

POWERCUBE™ TRANSFORMERS

 ENERGY EFFICIENCY & COST SAVINGS DELIVERED

THE INDUSTRY'S TRUSTED CHOICE As the pioneer of critical power distribution technology, ONYX Power leads the way with proven solutions when it comes to high efficiency transformers. Backed by three modern US manufacturing facilities, a staff of over 300 dedicated people, and 30 years of industry experience, ONYX Power has one of the largest installed bases of high efficiency transformers among any power quality provider.

LOWER OPERATING COSTS

ONYX Power's advanced technology high efficiency transformers are designed to deliver optimal high efficiency for lower operating costs. Exceeding national efficiency standards (NEMA TP-1), PowerCube™ transformers deliver true energy savings under both linear and non-linear loads.

SYSTEM MONITORING The award winning Wavestar™ monitoring system with PDI[®] provides real time energy and power quality information at a glance. All monitors are equipped with universal communications ports for easy interface with building management systems.

MAINTAINABILITY An available hinged front port provides a quick and easy way to access all power connections, while optional infrared transparent windows allow for safe routine thermal scanning without opening the interior doors.

REDUCING THE FOOTPRINT ONYX Power's high efficiency transformers are designed to provide years of reduced energy costs, reduced energy consumption, and therefore reduced impact on the environment. Additionally, our eco-friendly design and manufacturing process strives to maximize recycling methods for sustainability.

TESTED AND VERIFIED TO NATIONAL STANDARDS

To verify performance of actual efficiency, all ONYX Power energy efficient transformers are tested to a nationally recognized method using third party verified equipment. All transformers are provided with a serialized test data sheet to validate performance to ensure customers get the efficiency they pay for.

BETTER BY DESIGN We invite you to look further at the technology and advantages of ONYX Power PowerCube™ transformers. A 240°C thermal shielding between windings delivers an extra margin of safety and design and extends operating life. Welded tap connections and large flat bus termination points also eliminate "hot spots" found in most other manufacturer's transformers.

APPLICATIONS The PowerCube™ represents an optimal solution for: data centers, K-12, colleges, universities, government, healthcare, industrial, and commercial buildings where lower operating costs, energy savings, and the environment are a priority.

FEATURES

- Lower operating costs
- Lower heat generation / less cooling capacity required
- Reduced greenhouse emissions
- Meets TP-1 efficiency standards
- Qualifies for LEED building criteria
- Optional revenue-accurate metering connection port
- Integral electrical performance & commissioning capability via ONYX Power's nationwide service team
- Customizable load level efficiency maximization
- Customer-specific power quality characteristics available
- Independently verified efficiency testing & verification
- Real time efficiency status monitoring capability
- Long term warranty available



HIGH EFFICIENCY POWER QUALITY TRANSFORMER: POWERCUBE™

SPECIFICATIONS

RATINGS

- kVA Ratings: 30-1000 kVA
- K Factor: specifiable K1 through K30
- 6 Compensation Taps (4 FCBN, 2 FCAN)
- Input: 3-phase, 3 wire plus ground
- Input Voltage @ 50 Hz: 415 or 380V
@ 60 Hz: 600, 480 or 208V
- Output: 3-phase, 4 wire plus ground
- Output Voltage @ 50 Hz: 415/240 or 380/220V
@ 60 Hz: 600, 480 or 208/120V
- Impedance: 2.0-4.5% average \pm 0.25%

FEATURES

- Copper wound construction – better conducting and more resilient than aluminum
- Dual electrostatic shield – attenuates high frequency noise
- Natural convection cooling
- Operating Efficiency: 98% typical
- Oversized neutral for non-linear loads
- UL Listed

ENCLOSURE

- Drip-proof NEMA 1
- Removable front and rear panels

OPERATING CONDITIONS

- Operating Temperature: ambient 0°C to 40°C
- Storage Temperature: ambient -10°C to +40°C
- 50 Hz Operating Range: 47-53 Hz
- 60 Hz Operating Range: 57-63 Hz
- Relative Operating Humidity: 90% non-condensing

WARRANTY

- 12 years prorated - the industry's best

TRANSFORMER DESIGNS

- Delta Wye
- Delta Zig Zag
- Dual Zig Zag
- Quad-Wye
- Medium Voltage
- Autotransformers

PDI = POWER DISTRIBUTION INTELLIGENCE QUOTIENT
YOUR SMART MONITORING SOLUTION

POWERCUBE™ OPTIONS

TRANSIENT SUPPRESSION NETWORK (TSN)

This feature provides an integrated system designed and engineered to meet ANSI/IEEE category C standards for transient voltages and surge currents.

