

ONEAC CDR Series Power Conditioners: Semiconductor manufacturers face high productivity demands. They cannot afford to have production or test accuracy compromised by power disturbances. ONEAC CDR Series Power Conditioners are specifically engineered to meet their need for a clean, controlled electrical environment.

Test equipment requires clean power

Semiconductor testing equipment (STE) functions by processing electric signals of less than a few volts each. Transient voltage disturbances confuse that process. As a result, test results may not correlate, system accuracy is compromised, acceptable chips are rejected. Processes become disrupted and production is delayed. Electrical overstress can also degrade or even destroy semiconductor material leading to increasingly unreliable operation and seemingly random failures.

ONEAC's unique solution

ONEAC CDR Series Power Conditioners assure reliable STE performance by fully isolating semiconductors from the outside electrical world. Their 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 major STE manufacturers bundle CDR Series Power Conditioners with every system they install.

Preserves STE reliability for maximum productivity

ONEAC's clean power environment improves test accuracy and correlation between testing sites. That means fewer rejects and more reliable product. 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 testing equipment or compromise test accuracy.
- **Virtual Kelvin Ground®:** maximizes STE reliability by preventing logic disruption caused by high frequency noise.
- **Low impedance technology:** handles high load crest factors and inrush currents without oversizing.
- **Selectable design options:** allow complete customization — no upfront engineering costs or wait for safety agency approvals required.
- **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.
- **ISO 9001 design & manufacturing, with 5-year warranty:** highest assurance of consistent product quality and reliability in the industry.
- **International approvals:** GS, UL, cUL, and CE provide agency listings for worldwide marketability. Select models compliant with SEMI® S-2 standards.





Eliminates costly engineering expenses

Performance is the key reason for ONEAC's growing importance in the semiconductor industry. There's another: ONEAC CDR Series Power Conditioners are easily tailored to your application needs. With its comprehensive range of design options, CDR Series eliminates the project development costs and lengthy delays for agency approvals required in developing custom power distribution systems. We've simplified the customization process to a series of choices. ONEAC application engineers are available to help you configure the product to meet your specific equipment requirements.

Designed for global use

CDR Series Power Conditioners provide complete flexibility in power distribution. No dedicated panel feed, voltage conversion or expensive wiring is required; CDR Series handles voltage conversion and conditioning on its own. As a result, installation is consistent and less expensive — power distribution is convenient and functional, no matter where in the world the equipment is placed.

Choose the options that meet your application needs:

1 ▶ **Input Breaker:** Adaptable voltage spreads allow three options for voltage range.

- 1- for low voltage input breaker with range less than 240V
- 2- for high voltage input breaker with range greater than 380V
- 3- optional universal input breaker for wide range modular voltage selection — available only on 45kVA model (CDR45I-)
- 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 CDR36I-2xxxx-x.

2 ▶ **Output Voltage:**

- 1 - for 208/120V output loads.
- 2 - for 400/230V output load*

* Not available at all VA ranges

Example: For standard 208/120 output voltage, specify CDR36I-x1xxx-x.

3 ▶ **Tap Setting:** Indicates which tap is configured at factory — match to input breaker option.

- | | | | |
|-----------|----------|-----------|-----------|
| A - 190V* | D - 240V | G - 408V* | J - 448V* |
| B - 200V | E - 380V | H - 415V | K - 480V |
| C - 208V | F - 400V | I - 420V* | |

* 20 and 36 kVA only

Example: For 208V, specify CDR36I-xxCxxx-x.

4 ▶ **Emergency Mains Off:** Allows the ONEAC power conditioner to cut power to the transformer utilizing a shunt trip mechanism in the input circuit breaker — three methods are available:

X- no mains off

S- standard EMO decouples 120V wire into transformer, employs shunt trip control over main input circuit breaker

F - fail-safe EMO (allows compliance with SEMI-S2), utilizes undervoltage trip control over main input circuit breaker

T - fail-safe EMO with 24V circuit (provides a compliant fail-safe EMO, plus allows additional control features within the user's equipment)

Example: For fail-safe EMO with 24V circuit, specify CDR36I-xxxTxx-x.

5 ▶ **Output Distribution:** One or two 30-pole, 3-phase panel boards are available for output distribution.

One or more may be substituted with output terminal blocks.

- 1 - one 30-pole, 3-phase panel board
- 2 - two 30-pole, 3-phase panel boards
- 3 - one 30-pole, 3-phase panel board with one output terminal block
- 4 - one output terminal block

Example: For two 30-pole, 3-phase panel boards, specify CDR36I-xxxx2x-x.

6 ▶ **Convenience Circuits:** Allow for the connection of peripheral products through the power conditioner — combinations of NEMA and IEC outlets are available for up to 3 banks 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 CDR36I-xxxxx4-x.

7 ▶ **LED Indicator & 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

2 - custom LED indicator panel

3 - output control contactor (full load rated)

4 - output control contactor with standard LED indicator panel

5 - output control contactor with custom LED indicator panel

Example: For custom LED Indicator Panel, specify CDR36I-xxxxxx-2.

Other Options are Available: Contact your ONEAC Sales Consultant for more information.

ONEAC CDR Series Power Conditioners: Specifications

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 50kHz to 10MHz) in all modes, reduces the effects of electrostatic discharge (ESD), and provides an exceptionally clean signal reference ground for electronic systems.

Approvals

- ONEAC CDR Series Power Conditioners are UL and cUL listed.
- All models carry the CE mark and are designed for compliance to EN60950.
- GS/TUV mark on select models.
- SEMI S-2 compliance attainable with select options.

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, 6kV/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

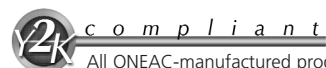
Convenience Receptacles: maximum 3 breaker protected receptacle panels available for single or three phase (see options)

ONEAC Model Number:	CDR20I-	CDR36I-	CDR45I-
Output Rating (kVA)	20	36	45
Load Current Rating (Amps/phase)	55	100	125
Output Voltage	208/120V	208/120V	see options
Frequency	50/60Hz	50/60Hz	50/60Hz
Input Voltage Taps (VAC)	see options	see options	see options
1kHz Forward Transfer Z (Ohms)	<0.9Ω	<0.7Ω	<0.25Ω
Heat Loss, 80% Load (BTU/hr.)	2325	3600	4550
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)	445	445	445
Dimensions (inches)			
Height	62.71	62.71	62.71
Width	21.75	21.75	21.75
Depth	20.5	20.5	20.5
Net Weight	600	750	885
Shipping Weight (lbs.)	750	900	1035

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

ONEAC and Virtual Kelvin Ground are registered trademarks of ONEAC Corporation.
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A CHLORIDE POWER PROTECTION COMPANY



All ONEAC-manufactured products are Y2K compliant.

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



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