

E-Saver™ Transformer

APPLICATIONS

The E-Saver transformer is available with multiple efficiency ratings to deliver the lowest lifecycle cost to a wide variety of applications. E-Saver's reduce transformer losses by as much as 74%, providing consistent predictable electricity savings for decades in commercial and institutional environments.

DESCRIPTION

Since their introduction in 2002, E-Saver transformers have set the benchmark for environmental protection, energy efficiency and reliability. Unlike standard and K-rated off-the-shelf transformers, E-Savers provide very high efficiency over broad load profiles including electronic loads. To ensure longer life and reduced environmental impact, E-Saver incorporates a Class 220 Nomex based insulation system with an organic epoxy impregnant.

QUIET OPERATION

Powersmiths transformers have embedded structural and acoustic treatments that combine to ensure quiet operation. Each transformer is noise tested as part of Powersmiths ISO 9001 production procedures.

INTEGRATED METERING OPTIONS

E-Saver transformers can be ordered with integrated SMART™ meters to acquire energy, power and efficiency measurements. Integrating meters helps lower the cost of commissioning and performance validation, by eliminating the need to open transformer enclosures to acquire measurements. A variety of meters are available including web-accessible meters that can be connected to Powersmiths WOW sustainability management system or third party building management systems to support ongoing accountability of energy use over time.

INTEGRATED BREAKER OPTION

To conserve wall-space and reduce installation costs, E-Saver can be ordered with integrated input and/or output breakers.



ROTATABLE INFRARED VIEWING PORT OPTION

Powersmiths Rotatable IR (Infrared) Viewing Port enables safe, noninvasive thermographic imaging of live equipment, without exposing personnel to electrical hazards like Arc-Flash. It is available as a factory installed option on all Powersmiths transformers.

ENVIRONMENT AND QUALITY

A continuous improvement "lean green" strategy guides Powersmiths' product design and manufacturing. Initiatives such as increasing transformer efficiency, the Easy Skid, use of biodegradable product packaging and the reduction of harmful volatile organic compounds in production processes, are just a few examples of the extent to which Powersmiths takes its values seriously. Through these efforts Powersmiths has earned both ISO 14001 certification for its environmental management system and ISO 9001 for its quality management system.

TESTING AND WARRANTY

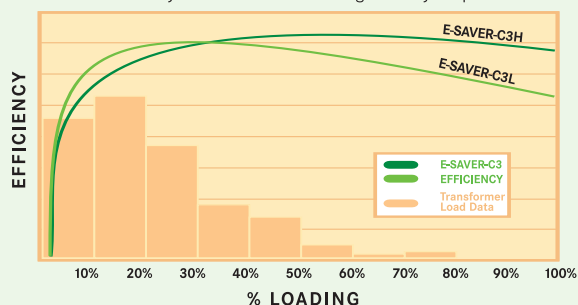
E-Saver is subjected to extensive performance validation including efficiency under real world operating conditions. E-Saver's long life and dependable performance is backed by Powersmiths' industry leading 25-year pro-rated warranty.

KEY FEATURES

- Provides best available efficiency on the market
- k-rated for real world electronic loads
- Minimizes electricity waste
- Optimized for cool and quiet operation
- Significantly exceeds NEMA TP-1 (C-802) efficiency
- Provides the lowest life cycle cost for your energy rate

MAXIMIZE YOUR ENERGY SAVINGS

Matches Efficiency With Load Profile and Significantly Outperforms TP 1



STANDARD CONFIGURATION

Powersmiths E-Saver is a high efficiency k-rated 60Hz dry-type distribution transformer available in 3-phase and single phase models with either aluminum or copper windings.

The E-Saver-C3L is optimized for light loading with copper (k7) or aluminum (k4).

The E-Saver-C3H is optimized for heavy loading with copper (k13).

