

<p style="text-align: center;">TECHNICAL SPECIFICATIONS for Three Phase, 15 to 500 KVA High Isolation Power Conditioner Systems</p>	
<p style="text-align: center;">Iso-Care</p>	<p style="text-align: center;">ISO6512A 7/15/04</p>

1.0 General

This specification covers the electrical characteristics and general requirements for a Three Phase, Conditioning System. The specified equipment herein shall be referred to as a Three Phase Power Conditioning Unit (ISOCARE). The ISOCARE includes all components and systems required to install, operate and maintain the system.

2.0 Applicable Documents

- 2.1 The National Electrical Code NFPA 1984 (Latest Edition)
- 2.2 American National Standards Institute Corp. and its Applicable standards C39.1, C80.1, C89, C84.1.
- 2.3 FCC Part 15, Sub-Part J, Class A.
- 2.4 IEC 435 International Electrotechnical Commission Recommendation "Safety of Data Processing Equipment".
- 2.5 VDE 0804/3.77 Verbrauch Deutscher Elektotechniker standard. "Telecommunication and Electronic Data Processing Unit and Systems".
- 2.6 UL 506 Underwriters Laboratories Inc.
- 2.7 VDE 0806 Verbond Deutscher Electrotechniker Standard "Safety Design".
- 2.8 CSA 22.1 Canadian Standards Association, "Data Processing Equipment".
- 2.9 NEMA National Electrical Manufactures Association and its applicable standards.
- 2.10 Local Inspection Authorities having jurisdiction over electrical equipment and its installation.
- 2.11 MIL-T-27B Dry Transformer Insulation.

3.0 Major Components

The Basic components of the ISOCARE shall consist of base, case, three-phase double shield isolation transformer, internal wiring, single point ground, and EMI shielding.

4.0 System Package and Construction

4.1 Agency approval.

The ISOCARE shall be UL Listed under standard 506.

4.2 Cabinet

The cabinet shall consist of the following:

1. Base

The base shall be of heavy gage sheet metal of a minimum of 14 gage. Each base shall be treated and painted with baked enamel paint.

2. Removable Access Panels

Removable front and rear panels shall be provided. All exposed access screws shall be nickel-plated.

3. Cover

A cover shall be provided to prevent metal objects from falling into the ISOCARE. The front and rear panels case shall be easily removed to provide access to the transformer taps for field changes. Convection cooling is accomplished by front and rear vent panel openings.

4.3 Isolation Transformer

A multi-shield, all copper, baked varnish, convection cooled, three phase, 150 degree C temperature rise, isolation transformer shall be provided. The isolation transformer shall be mounted on rubber isolation pads to prevent 60Hz hum of the core from being transmitted to the base. The transformer core clamp shall be grounded to the base through a 1" copper strap. The transformer insulation system shall be 220° C. Taps shall be provided on the primary to accommodate standard NEMA voltages up to 600 VAC. Access to these taps for field modification shall be through the front panel. Two (2) Temperature monitor contacts shall be provided: 140° C (alarm) and 160° C (shutdown).

4.4 Internal Wiring

All internal wiring shall be UL Listed appliance wire or Power wiring of multi stranded construction. Secondary and Primary Power wiring from the transformer shall not be in close proximity of each other.

4.5 Single Point Ground (SPG)

A single point ground bus shall be provided and shall be of copper construction. Minimum thickness shall be 1/4" X 1/4" and be silver plated to provide connection of the lowest possible resistance to all ground wires secured to the SPG. The following shall be grounded to the SPG:

1. Equipment grounds.
2. Neutral of isolation transformer.
3. Core of the Transformer.
4. Primary and Secondary shields.
5. Base
6. Equipment grounding conductor from the branch circuit.
7. Case.

