

ONEAC CRM Series Rackmount Power Conditioners: The manufacturing of semiconductors must take place in a controlled environment, free from contaminants of any kind. AC power lines can introduce damaging transients and noise which may compromise the integrity of production. ONEAC rackmount power conditioners protect sensitive tools without taking up valuable floor space.

Semiconductor manufacturing tools need clean power

Semiconductor processing and test equipment function by controlling and interpreting low level, high speed, digital and analog electric signals. Transient voltage events or disturbances on the incoming AC power service confuse and disrupt that process. As a result, tests may not correlate, system accuracy is compromised, processes may become disrupted or halted and production is delayed. Electrical overstress resulting from these transient events can also degrade or even destroy semiconductor material leading to increasingly unreliable operation and seemingly random failures.

ONEAC's unique solution

The CRM Series of ONEAC Power Conditioners assure reliable tool performance by fully isolating the sensitive semiconductors within the electronic circuitry from the outside electrical world. The ONEAC design includes a low impedance transformer that limits not only peak voltage (amplitude), but also edge speed (frequency) of electrical transients. It also includes ONEAC's Virtual Kelvin Ground®— a unique grounding methodology that creates a noise-free power environment. ONEAC's ability to remove a wide spectrum of conducted power line noise in all modes explains why ONEAC power conditioners are used throughout the IC manufacturing process.

Preserves equipment reliability for maximum productivity

ONEAC's clean power environment improves equipment operation and productivity. By removing disruptive line noise, ONEAC also maximizes system uptime. Isolated from noisy loads on the same panel, equipment performs as it was designed. Production delays due to power problems are eliminated. Equipment is fully protected against damage caused by transients and other electrical disturbances.

Power Conditioning

ONEAC's unique power conditioning architecture provides superior protection against the full range of power line disturbances. Components include:

Full output isolation: ONEAC's proprietary transformer designs provide superior protection against lightning and other high energy surges.

Virtual Kelvin Ground®: Eliminates the full spectrum of conducted power line noise (from 50 kHz to 10 MHz) in all modes, reduces the effect of electrostatic discharge (ESD) and provides an exceptionally clean, signal reference ground for electronic systems.



- **Tight surge let-through:** Assures that conducted transient voltages won't damage semiconductor processing equipment or compromise production integrity.
- **Virtual Kelvin Ground:** maximizes tool reliability by preventing logic disruption caused by high frequency noise.
- **Low impedance technology:** handles high crest factors and inrush currents without oversizing.
- **Virtual zero footprint:** Rack mount design allows power conditioner to be incorporated into existing racks eliminating the need for additional floor space.
- **Wide input voltage tap range:** allows easy voltage conversion, minimizes site prep for global markets.
- **Convenience outlets:** allows multiple tools to take advantage of ONEAC's clean power output and single ground.
- **Design and manufactured under ISO 9001:** assures consistent quality and performance.
- **5 year warranty:** highest assurance of product quality in the industry.
- **Free 24-hour technical support**

ONEAC CRM Series Rackmount Power Conditioners: Specifications

Options*:

Input Breaker

Adaptable voltage spreads allow two options for voltage range.

- 1 - low voltage input breaker with range less than 240V
- 2 - for high voltage input breaker with range of 380V-480V
- 3 - UNIV high and low voltage in with IEC309 inlet/out
- 4 - low voltage (208 V or 240 V) in with NEMA L21-30 inlet/out
- 5 - high voltage (380 V, 415 V or 480 V) in with NEMA L22-30 inlet, NEMA L21-30 outlet

Output Voltage

Currently available for 208/120V output loads.

Tap Setting

Indicates which tap is configured at the factory -match to input breaker option.

C-208V D-240V E- 380V H- 415V J- 480V

Emergency Mains Off

Allows the ONEAC power conditioner to interrupt power to the transformer utilizing input circuit breaker accessories:

- X - no mains off
- S - standard EMO secondary side connected; employs shunt trip accessory with main input circuit breaker
- F - fail-safe EMO (allows compliance with SEMI-S2), primary side connected, utilizes undervoltage release accessory with main input circuit breaker
- T - fail-safe EMO with 24VAC circuit (provides compliant fail-safe EMO, plus allows additional control features within the user's equipment).

*Not all options are available for all models.

Output Distribution & Convenience Circuits

Various protected convenience receptacle options allow access to power.

- 0 - no convenience outlets
- 1 - standard configuration (1) three gang IEC 320, 10A, 120VAC
- 2 - 9 Alternate configurations of up to two panels of IEC 320, IEC 309, or twist lock receptacles, protected with circuit breakers. (Call factory for options.)

Performance Characteristics

CRM power conditioners may be specified with LED indicator panels and STE control contactors or other special request features.

- 0 - no LED indicators or special option
- 1 - standard 2 LED indicator panel - power applied to conditioner, power applied to output
- 2 - 9 custom options call factory for information

Performance Characteristics

Load Regulation Response Time: < 2 msec for a 50% change in load

Surge Voltage Withstand Capability: ANSI/IEEE C62.41 Category A&B, 6 kV/200 & 500 Amp, 100 kHz ringwave

Surge and Noise Rejection-Isolation: With unit under power, and ANSI/IEEE C62.41 Category A pulse applied either normal mode (L-N) or common mode (N-G) at the input, the noise output voltage will be less than 10V normal mode and less than 0.5V common mode in all four quadrants using a Keytek 711A/J (or equivalent) surge generator and a low-voltage, high sensitivity probe.

Overload Capability: All units will typically tolerate 10 times rated output for 0.5 cycle, 5.5 times rated output for 1 second, and 3.5 times rated output for 5 seconds without degradation.

Input Circuit Breaker: input breaker for low voltage (190-240) or high voltage (380-480) range

ONEAC Model Number:	CRM061	CRM071	CRM081
Part number		part number is based on model and options selected. Call ONEAC Factory.	
Output rating (kVA)	5.8	7.2	8.6
Load current rating (Amps/phase)	16 Amps per phase	20 Amps per phase	24 Amps per phase
Input voltage taps (VAC)	see options above	see options above	see options above
Output voltage (Volts)	208/120	208/120	208/120
Frequency (Hz)	50/60	50/60	50/60
1kHz forward transfer Z (Ohms)	<1.5	<1.5	<1.5
Heat loss, 80% load (BTU/hr)	650	<700	<800
Efficiency at rated load	>97%	>97%	>97%
Adjustments	input voltage taps	input voltage taps	input voltage taps
Input termination	input terminal block	input terminal block	input terminal block
Output termination	Output terminal block—convenience receptacles available		
Cooling	convection	convection	convection
Footprint (square inches)	238	238	238
Dimensions - inches (cm)	Height 8.75 - 5U (22 - 5U)	8.75 - 5U (22 - 5U)	8.75 - 5U (22 - 5U)
	Width 19 rackmount (48)	19 rackmount (48)	19 rackmount (48)
	Depth 20 (51)	20 (51)	20 (51)
Shipping weight - lbs (kg)	< 300 (<135)	< 300 (<135)	< 300 lbs.<135)
Safety agency approvals	UL, cUL, CE	UL, cUL, CE	UL, cUL, CE

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