

E-Saver-25H

Ultra Efficient Application Optimized Dry Type Transformer

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

Electrical Ratings	Power [kVA]	150						
	Continous Overload [kVA]	180 <i>Max. Linear Load; 1 THD < 0.05 p.u. < 30°C Amb.</i>						
	Primary [V]	480						
	Secondaries [V]	120/208						
	Frequency [Hz]/Phase/Shift	60 / 3-Phase -30 deg.						
	Primary Taps	2 x 2 1/2 % FCAN; 4 x 2 1/2 % FCBN; (6 Taps)						
	K-Rating (IEEE C57.110) [K]	K13 @ 100%; >K30 @ 80%; <i>Refer Powersmiths published tables for other ratings</i>						
Topology & Materials	Electrical Topology	Primary: Delta 3 -Wire			Secondary: Wye 4 -Wire			
	Terminals: Material / Rating	Neutral: Copper/200%		Line: Copper/100%		Ground: Mechanical Lug		
Regulatory Efficiency	Coils / Construction	Aluminium (Sec.)/Copper (Prim.); Welded/Brazed Internal Connections						
	Core / Configuration	3 Leg, Low loss super grain-oriented electrical steel						
	Insulation Class / Type	220 (UL Listed, E221932)			Nomex based			
	Impregnant / Properties	Epoxy/Polyester co-polymer; Dielectric 3.2kV/mil. x 3 mil. build; Low VOCs						
	B.I.L.	10kV (Primary & Secondary)						
Regulatory Efficiency	35% Load @ 75 °C [%]	≥ 98.99 ; <i>tested per DOE 10CFR431⁺, Subpart K, & CSA C802.2</i>						
	Reference levels:	(150kVA): DOE 2016: 98.83%; CSA C802.2-12: 98.30%						
⁺ Powersmiths exceeds DOE test requirements by guaranteeing min. stated efficiency of every unit								
Load Performance	Percent Loading:	No Load	16.7%	25.0%	35.0%	50.0%	75.0%	100.0%
	Linear Load Efficiency* [%]		98.73	98.96	99.02	98.96	98.68	98.26
	Linear Load Loss* [W]	266	322	392	515	787	1499	2636
	[BTU/hr]	908	1099	1338	1757	2685	5115	8994
General Operation	K4 Load (IEEE C57.110)* [%]		98.7	98.9	98.9	98.8	98.5	97.9
	<i>*Calculated @ 20°C Amb. Accuracy: Loss ± 3% measurement tolerance per DOE 10CFR431; Efficiencies ± 0.05%</i>							
General Operation	Temperature Rise/Ambient [°C]	< 105 (Full Linear Load)			40 (Per ANSI C57.96.2013)			
	Regulation (full load) [%]	1.6 (Cos Φ=1.0)			3.7 (Cos Φ =0.8)			
Impedance	Excitation [A]	1.2 (~ Effective Current)						
	Audible Noise [dBA]	47 (6 dBA less than NEMA ST-20 > K13 requirement 51-150kVA)						
Impedance	Z: +/- Sequence [%]	Z: 4.2	X: 3.9	R: 1.5	(per ANSI C57.12.91/UL1561)			
	N/A	Zo:	Xo:	Ro:	(per ANSI C57.12.91)			
Abnormal	Bolted Faults (Output)** [A]	Symmetrical:	Source (reflected):		4,354		L/L/L-N: 10,048	
	**Zero Upstream Impedance	Asymmetrical:		L - N: 10,048		L - L: 8,702		
	Inrush x FLA (@ % Source Imp.)	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						
Physical	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	TD0: (W: 38" D: 27" H: 48"); Drawing: 300-003762-800						
	Net Weight	1370 lbs /			623 kg			
Additional Specified Attributes & Options: <i>(As listed)</i>	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						
	Certifications	UL/CUL Listed; CSA Certified			<i>UL1561 Listed for Non-linear loads</i>			



POWERSMITHS INTERNATIONAL CORP.

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OPAL Series Model: E-Saver-25H-150-480-208