LIGHTNING ARRESTOR/SURGE SUPPRESSOR

The Lightning Arrestor and Surge Suppressor option protects the major insulation of the magnetics from high energy surges that are associated with lightning discharges. The suppressor circuit reduces the rate of rise of high energy transient voltages, thereby increasing the effectiveness of the Lightning Arrestor.

OPTIONAL TRANSFORMER FEATURES

- Temperature rise at 130°C, 115°C, 105°C and 80°C rise
- Temperature monitor
- Zero and thirty degree phase shift transformer available
- Thermal warning and shutdown sensors
- Harmonic mitigation
- WaveStar™ graphics display
- PowerLogic monitor
- NEMA 3 enclosure
- IR scan port
- Custom impedances are available upon request.
- 25 year prorated warranty
- Customized spare parts kits available

ONYX Power offers over 800 different PowerCube™ configurations. Couple these with ONYX Power's TVSS option to ensure system reliability.

KVA	WEIGHT	NEMA 1
	(LBS)	H x W x D (INCHES)
30	380	36 x 28 x 17
45	490	36 x 28 x 17
75	700	42 x 35 x 21
100	750	42 x 35 x 21
125	830	50 x 40 x 28
150	980	50 x 40 x 28
225	1200	63 x 49 x 30
300	1600	63 x 49 x 30
500	2400	63 x 49 x 30
750	3600	72 x 66 x 44
1000	3600	72 x 66 x 44

Consult specific design for impedance value.



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HIGH EFFICIENCY POWER QUALITY TRANSFORMER

WEIGHTS, DIMENSIONS AND ELECTRICAL SPECIFICATIONS

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DIMENSIONS AND WEIGHTS


KVA	A	B	C	D	E	F	G	H	J	H(MTG SLOT)	WT/LB
<input type="checkbox"/> 30	36.00	28.00	17.00	25.14	14.00	22.50	15.50	15.50	6.75	.625 X 1	380
<input type="checkbox"/> 45	36.00	28.00	17.00	25.14	14.00	22.50	15.50	15.50	6.75	.625 X 1	490
<input type="checkbox"/> 75	42.00	35.00	21.00	32.14	18.00	29.50	19.00	19.00	10.75	.625 X 1	700
<input type="checkbox"/> 100	42.00	35.00	21.00	32.14	18.00	29.50	19.00	19.00	10.75	.625 X 1	750
<input type="checkbox"/> 125	50.00	40.00	28.00	37.04	25.00	34.50	26.00	26.00	12.75	.625 X 1	830
<input type="checkbox"/> 150	50.00	40.00	28.00	37.04	25.00	34.50	26.00	26.00	12.75	.625 X 1	980
<input type="checkbox"/> 225	63.00	49.00	30.00	45.52	24.59	42.00	28.00	28.00	14.75	.625 X 1	1200
<input type="checkbox"/> 300	63.00	49.00	30.00	45.52	24.59	42.00	28.00	28.00	14.75	.625 X 1	1600
<input type="checkbox"/> 500	63.00	49.00	30.00	45.52	24.59	42.00	28.00	28.00	14.75	.625 X 1	2400
<input type="checkbox"/> 750	72.00	66.00	44.00	45.52	24.59	42.00	28.00	28.00	14.75	.625 X 1	3600

(REFER TO MECHANICAL SPECIFICATION DRAWING)

KVA	INPUT CURRENT (AMPS)			OUTPUT CURRENT (AMPS)			HEAT REJECTION (BTUH @ FULL LOAD)
	600 VAC	480 VAC	208 VAC	600 VAC	480 VAC	208 VAC	
30	29	36	83	29	36	83	1.6
45	43	54	125	120	54	125	2.5
75	72	90	208	201	90	208	4.1
100	96	120	278	268	120	278	5.5
125	120	151	347	335	151	347	6.8
150	145	181	417	402	181	417	8.2
225	217	271	625	602	271	625	12.3
300	289	361	834	803	361	834	16.4
500	482	602	1390	1339	602	1390	27.3
750	723	903	2084	2008	903	2084	41.0

NOTE: OBSERVE ALL NEC AND LOCAL GUIDELINES WHEN SELECTING OVERCURRENT PROTECTION AND CABLING

TITLE		HIGH EFFICIENCY POWER QUALITY TRANSFORMER	
DWG. NUMBER	2 OF 4		
ON-92-10001-00_2-X0			
DRAWN BY	JLL	REVISION	
DATE	01-30-09	XO	



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Sants Ana, CA. 92704 U.S.A.