4.6 Secondary Surge Suppression Network (OPTIONAL)

A secondary surge suppression network shall be located on the secondary side of the isolation transformer. The network shall suppress load-induced noise to reduce the sensitivity of one load from another load. The network shall have the following characteristics:

1. Parallel (Shut) Protection
2. Response time of < 5 ns
3. Repetitive transients up to 5000/sec

- 4. Clamping Voltage: 160 VAC line to neutral
274 VAC line to line
- 5. Peak Pulse Power Rating: 19 KW line to neutral
37.5 KW line to line

6. Each device shall be fused for circuit protection. Visual service indicators (one for each phase) shall be provided on the side panel of the ISOCARE to indicate that the OTSN is no longer providing protection.

4.7 Input/Output transient Noise Filter (OPTIONAL)

The Input transient Noise Filter consists of a resistor/capacitor network that acts as a large snubber circuit to eliminate high frequency impulses from entering the power conditioner. The Output Transient Noise Filter consists of a capacitor network installed on the secondary. This capacitor, when coupled with the primary filter, virtually eliminates most electronic noise from reaching the applied load or being fed back to the unit from noise generating loads.

5.0 Electrical Characteristics

5.1 60 Hz Frequency units

- 1. Rating KVA: 15,30,50,75,100,125,150,175,200,225,250,300,400,500
- 2. Input Voltage: 208 or 480 VAC
- 3. Output Voltage: 208Y/120 or 480Y/277 VAC
- 4. Input Frequency Tolerance: 60 Hz \pm 3 Hz

5.2 50 Hz Frequency

- 1. Rating KVA: 15,30,50,75,100,125,150,175,200,225,250,300,400,500
- 2. Input Voltage: 380 or 415 VAC
- 3. Output Voltage: 380Y/220 or 415Y/240 VAC
- 4. Input Frequency Tolerance: 50 Hz \pm 3 Hz

5.3 Transformer

- 1. Type: Dry, isolation, dual shield, all copper, three phase, computer grade, delta-wye
- 2. Impedance: 3% to 5% maximum
- 3. Load Regulation: \pm 1.2%
- 4. Efficiency: 96% @ full load
- 5. Load Power Factor: Unity to 0.3 leading or lagging
- 6. Harmonic Distortion: <1% maximum added
- 7. Noise Rejection (typical): Common mode: -120 dB (.1Hz to 30 MHz)
Normal Mode: -20 dB/decade (1KHz to 10 MHz.)
- 8. Taps: 2-FACN @ 2.5% each
4-FBCN @ 2.5% each
- 9. Audible noise: Meets or exceeds NEMA standards

5.4 Electromagnetic Noise: 0.1 gauss and 1.5 ft.

5.5 Load rating: Continuous regardless of line/load conditions

5.6 Overload inrush rating: 200% of full load for 30 minutes
500% of full load for 10 seconds
1000% of full load for 1 cycle

5.7 Dielectric Strength: 4000 VAC

6.0 Physical characteristics

6.1 Dimensions:

	<u>15 kVA</u>	<u>30 - 50 kVA</u>	<u>75 - 125 kVA</u>	<u>150 - 300 kVA</u>	<u>400 - 500 kVA</u>
Height	28.0"	32.0"	40.5"	51.5"	66.0"
Width	21.0"	26.5"	31.5"	40.5"	50.5"
Depth	14.0"	17.0"	21.75"	26.5"	32.0"

7.0 Operating environment

- 7.1 Temperature: 32° f to 104° F (0° to 40° C)
7.2 Humidity: 10% to 90% relative humidity, without condensation.
7.3 Altitude: 0 to 1000 Ft.

8.0 Storage environment

- 8.1 Temperature: 5° F to 122° F (-15° C to 50° C)
8.2 Humidity: 0% to 95% relative humidity, without condensation

9.0 Warranty

The manufacturer shall warrant the ISOCARE to be free from defects in both material and workmanship for a period of 5 years from the time of installation.

10.0 Manufacturer's Qualifications

The ISOCARE shall be furnished by a manufacturer who specializes in the manufacturing of Power Conditioning Systems and has been in business for at least 15 documented years, and with a nation wide service organization. The manufacturer shall be an ISO9001 certified company.

11.0 Qualified Systems

The unit shall be an ISO-CARE manufactured by:

OnLine Power, Inc.
5701 Smithway Street
City of Commerce, CA. 90040