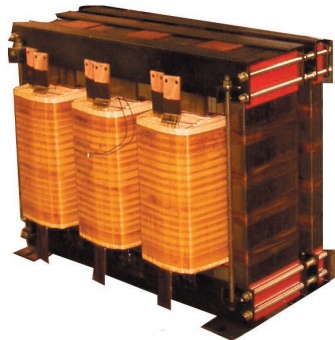


Critical Grade Power Conditioner with Isolation

FEATURES



Power protection for critical environments

The ONYX Ultra Guard transformer is designed with extra safety margins for use in critical applications demanding a lifetime of problem free operation. The Ultra Guard design incorporates seven specialized features intended to eliminate problems associated with traditional transformers in critical environments.

Thermal Management Advantages: Ultra Guard transformers are designed to withstand even the most excessive harmonics and non-linear loads. Thermal management features include an expanded steel core for a K-20 rating, dual layers of Nomex™ thermal shielding between windings, embedded thermal monitoring, a 200% rated neutral bus and large copper flat bus connections for maximum conductivity and the elimination of hot spots.

Noise Suppression Technology: The most frequent threat to loads on critical distribution systems result from noise disturbances. Electrical noise is typically generated from devices inside a facility such as lighting, motor drives, and other electronic loads sharing the critical bus. The Ultra Guard transformer's noise suppression technology limits noise generated over a wide frequency range with no effect on the normal AC waveform. Both common and normal mode noise is attenuated up to 146 dB (or 20,000,000:1) reducing a 6000 Volt spike down to a negligible 0.0030 Volts.

Demonstrated Field Reliability: Ultra Guard transformers have been installed in over 2,500 distribution systems for over 10 years with no reported failures. This results from a combination of conservative and proven designs and ONYX's rigorous factory testing and quality control.

About ONYX Power: ONYX Power is the largest and most modern transformer facility in the western United States. Founded on a 35 year tradition of power quality excellence, ONYX continues to manufacture premium class products in our 65,000 square plant in Santa Ana, California.

- ▶ Copper Faraday electrostatic shield between windings attenuates common mode (146 dB) and normal mode noise, voltage spikes and transients
- ▶ 200% rated neutral bus manages harmonics and non-linear loads without risk of excessive heating
- ▶ K-20 rating to accommodate even the worst non-linear loads without the risk of heat-build-up
- ▶ Embedded thermal sensors monitor transformer performance and provide early warning due to accidental overloads
- ▶ Large copper flat bus bar connections with compression washers assure a lifetime of trouble free connections
- ▶ Dual Nomex™ barrier between windings eliminates risk of winding burn-through
- ▶ Vacuum impregnated varnish coating reduces vibration and audible noise over transformer life
- ▶ Efficiency ratings average between 97-98.5% resulting in significant energy cost savings
- ▶ Copper or aluminum windings available
- ▶ Available in NEMA-1 or NEMA-3R rigid steel cabinet or transformer only
- ▶ UL listed and certified
- ▶ 10 year limited warranty



Critical Grade Power Conditioner with Isolation

TECHNICAL SPECIFICATIONS

Engineering Description

Three Phase Delta Wye Isolation Transformer w/ Power Conditioning

Input voltage(s)	208, 220, 380, 400, 480, 600 VAC
Output voltage(s)	208, 220, 380, 400, 480, 600 VAC (Y)
K-Factor Rating	K-20
Common-mode noise attenuation	146dB
Normal-mode noise attenuation	60dB
Overload capacity	500% for 1 cycle 200% for 30 seconds
Dielectric strength	2,500 VAC minimum
Recommended Nominal Frequency	47 - 53Hz for 50Hz models and 57 - 63Hz for 60Hz models
Impedance	3 - 5% typical
Energy Efficiency	> 97.5% typical
Taps	2.5% and 5% above nominal V / 2.5%, 5%, 7.5% and 10% below nominal V
Recommended input voltage range	+10% of nominal rated voltage
Load regulation	3.5% or less from no load to full load at unity power factor
Harmonic distortion	1% maximum
Insulation resistance	100M Ohms minimum from windings to core
Electro-magnetic interference	0.1 gauss maximum measured at 36 inches
Audible noise	< 50dB measured at 3 feet typical
Cabinet Type	NEMA-1 steel construction / powder coat finish (NEMA-3R optional)
Operating temperature	0° C to 55° C
Storage temperature	-40° C to 85° C
Operating altitude	15,000 feet maximum
Operating humidity	95% relative (non-condensing)
Safety Standards	UL 1561, UL 1449, cUL listed

Standard Inventory Model Description (other voltages and frequencies available)

Power (kVA)	Input Voltage (VAC)	Output Voltage (VAC)	Dimensions (H"xW"xD")	Weight (lbs)	Model Number
15	480	480	28x23x18	420	UG15-4848-60
15	480	208	28x23x18	420	UG15-4828-60
30	480	480	34x28x22	490	UG30-4848-60
30	480	208	34x28x22	490	UG30-4828-60
50	480	480	34x28x22	710	UG50-4848-60
50	480	208	34x28x22	710	UG50-4828-60
75	480	208	34x28x22	950	UG75-4828-60
100	480	208	44x32x22	990	UG100-4828-60
125	480	208	44x32x22	1,140	UG125-4828-60
150	480	208	46x32x22	1,240	UG150-4828-60
200	480	208	46x32x22	1,680	UG200-4828-60
225	480	208	46x32x22	1,780	UG225-4828-60
300	480	208	60x40x32	2,100	UG300-4828-60
400	480	208	60x40x32	3,300	UG400-4828-60
500	480	208	60x40x32	4,240	UG500-4828-60



UltraGrid 100-3/05