Standard temperature rise for the C3L model is 130C, for the C3H, C4, C5 it is 115C or lower. Under the static NEMA TP2 test, the C3L and C3H have up to 35% less losses than a TP1* (C802), but deliver over 50% less losses in real world conditions, as validated by extensive field testing.

The C4 and C5 models deliver additional incremental savings – up to 40% and 50% respectively compared to TP1 (C802), to satisfy the need for higher efficiencies and improved ROI (*) where higher energy rates prevail, including solar applications.

CERTIFICATIONS

E-Saver is certified to UL1561 and CSA-C22.2-47-M90 for distribution class transformers and meets applicable ANSI and IEEE standards; primary and secondary terminals and voltage taps are readily accessible by removing the front cover plate; 10kV BIL, 220C class insulation.

SELECT

Efficiency class: C3L, C3H, C4, C5

kVA: Rating of unit 15 -750 (special orders up to 5000 kVA)

PV: Primary voltage 600, 480, 415, 400, 380, 208 (special order up to 15 kV)

SV: Secondary voltage 208/120V, 480/277V, 600/347V (others available)

Options as listed

SAMPLE PART NUMBER

ESAVER-C3L-75-480-208

ESAVER-C5-225-208-600-K9

Winding Configurations: Delta-wye, Y-Y, split-phase, other

* FEDERAL REGISTER – US DOE, Office of Energy Efficiency and Renewable Energy. 10 CFR Part 430, July 29, 2004. Energy Conservation Program for Commercial and Industrial Equipment: Energy Conservation Standards for Distribution Transformers; Proposed Rule

TECHNICAL DATA

kVA	Impedance (%Z)	Weight (lbs)	Case Size (Inches)
15	3.0 - 6.0%	200 - 260	A (18W x 17D x 27H)
30	3.0 - 6.0%	320 - 430	B (26W x 18D x 30H)
45	3.0 - 6.0%	400 - 520	B (26W x 18D x 30H)
75	3.0 - 6.0%	570 - 710	C (32W x 22D x 40H)
112.5	3.0 - 6.0%	850 - 1000	C (32W x 22D x 40H)
150	3.0 - 6.0%	1100 - 1350	D (38W x 27D x 48H)
225	3.0 - 6.0%	1550 - 1900	D+ (38W x 32D x 52H)
300	3.0 - 6.0%	1850 - 2150	D+ (38W x 32D x 52H)
400	3.0 - 6.0%	2400 - 2600	E (52W x 32D x 61H)
500	3.0 - 6.0%	2500 - 3100	E+ (52W x 38D x 61H)
750	3.0 - 6.0%	3700 - 4400	F (64W x 45D x 67H)

The above data applies to configurations up to 600V, with NEMA 1 enclosure and standard temperature rise. Selection of some options may change enclosure size and weight. Consult factory for detailed product data sheet for these and other configurations. *Specific case used determined by factory unless specified. Special designs available to meet custom requirements.

AVAILABLE OPTIONS

SMART1: Integrated metering port

SMART2: Integrated Power & Energy Meter

SMART3: Integrated Meter with Web access

CYBERHAWK-TX: Efficiency & Power Meter

ROTATABLE IR PORT: 2", 3", 4"

INTEGRATED BREAKERS

TEMPERATURE RISE: 115 or 80 deg. C

FREQUENCY: 50Hz

K-RATING: K4, K9, K13, K20

ELECTROSTATIC SHIELDING: Single, dual, triple

SPD: 7 mode 80kA, 120kA, 160kA

LUG KIT: Screw-type compression

THERMAL SENSORS: 170C, 200C

SENSITIVE ENVIRONMENT: Extra low noise

WINDINGS: Copper, Aluminum

ENCLOSURE TYPES: N3R sprinkler proof, outdoor padmount, hinged doors, totally enclosed (75kVA Max), stainless steel

SEISMIC CERTIFICATIONS: OSHPD, IBC 2006/2009

ISO 9001
ISO 14001



Technical specification subject to change without notice.

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