

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]	225						
	Continous Overload [kVA]	270 <i>Max. Linear Load; 1 THD < 0.05 p.u. < 30°C Amb.</i>						
	Primary [V]	480						
	Secondaries [V]	120/208						
Topology & Materials	Electrical Topology	Primary: Delta 3 -Wire		Secondary: Zig-Zag 4-wire				
	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						
Regulatory Efficiency	Insulation Class / Type	220 (<i>UL Listed, E221932</i>)		Nomex based				
	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 [%]	≥ 99.04 ; <i>tested per DOE 10CFR431*, Subpart K, & CSA C802.2</i>						
Load Performance	Reference levels:	(225kVA): DOE 2016: 98.94%; CSA C802.2-12: 98.50%						
	<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 ⁺ [%]		98.84	99.04	99.09	99.01	98.73	98.32
	Linear Load Loss ⁺ [W]	364	445	548	729	1124	2171	3852
General Operation	[BTU/hr]	1242	1518	1870	2487	3835	7407	13143
	K13 Load (IEEE C57.110)* [%]		98.8	98.9	98.9	98.8	98.3	97.7
	<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 (<i>Full Linear Load</i>)			40 (<i>Per ANSI C57.96.2013</i>)			
Impedance	Regulation (<i>full load</i>) [%]	1.4 (<i>Cos Φ=1.0</i>)			3.5 (<i>Cos Φ =0.8</i>)			
	Excitation [A]	1.8 (<i>~ Effective Current</i>)						
	Audible Noise [dBA]	52 (6 dBA less than NEMA ST-20 > K13 requirement 151-300kVA)						
Abnormal	Z: +/- Sequence [%]	Z: 4.1	X: 3.9	R: 1.3	<i>(per ANSI C57.12.91/UL1561)</i>			
	Zero Sequence [%]	Zo: 0.80	Xo: 0.44	Ro: 0.67	<i>(per ANSI C57.12.91)</i>			
Enclosure Type & Installation	Shortcircuit Current** [A]	Symmetrical Bolted faults		Primary: 6,765		Secondary: 15,612		
	**Zero Upstream Impedance	Asymmetrical Bolted faults		L - N: 21,856		L - L: 18,928		
	Inrush x FLA /@ % Source	4	/@ 3%	8	/@ 1½%	12	/@ 0%	<i>(per IEEE 389)</i>
Physical	Type / Environment	2: Indoor Ventilated; 3R: Sprinkler/Weather Shields (Field Installed Option)						
	Installation / Location	Non-combustible floor; Restricted Access Area, non-public accessible						
Quality, Standards & Certification	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)						
	Size & Drawing	TD1: (W: 38" D: 32" H: 52"); Drawing: 300-003779-800						
Additional Specified Attributes & Options: <i>(As listed)</i>	Net Weight	1765 lbs / 802 kg						
	Quality	ISO 9001-2000: Quality Management System ISO 14001-2004: Environmental Management System ISO 17025: Efficiency Measurement Certification (CSA)						
	Design / Build / Test	UL 1561; CSA C22.2-47; NEMA ST-20; ANSI C57.91						
Additional Specified Attributes & Options: <i>(As listed)</i>	Certifications	UL/CUL Listed; CSA Certified				<i>UL1561 Listed for Non-linear loads</i>		
	Shields (1S):	1 Electrostatic Shield > 60 (CM Attenuation @ 10kHz)						
Additional Specified Attributes & Options: <i>(As listed)</i>	Harmonic Treatment:	Triplens (3rd, 9th...) plus 5th, 7th with complimentary system 30° Phase shifts						



POWERSMITHS INTERNATIONAL CORP.

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OPAL Series Model: T1000-30H-225-0-480-208

Prepared: D. Faria

Date: 1-Feb-16

Part No: 222-004637 -100

Revised:

Date:

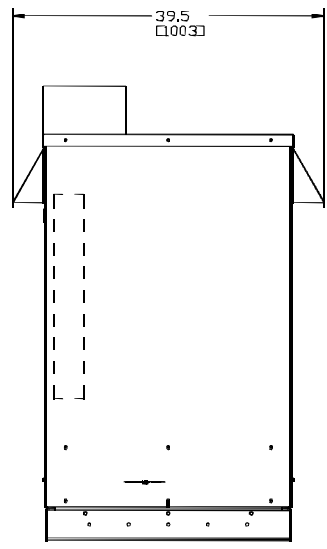
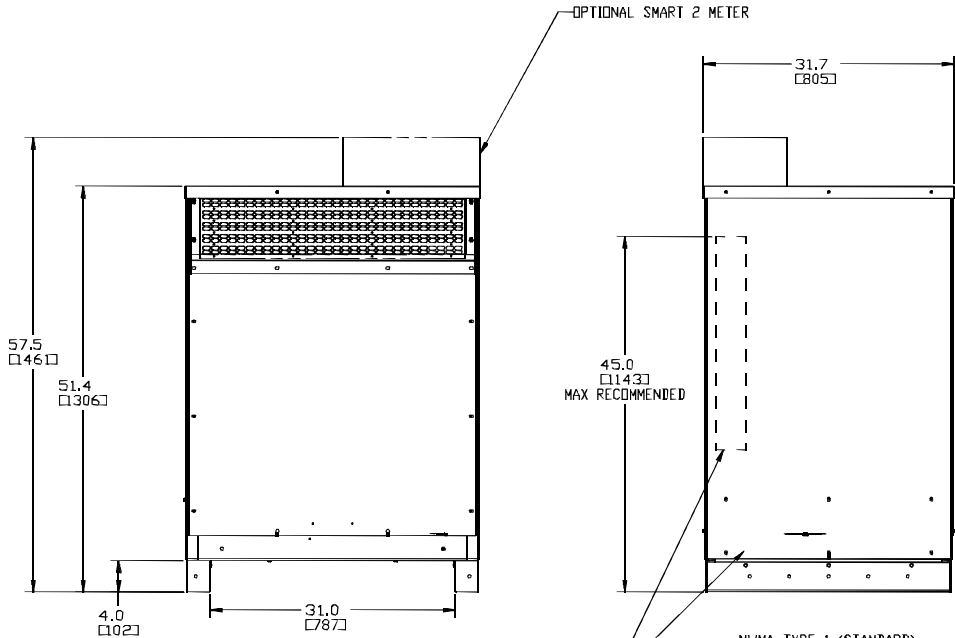
Doc No: 222-004637 -800

Rev: A00

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

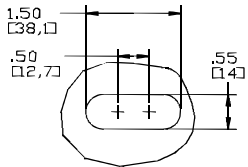
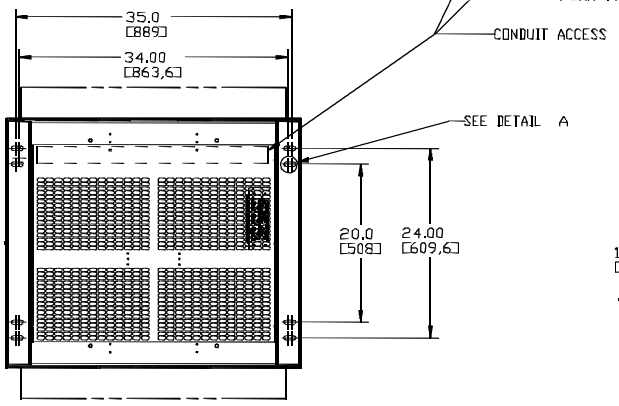
Ref. Project/Unit ID:

REV	ECO NO.	DESCRIPTION



NWMA TYPE-1 (STANDARD)

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



DETAIL A
SCALE 1.000

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.	BY: [Signature]	DATE: 05-JUN-14	POWERSMITHS INTERNATIONAL CORP 10 Brown Rd. Brampton, Ontario, Canada, L6T 2S6
TOLERANCES ARE:	APPROVED:		
1-PLACE DECIMALS	APPROVED:		TITLE:
2-PLACE DECIMALS	APPROVED:		OUTLINE, TDI CASE
3-PLACE DECIMALS	APPROVED:		
4-PLACE DECIMALS	APPROVED:		
SURFACE FINISH: [Symbol]	APPROVED:		
MATERIAL:	APPROVED:		
FINISH:	UNLESS OTHERWISE NOTED BRACKETS ALL DIMENSIONS AND SHARP EDGES	SCALE: 0.125	DRAWING NO. 300-003779-800 REV. A00
			REF: SHEET 1 OF 1 PRO/ENGINEER