

T1000-30H

Ultra Efficient Harmonic Mitigating Dry Type Transformer

Optimized for Application Load (OPAL) yields substantially lower losses than typical DOE compliant units

Electrical Ratings	Power [kVA]	750						
	Continous Overload [kVA]	900 <i>Max. Linear Load; 1 THD < 0.05 p.u. < 30°C Amb.</i>						
	Primary [V]	480						
	Secondaries [V]	120/208						
Topology & Materials	Frequency [Hz]/Phase/Shift	60 / 3-Phase <i>0 deg.</i>						
	Primary Taps	2 x 2 1/2 % FCAN; 4 x 2 1/2 % FCBN; (6 Taps)						
	K-Rating (IEEE C57.110) [K]	K20 @ 100%; >K30 @ 80%; <i>Refer Powersmiths published tables for other ratings</i>						
	Electrical Topology	Primary: Delta 3 -Wire	Secondary: Zig-Zag 4-wire					
Regulatory Efficiency	Terminals: Material / Rating	Neutral: Copper/200%	Line: Copper/100%	Ground: Copper Bus				
	Coils / Construction	Copper; Welded/Brazed Internal Connections						
	Core / Configuration	3 Leg, Low loss super grain-oriented electrical steel						
	Insulation Class / Type	220 (UL Listed, E221932) Nomex based						
Load Performance	Impregnant / Properties	Epoxy/Polyester co-polymer; Dielectric 3.2kV/mil. x 3 mil. build; Low VOCs						
	B.I.L.	10kV (Primary & Secondary)						
	35% Load @ 75 °C [%]	≥ 99.30 ; <i>tested per DOE 10CFR431*, Subpart K, & CSA C802.2</i>						
General Operation	Reference levels:	(750kVA): DOE 2016: 99.23%; CSA C802.2-12: 98.80%						
	<i>*Powersmiths exceeds DOE test requirements by guaranteeing min. stated efficiency of every unit</i>							
	Percent Loading:	No Load	16.7%	25.0%	35.0%	50.0%	75.0%	100.0%
	Linear Load Efficiency ⁺ [%]		99.15	99.30	99.33	99.28	99.07	98.77
	Linear Load Loss ⁺ [W]	860	1056	1302	1734	2682	5186	9192
Impedance	[BTU/hr]	2934	3603	4442	5916	9151	17695	31363
	K13 Load (IEEE C57.110)* [%]		99.1	99.2	99.2	99.1	98.7	98.2
	<i>+ Calculated @ 20°C Amb. Accuracy: Loss ± 3% measurement tolerance per DOE 10CFR431; Efficiencies ± 0.05%; Non-linear Load L-N</i>							
	Temperature Rise/Ambient [°C]	< 105 (Full Linear Load)			40 (Per ANSI C57.96.2013)			
Abnormal	Regulation (full load) [%]	1 (Cos Φ=1.0)			3.3 (Cos Φ =0.8)			
	Excitation [A]	4 (~ Effective Current)						
	Audible Noise [dBA]	61 (6 dBA less than NEMA ST-20 > K13 requirement 701-1000kVA)						
Physical	Z: +/- Sequence [%]	Z: 4.2	X: 4.1	R: 0.9	(per ANSI C57.12.91/UL1561)			
	Zero Sequence [%]	Zo: 0.63	Xo: 0.39	Ro: 0.49	(per ANSI C57.12.91)			
Quality, Standards & Certification	Shortcircuit Current** [A]	Symmetrical Bolted faults		Primary: 21,395		Secondary: 49,374		
	**Zero Upstream Impedance	Asymmetrical Bolted faults		L - N: 69,123		L - L: 59,861		
	Inrush x FLA /@ % Source	4 /@ 3%	7 /@ 1½%	11 /@ 0%	(per IEEE 389)			
Enclosure Type & Installation	Type / Environment	2: Indoor Ventilated; 3R: Sprinkler/Weather Shields (Field Installed Option)						
	Installation / Location	Non-combustible floor; Restricted Access Area, non-public accessible						
Additional Specified Attributes & Options:	Ventilation Clearances	2" to rear wall; zero clearance for sides (Grill opening < 1/2", Vermin Resistant)						
	Paint / Finish	Polyester Powder Coat, Semi-Gloss, Textured; Color: Green (RAL 6018)						
Quality, Standards & Certification	Size & Drawing	TF0: (W: 64" D: 45" H: 72"); Drawing: 300-003764-800						
	Net Weight	4570 lbs / 2077 kg						
	Quality	ISO 9001-2000: Quality Management System ISO 14001-2004: Environmental Management System ISO 17025: Efficiency Measurement Certification (CSA)						
Additional Specified Attributes & Options:	Design / Build / Test	UL 1561; CSA C22.2-47; NEMA ST-20; ANSI C57.91						
	Certifications	UL/CUL Listed; CSA Certified <i>UL1561 Listed for Non-linear loads</i>						
Additional Specified Attributes & Options:	Shields (1S):	1 Electrostatic Shield > 60 (CM Attenuation @ 10kHz)						
	Harmonic Treatment:	Triplens (3rd, 9th...) plus 5th, 7th with complimentary system 30° Phase shifts						
	(As listed)							



