

ONEAC CDR Series Power Conditioners: The CDR series for mid-range power requirements offers power conditioning, voltage conversion and power distribution in a compact and flexible design. CDR's selectable design options allow complete customization, minimizing up-front engineering.

Test equipment requires 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.

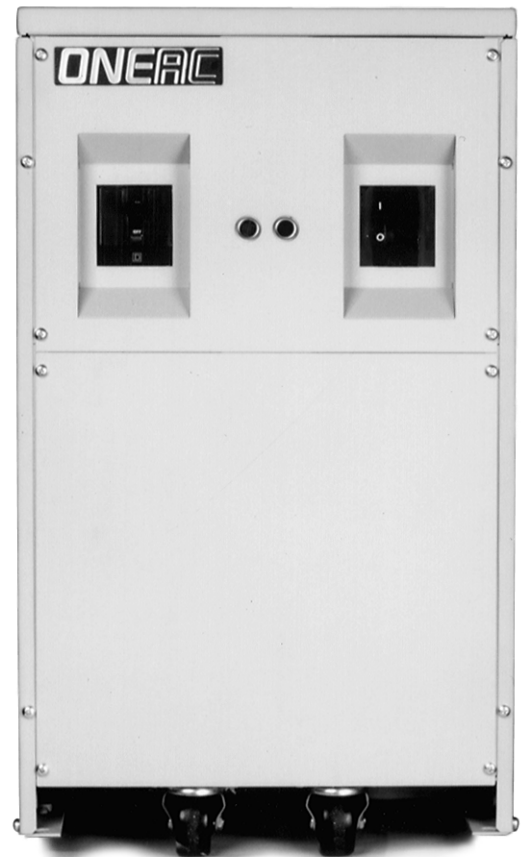
ONEAC's unique solution

The CDR Series of ONEAC Power Conditioners assure reliable tool performance by fully isolating semiconductors during their fabrication and test 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. They also include 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 reliability for maximum productivity

ONEAC's clean power environment improves the 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.

- **Tight surge let-through:** assures that conducted transient voltages won't damage semiconductor processing equipment or compromise production integrity.
- **Virtual Kelvin Ground:** maximizes reliability by preventing logic disruption caused by high frequency noise.
- **Low impedance technology:** handles high load crest factors and inrush currents without oversizing.
- **Small footprint:** minimizes use of costly floor space.
- **Wide input tap range:** allows easy voltage conversion, minimizes site prep for global markets.
- **Convenience outlets:** allows other equipment to take advantage of ONEAC's clean power output and single ground.
- **ISO 9001 design & manufacturing, with 5 year warranty:** highest assurance of consistent product quality and reliability in the industry.
- **International approvals:** GS, UL, c-UL, and CE provide agency listings for worldwide marketability. Also compliant with SEMI® S-2 standards.



Power Conditioning

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

Full output isolation: ONEAC's proprietary low impedance transformer design completely safeguards against lightning and other high energy surges without creating detrimental side effects.

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

ONEAC CDR Series Power Conditioners: Specifications

Choose the options that meet your application needs:

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

Example: For low voltage input breaker, specify CDR08I-x1xxxx

Output Voltage

Currently available for 208/120V output loads - future options will allow 380-415V/220-240V and universal voltages.

Example: For standard 208/120 output voltage, specify CDR08I x1xxxx

Tap Setting

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

A- 190V B- 200V C-208V D-240V E- 380V F- 400V
G- 408V H- 415V I- 448V J- 480V

Example: For 208V, specify CDR08I-xxCxxx

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).

Example: For fail-safe EMO with 24V circuit, specify CDR08I-xxxTxx

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.)

Example: For standard configuration, specify CDR08I-xxxx1x

Performance Characteristics

CDR 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 LED indicator panel - power applied to conditioner, power applied to output
- 2 - 9 custom options call factory for information

Example: For standard LED indicator panel, specify CDR08I-xxxxx1

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:	CDR07I	CDR08I	CDR10I
Output Rating (kVA)	7.2	8.6	10.8
Load Current Rating (Amps/phase)	20	24	30
Input Voltage Taps (VAC)	See options above	See options above	See options above
Output Voltage	208/120 Volts	208/120 Volts	208/120 Volts
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
1kHz Forward Transfer Z (Ohms)	<1.5	<1.5	<1.5
Heat Loss, 80% load (BTU/hr)	<700	<800	<1100
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)			
Height	24.5	24.5	24.5
Width	14	14	14
Depth	16	16	16
Shipping Weight	< 300 lbs.	< 300 lbs.	< 300 lbs.
Safety Agency Approvals	UL, cUL, CE	UL, cUL, CE	UL, cUL, CE

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Certification No. A2900