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HIGH EFFICIENCY POWER QUALITY TRANSFORMER

GENERAL NAMEPLATE DRAWING

DRY TYPE POWER TRANSFORMER ⁽¹⁾

KVA 3 PH Hz
 CLASS AA °C RISE
 HV V A
 LV V A
 LV2 V A ⁽⁴⁾
 RATED K FACTOR
 TYPE
 INS. SYSTEM °C
 % IMP @ 170°C ⁽²⁾
 WEIGHT LB APPROX.
 PDI P/N:
 DATE CODE
 SERIAL NO.
 TEMP. SENSOR V A
 YEAR OF MANUFACTURE

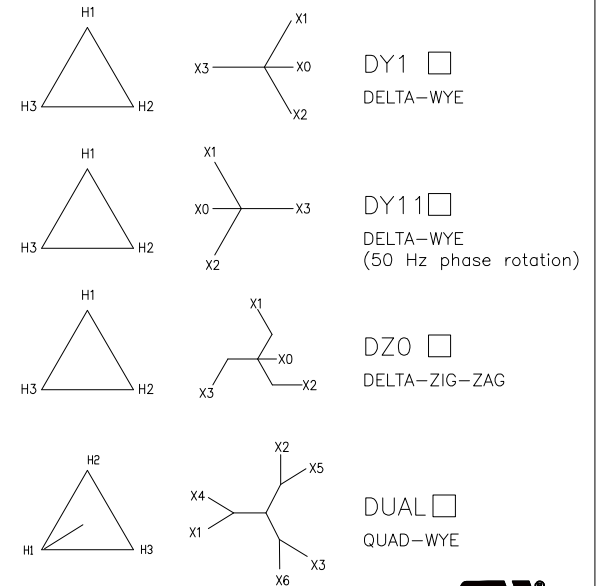
VOLTAGE TAPS ⁽⁵⁾

HV CONNECTION (H1-H2-H3)	
%RATED VOLTAGE	CONNECTIONS
105	3T04
102.5	2T04
100	3T05
97.50	2T05
95	2T06



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VECTOR TYPE ⁽³⁾ (note selected vector)



MADE IN USA

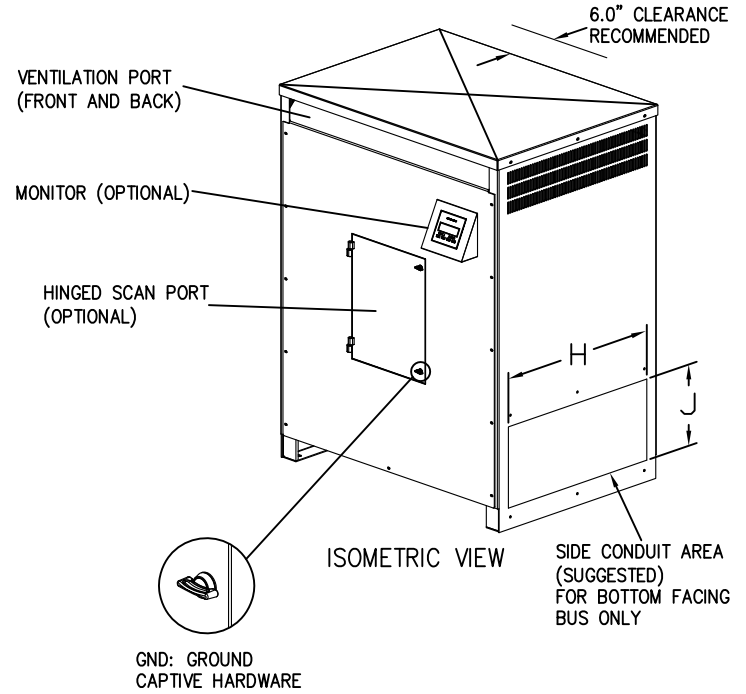
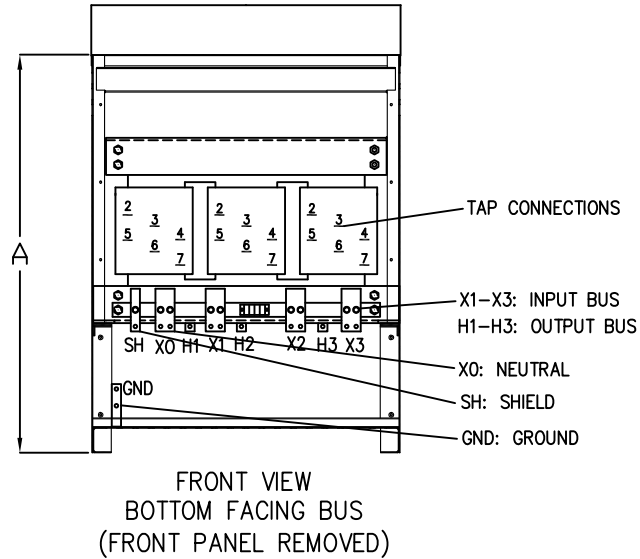
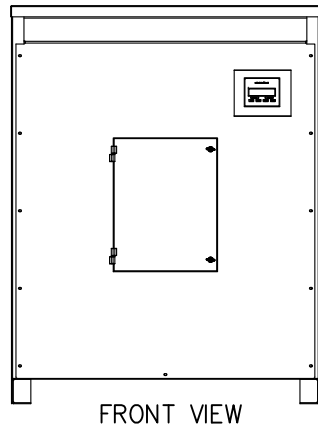


UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND [MILLIMETERS]. TOLERANCES ARE: DECIMALS [MILLIMETERS] .X=± DEC1 X.=± MM0 .XX=± DEC2 .X.=± MM1 .XXX=± DEC3 .XX.=± MM2 ANGLES ± ANGLE MATERIAL FINISH POWDER_COATED_BLACK	CONTRACT NO.		ONYX POWER, Inc. 4011 W. CARRIAGE RD. Sants Ana, CA. 92704 U.S.A. <h2 style="text-align: center;">HIGH EFFICIENCY POWER QUALITY TRANSFORMER</h2>	
	APPROVALS	DATE		
	DRAWN	04/29/09		
	CHECKED	04/29/09		
ISSUED	04/29/09	SIZE	DWG NO.	REV.
		B	ON-92-10001-00_3-X0	A00
DO NOT SCALE DRAWING		SCALE	N/A	SHEET 2 OF 2

HIGH EFFICIENCY POWER QUALITY TRANSFORMER

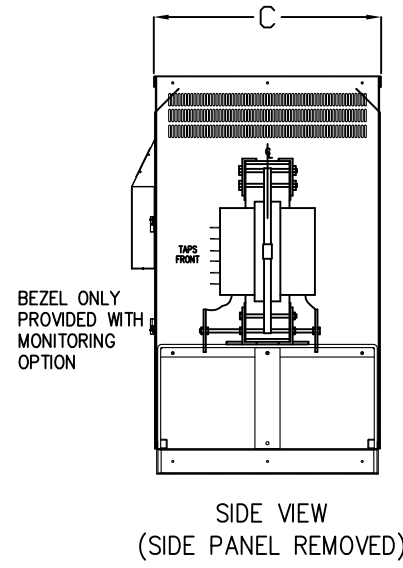
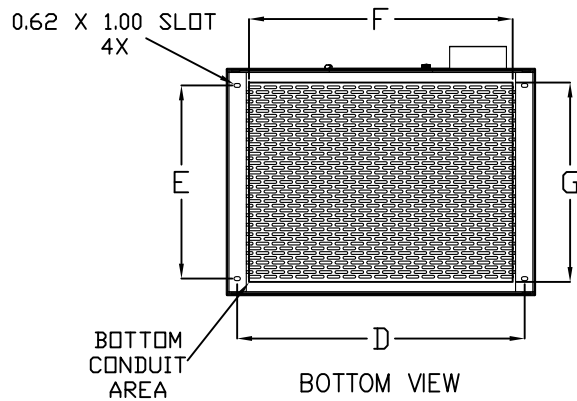
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NOTES:

1. BUS BARS CAN BE CONFIGURED FOR TOP OR BOTTOM FACING CONFIGURATION. SPECIFY AT TIME OF ORDER.
2. REFER TO SPECIFIC TRANSFORMER CONSTRUCTION DRAWING FOR BUS DETAIL AND HOLE DIAMETERS.
3. CERTAIN MONITORING AND TVSS OPTIONS MAY OCCUPY A PORTION OF BOTTOM CONDUIT AREA. CONSULT JOB SPECIFIC DRAWINGS WHEN ORDERING TVSS AND/OR MONITORING OPTIONS.
4. DOOR SWING RADIUS IS 1/3 THE WIDTH OF THE ENCLOSURE.
5. DRAWING IS SPECIFIC TO NEMA 1 ENCLOSURE. CONSULT NEMA 3R ENCLOSURE DRAWING FOR OUTDOOR APPLICATIONS.
6. HINGED SCAN PORT, IR TRANSPARENT SCAN WINDOW, MONITOR AND TVSS ARE ALL OPTIONAL ACCESSORIES NOT PROVIDED UNLESS SPECIFIED.
7. STANDARD PAINT COLOR IS BLUE.



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