POWERSMITHS INTERNATIONAL CORP.

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OPAL Series Model: T1000-30H-750-0-480-208

Prepared: D. Faria

Date: 2-Feb-16

Part No: 222-004648 -100

Revised:

Date:

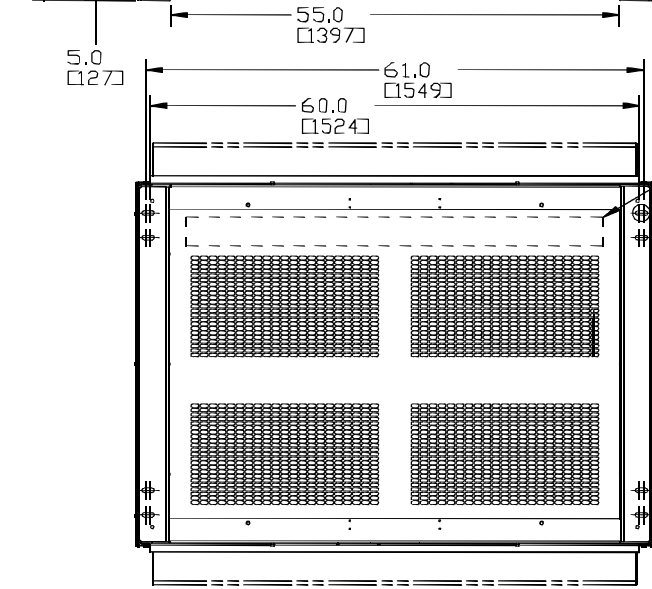
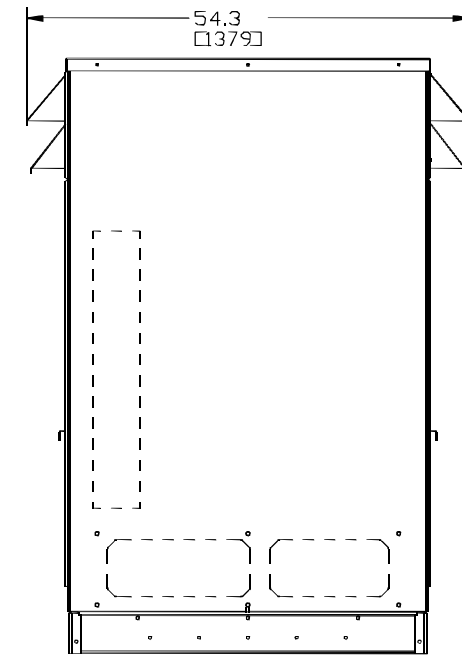
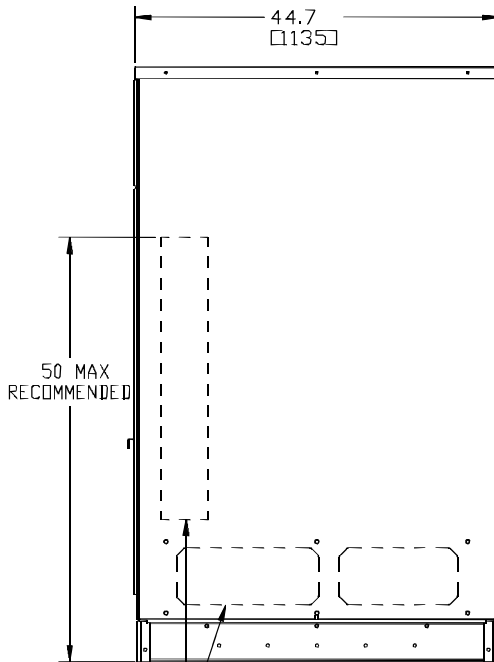
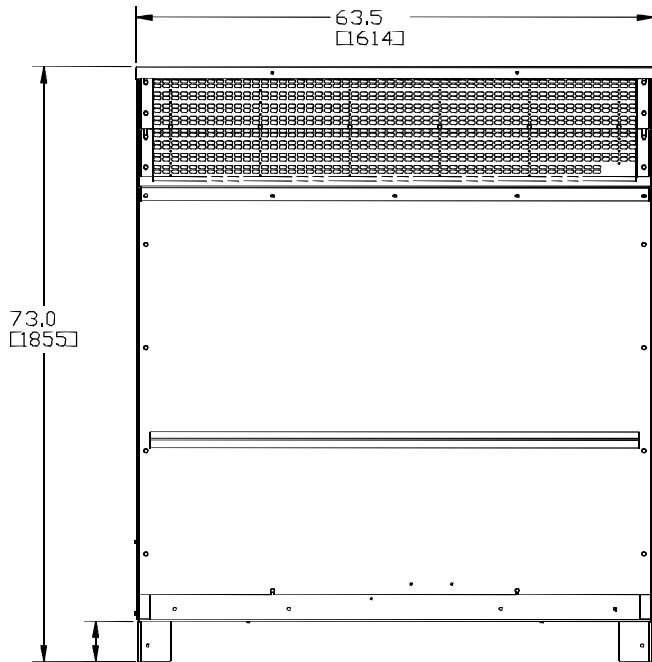
Doc No: 222-004648 -800

