE standard C62.41 (IEEE 587 Cat A and B), 1000-4, 1000-5, K-13
Protection	
Over / Under Voltage (Electronic Fuse*)	Output voltage is interrupted should the input voltage exceed the input tolerance of the power conditioner for three consecutive cycles. Output is automatically reapplied once input returns within tolerance window of +10%, -20%. *Field replaceable.
Short Circuit Protection	Input circuit breaker with shunt trip
Over Temperature Protection	2 - 5kVA: Main circuit breaker is tripped at over temperature condition of 180°C 7.5 - 15kVA: Red indicator light at 180°C, main circuit breaker trip at 193°C
Environmental	
Audible Noise	Complies with NEMA regulations (Less than 50 dBA at 3 feet)
Ambient Temperature	0° to 40°C Operating, 0° to 80°C Storage
Operating Altitude	10,000 feet maximum (Derate 3.3% for every 1,000 feet above 10,000 feet)
Operating Humidity	95% relative (non-condensing)
Mechanical	
Indicators	Indicating Lamps: 1 red (over / under voltage); 6 green (input voltage)
Connections	Field wired, terminal blocks
Size and Weight	See Model Selection Guide Below
Safety Agency Approvals	UL 544 and UL 1012 (60 Hz Models)
	cUL (Canadian Standard C22.2 No 125) (60 Hz Models)
	CE Mark (50 Hz Models)
	Complies with Part 15 Subpart J of FCC rules for a Class A computing device
Control Circuit By-pass Switch	Switch on front panel can divert input power directly to load, bypassing the voltage regulator.

Model Selection Guide

Model Number	Output KVA	VAC Input	VAC Output	Dimensions HxWxD, in (cm)	Ship Weight (lbs/kg)
120 VAC Input					
Major1PC2K-120LC	2	120	120	9.75 x 10 x 19 (24.75 x 25.4 x 48.3)	65/29
Major1PC2K-120	2	120	120	9.75 x 10 x 19 (24.75 x 25.4 x 48.3)	65/29
Major1PC3K-120	3	120	120	9.75 x 10 x 19 (24.75 x 25.4 x 48.3)	74/34
208 VAC Input					
Major1PC3K-208	3	208	208/120	9.75 x 10 x 19 (24.75 x 25.4 x 48.3)	74/34
Major1PC5K-208	5	208	208/120	9.75 x 12 x 22 (24.75 x 30.5 x 56)	150/68
Major1PC7.5K-208	7.5	208	240/208/120	29 x 20 x 15 (74 x 51 x 38)	205/93
Major1PC10K-208	10	208	240/208/120	29 x 20 x 15 (74 x 51 x 38)	275/125
Major1PC15K-208	15	208	240/208/120	29 x 20 x 15 (74 x 51 x 38)	345/156
240 VAC Input					
Major1PC7.5K-240	7.5	240	240/208/120	29 x 20 x 15 (74 x 51 x 38)	205/93
Major1PC10K-240	10	240	240/208/120	29 x 20 x 15 (74 x 51 x 38)	275/125
Major1PC15K-240	15	240	240/208/120	29 x 20 x 15 (74 x 51 x 38)	345/156
480 VAC Input					
Major1PC5K-480	5	480	208/120	9.75 x 12 x 22 (24.75 x 30.5 x 56)	150/68
Major1PC7.5K-480	7.5	480	240/208/120	29 x 20 x 15 (74 x 51 x 38)	205/93
Major1PC10K-480	10	480	240/208/120	29 x 20 x 15 (74 x 51 x 38)	275/125
Major1PC15K-480	15	480	240/208/120	29 x 20 x 15 (74 x 51 x 38)	345/156
Rackmount Models					
Major1PC2K-120RMLC	2	120	120	7 x 19 x 15 (18 x 49 x 38)	64/29
Major1PC2K-120RM	2	120	120	7 x 19 x 15 (18 x 49 x 38)	64/29
Major1PC3K-120RM	3	120	120	7 x 19 x 15 (18 x 49 x 38)	75/34
Major1PC3K-208RM	3	208	120	7 x 19 x 15 (18 x 49 x 38)	75/34
International 230/400 VAC - 50 Hz Available					