

ONEAC CDR Series Power Conditioners (11 - 19 kVA): The CDR series for mid-range three-phase 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 functions by controlling and interpreting low level, high speed, digital and analog electrical 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. Custom power distribution systems increases project development costs and lead to lengthy delays for agency approvals.

ONEAC's unique solution

The CDR Series of ONEAC Power Conditioners assure reliable tool performance by fully isolating semiconductors electrical world during the fabrication and test process from the outside. 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.

Eliminates costly engineering expenses

ONEAC CDR Series Power Conditioners are easily tailored to your application needs, with its comprehensive range of design options, the customization process is simplified to a series of choices. While providing complete flexibility in power distribution, no dedicated panel feed, voltage conversion or expensive wiring is required. As a result, installation is consistent and cost effective.

ONEAC application engineers are available to help you configure the product to meet your specific equipment requirements.

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.

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.



- **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.
- **Global approvals:** UL, cUL, and CE provide agency listings for worldwide marketability. Also compliant with SEMI® S-2 standards.

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- for low voltage input breaker with range less than 240 V
 2- for high voltage input breaker with range greater than 380 V
 4- low voltage input breaker with under/over voltage control monitor
 5- high voltage input breaker with under/over voltage control monitor
Example: For high voltage input breaker, specify CDR19I-2xxxx-x.

Output Voltage

1 - for 208/120 V output loads.
Example: For standard 208/120 output voltage, specify CDR19I-x1xxx-x.

Tap Setting

Indicates which tap is configured at factory — match to input breaker option.
 A - 190 V C - 208 V E - 380 V G - 408 V J - 448 V
 B - 200 V D - 240 V F - 400 V H - 415 V K - 480 V
Example: For 208V, specify CDR19I-xxCxxx-x.

Emergency Mains Off

Allows the ONEAC power conditioner to cut power to the transformer utilizing a under voltage release in the input circuit breaker — three methods are available:
 X- no mains off
 F - fail-safe EMO (allows compliance with SEMI-S2), utilizes undervoltage trip control over main input circuit breaker
 T - fail-safe EMO with 24 V circuit (provides a compliant fail-safe EMO, plus allows additional control features within the user's equipment)
Example: For fail-safe EMO with 24 V circuit, specify CDR19I-xxxTxx-x.

Output Distribution

One 30-pole, 3-phase panel boards and one terminal block are available for output distribution.
 1 - one 30-pole, 3-phase panel board and one terminal block
 4 - one output power block
Example: For one 30-pole, 3-phase panel boards, specify CDR19I-xxxx1x-x.

Convenience Circuits

Allow for the connection of peripheral products through the power conditioner — combinations of NEMA and IEC outlets are available for one bank of outlets.
 0 - no convenience outlets
 1- two 5-15R Duplex plus two shrouded twistlock receptacles
 2 - ganged IEC 320 receptacles plus two shrouded twistlock receptacles
 4 - custom combination specified to factory
Example: For custom combination, specify CDR19I-xxxx4-x.

LED Indicator and Automatic Control

CDR Series Power Conditioners may be specified with LED indicator panels and with STE control contactors.
 0 - no LED indicator or control contactor
 1 - standard LED indicator panel — power applied to conditioner, power applied to output
Example: For standard LED Indicator Panel, specify CDR19I-xxxxx-1.

Other Options are Available: Contact your ONEAC Sales Consultant for more 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 10 V normal mode and less than 0.5 V 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
Convenience Receptacles: A breaker protected receptacle panel is available for single or three phase (see options).

ONEAC Model Number:	CDR11I	CDR15I	CDR19I
Output Rating (kVA)	10.8	14.4	19.8
Load Current Rating (Amps/phase)	30	40	55
Output Voltage	208/120 V	208/120 V	208/120 V
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
Input Voltage Taps (VAC)	see options	see options	see options
1kHz Forward Transfer Z (Ohms)	< 1.5 Ω	< 1.2 Ω	< 0.9 Ω
Heat Loss, 80% Load (BTU/hr.)	<1100	<1525	<2100
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
Cooling	fan assisted	fan assisted	fan assisted
Footprint (square inches)	352	352	352
Dimensions (inches)			
Height	39.53	39.53	39.53
Width	17.10	17.10	17.10
Depth	20.57	20.57	20.57
Shipping Weight (lbs.)	400	475	550

NOTE: Standard shipping container is a pallet with ramp. Unit is shrink-wrapped for transport by padded van. Barrier, bag and crating and other configurations are available.

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ONEAC is a UL/BSI registered corporation — Certification No. A2900



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