Rev: A00

Note: Powersmiths International Corp. reserves the right to revise these specifications without notice; refer to most recent document revision

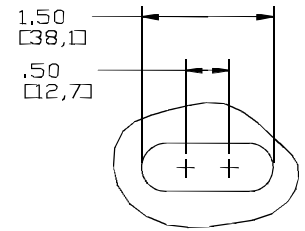
Ref. Project/Unit ID:

REV	ECD No.	DESCRIPTION
A00		RELEASED
A01		INCREASED HEIGHT BY 1"
A02		ADDED DUAL RAINSHIELDS
A03		



CONDUIT ACCESS
NEMA TYPE-1 (STANDARD)

SEE DETAIL A



DETAIL A
SCALE 1

UL/NEMA TYPE-2/3R (OPTION WHEN SPECIFIED)
NOTE: DRIP SHIELDS INSTALLED AT SITE

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.		BY	DATE
TOLERANCES ARE:		APPROVED	DT 08-Sep-01
1-PLACE DECIMAL	±.02 ±.8	APPROVED	
2-PLACE DECIMAL	±.010 ±.25	APPROVED	
3-PLACE DECIMAL	±.005 ±.10	APPROVED	
ANGLE	±.1° ±1/2°	APPROVED	
SURFACE FINISH:	125/√	APPROVED	
MATERIAL		APPROVED	
FINISH		UNLESS OTHERWISE NOTED REMOVE ALL BURRS AND SWAMP EDGES	
	SCALE 0.093	REF:	

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TITLE
OUTLINE, TFO CASE

DRAWING NO.	REV.
300-003764-800	A02

PRO/ENGINEER