

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]	45							
	Continous Overload [kVA]	54 <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			
	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 [%]	≥ 98.64 ; <i>tested per DOE 10CFR431⁺, Subpart K, & CSA C802.2</i>							
	Reference levels:	(45kVA): DOE 2016: 98.40%; CSA C802.2-12: 97.70%							
⁺ 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* [%]		98.30	98.61	98.68	98.59	98.19	97.61	
	Linear Load Loss* [W]	107	131	160	210	321	618	1096	
	[BTU/hr]	365	447	546	717	1095	2109	3740	
	K7 Load (IEEE C57.110)* [%]		98.22	98.49	98.52	98.35	97.81	97.04	
<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) [%]	2.1 (Cos Φ=1.0)			4.0 (Cos Φ =0.8)				
	Excitation [A]	0.5 (~ Effective Current)							
	Audible Noise [dBA]	42 (6 dBA less than NEMA ST-20 > K13 requirement 31-50kVA)							
Impedance	Z: +/- Sequence [%]	Z:	4.1	X:	3.6	R:	2.0	(per ANSI C57.12.91/UL1561)	
	N/A	Zo:		Xo:		Ro:		(per ANSI C57.12.91)	
Abnormal	Bolted Faults (Output)** [A]	Symmetrical:	Source (reflected):		1,328	L/L/L-N:		3,065	
	**Zero Upstream Impedance	Asymmetrical:		L - N:		3,065	L - L:		2,654
	Inrush x FLA (@ % Source Imp.)	4 @ 3%	9 @ 1½%	13 @ 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							
	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)							
Physical	Size & Drawing	TBO: (W: 26" D: 18" H: 30"); Drawing: 300-003760-800							
	Net Weight	570 lbs / 259 kg <i>Note: Wall or ceiling brackets available</i>							
Quality, Standards & Certification	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>				
Additional Specified Attributes & Options: <i>(As listed)</i>									



POWERSMITHS INTERNATIONAL CORP.

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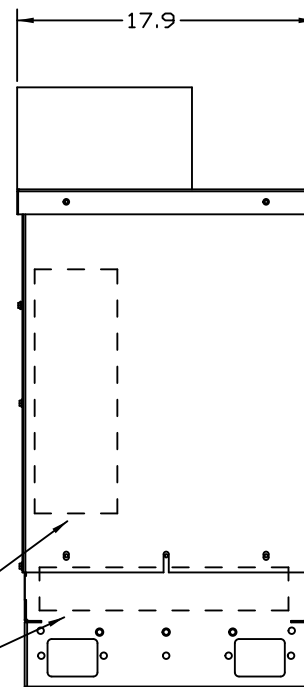
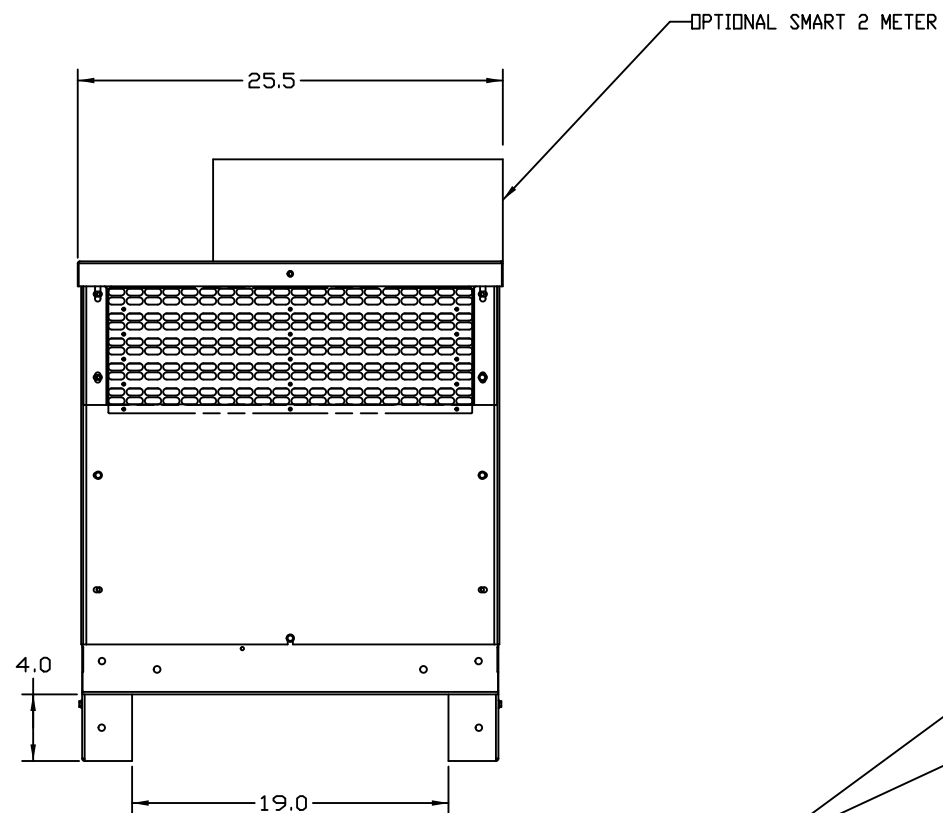
OPAL Series Model: E-Saver-25H-45-480-208