Prepared: D. Faria

Date: 24-Nov-15

Part No: **225-004518 -100**

Revised: D. Faria

Date: 22-Feb-16

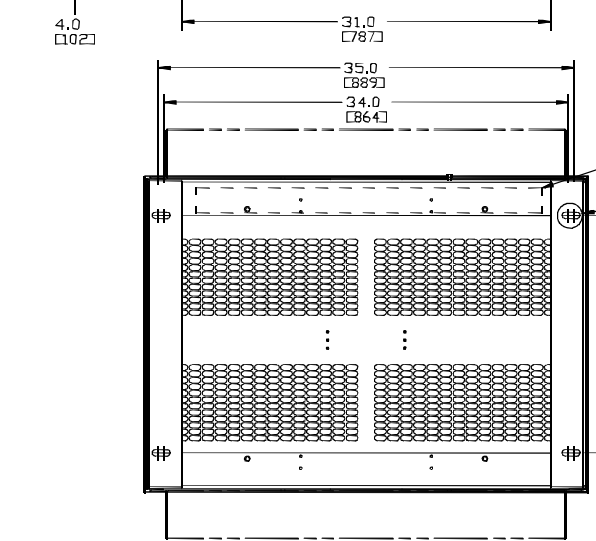
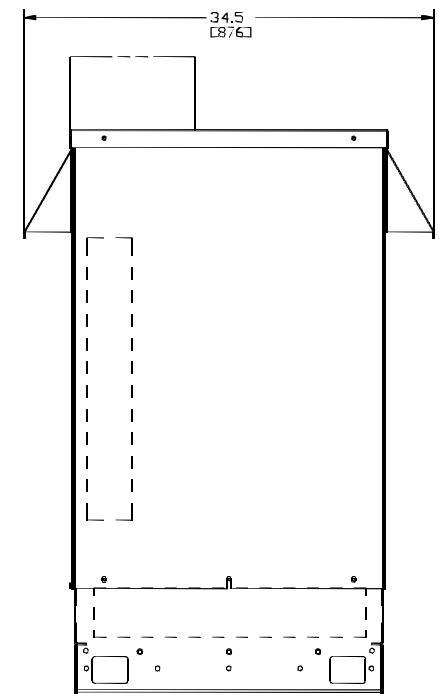
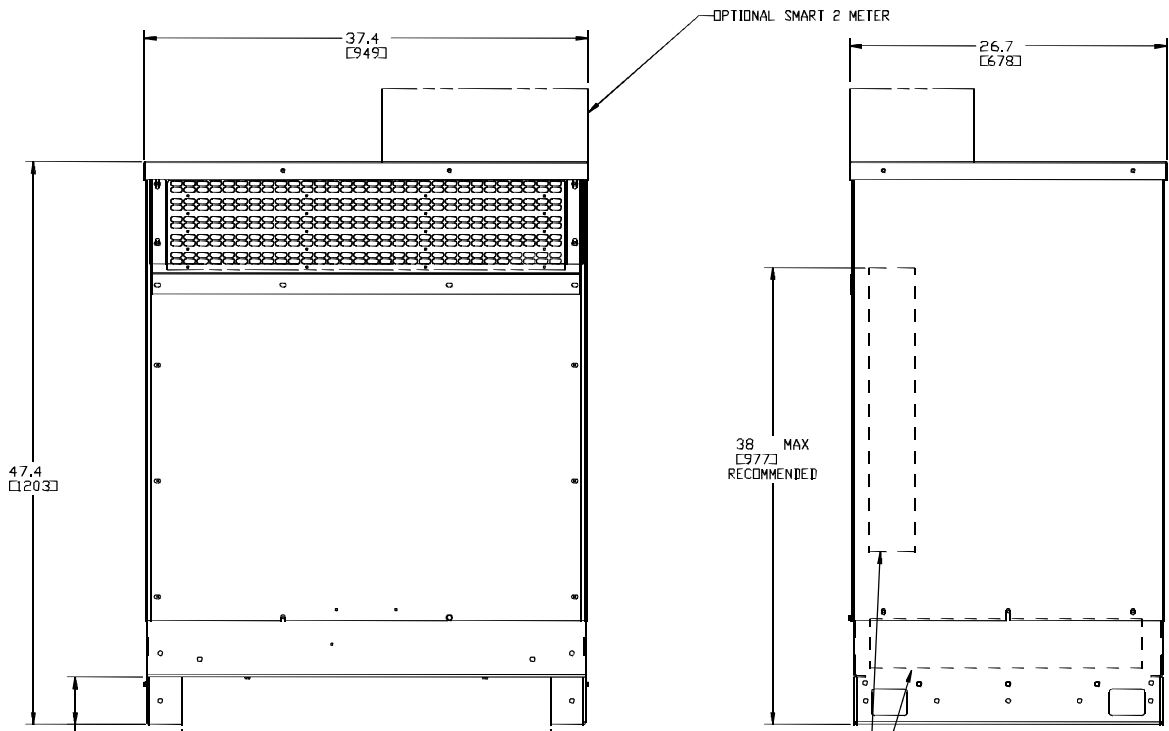
Doc No: **225-004518 -800**

Rev: **A01**

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

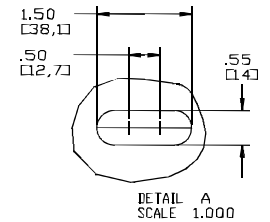
Ref. Project/Unit ID:

REV	ECO NO.	DESCRIPTION



NWMA TYPE-1 (STANDARD)
CONDUIT ACCESS

SEE DETAIL A



UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES	BY DATE	POWERSMITHS INTERNATIONAL CORP 10 Brown Rd. Shelburne, Ontario, Canada, L4B 2M5
TOLERANCES ARE:	APPROVED BY 05-JUN-14	
1-PLACE DECIMAL	APPROVED	TITLE
2-PLACE DECIMAL	APPROVED	OUTLINE, TDO CASE
3-PLACE DECIMAL	APPROVED	
4-PLACE DECIMAL	APPROVED	
SURFACE FINISH:	APPROVED	
MATERIAL	APPROVED	
FINISH	UNLESS OTHERWISE NOTED BRUSH ALL SURFACES AND SHARP EDGES	DRAWING NO. 300-003762-800
	SCALE 0,188	REV. A00
		REF: SHEET 1 of 1

PRO/ENGINEER