Prepared:	D. Faria	Date:	19-Nov-15	Part No:	225-004507 -100	
Revised:	D. Faria	Date:	19-Feb-16	Doc No:	225-004507 -800	Rev: A01

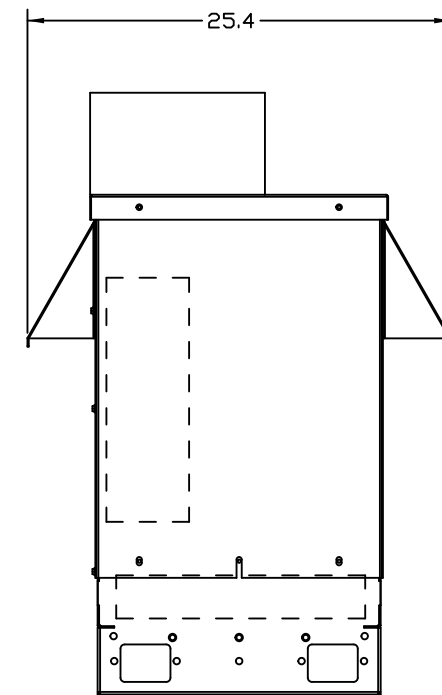
Note: Powersmiths International Corp. reserves the right to revise these specifications without notice; refer to most recent document revision

Ref. Project/Unit ID:

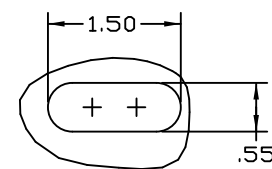
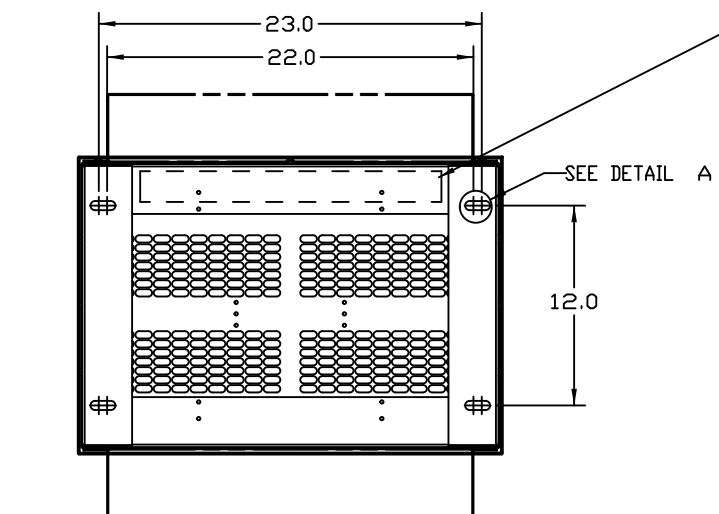
REV	ECD No.	DESCRIPTION



NEMA TYPE-1 (STANDARD)



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



DETAIL A
SCALE 1.000

<small>UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.</small> <small>TOLERANCES ARE:</small> 1-PLACE DECIMAL ±.02 2-PLACE DECIMAL ±.010 3-PLACE DECIMAL ±.005 ANGULAR ±1/2° <small>SURFACE FINISH: 125</small>	<small>BY</small> APPROVED DT 19-Jan-14	<small>DATE</small> 19-Jan-14	POWERSMITHS INTERNATIONAL CORP 10 Devon Rd. Brimley, Ontario, Canada, L6T 5B5 TBO CASE OUTLINE
	<small>APPROVED</small> <small>APPROVED</small>	<small>APPROVED</small>	
	<small>APPROVED</small>	<small>APPROVED</small>	
	<small>UNLESS OTHERWISE NOTED REMOVE ALL BURRS AND SHARP EDGES</small> SCALE 0.188	<small>APPROVED</small>	
<small>MATERIAL</small> <small>FINISH</small>	<small>DRAWING NO.</small> 300-003760-800	<small>REV.</small> A00	<small>REF:</small> <small>SHEET</small> 1 of 1