

# Energy Station™ Power Distribution Unit

## APPLICATIONS

Designed to reduce electricity waste and minimize space and wiring, the Energy Station delivers high quality efficient power in data centers, communications facilities and other commercial applications, where space is at a premium.

## DESCRIPTION

Powersmiths Energy Station integrates an energy saving C3 transformer, a main breaker, electrical distribution panels and a Cyberhawk power management system in a single compact unit. The Energy Station is a practical and efficient solution that provides the lowest life cycle cost and complies with EPACT 2005. The Energy Station meets the efficiency identified by the US Dept. of Energy to meet low life cycle cost (class CSL3 efficiency). As a result, the Energy Station significantly outperforms TP1 rated or efficiency-exempt products offered by other suppliers. The Energy Station's higher efficiency means lower operating costs and provides a quick payback. To suit your specific requirements, Energy Stations are available with either the harmonic-correcting T1000-C3 or the k-rated E-Saver-C3 transformer.

## INCREASES DATA CENTER ENERGY EFFICIENCY RATIO (ERR)

The higher efficiency of the Energy Station yields further benefits over traditional PDUs. Lower PDU losses means less air conditioning load as well less UPS load, reducing operating cost and freeing up expensive and valuable capacity. This increases the Data Center's Energy Efficiency Ratio (EER).

## PROVEN PERFORMANCE

Energy Stations are factory tested under an ISO 9001 nonlinear load test program to ensure power quality and efficiency.

## ADVANCED POWER MANAGEMENT

The Energy Station has a built-in revenue-class Cyberhawk 300 power meter in support of energy management programs. Equipped with two three-phase ports, the Cyberhawk 300 directly measures input and output simultaneously giving it the unique capability to



determine transformer efficiency, losses, and operating cost. Cyberhawk also measures and computes an extensive variety of energy and power quality parameters and date/time stamps events that deviate from user defined set points. The integrated Web server provides facilities managers with remote access to all data including, events, data logs and waveforms via an Internet/Intranet connection to support 24/7 energy monitoring and management.

## 230 VOLT MIGRATION

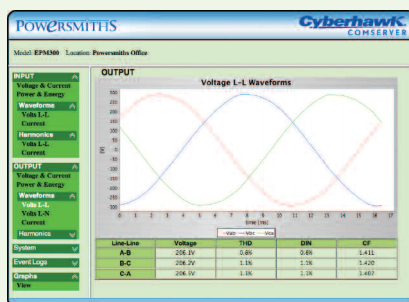
To facilitate migration to higher voltages, the Energy Station can be ordered with an optional dual voltage output E-Saver-C3 transformer. This innovative design allows you to run both standard and higher voltages simultaneously allowing you to migrate to 230V incrementally over time.

## GREENING THE DATA CENTER

The Energy Station is manufactured in Powersmiths' certified ISO 9001 (quality management) and ISO 14001 (environmental management) production facility. By lowering transformer losses, the Energy Station draws less power from generating stations, resulting in less smog, less greenhouse gas emissions and less pressure on natural habitats. Powersmiths Energy Station aligns with green purchasing policies.

## KEY FEATURES

- Significantly lower losses and operating cost
- Advanced metering of efficiency
- Efficiency exceeds EPACT 2005 to meet US DOE low life cycle cost
- Provides harmonic correction and dual voltage options
- Requires only front and side access for easy installation and maintenance
- ISO 9001 and ISO 14001 certified manufacturing



Dynamic charts and graphs facilitate energy management

## TYPICAL CONFIGURATION

Comes with a main breaker, shunt trip, an emergency power off (EPO) button, a high performance transformer meeting US DOE Class 3 efficiency, Cyberhawk power & efficiency meter and multiple 42 circuit distribution panels.

## ENCLOSURE AND DISTRIBUTION

Modular construction minimizes the footprint. Requires only front and side access for service, top or bottom cable entry, nonlinear rated panels with individual main breakers and 200% rated neutrals.

## TRANSFORMER CONFIGURATIONS

Transformers are 3-phase, common-core, copper-wound dry-type, with 220 °C class insulation system, 60Hz rated; built in our ISO 9001 and ISO 14001 factory to NEMA ST-20 and other applicable ANSI and IEEE standards. Standard configurations meet the US Department of Energy's CSL3 efficiency class, significantly exceeding NEMA TP1/EPACT2005. Powersmiths' innovative construction techniques ensure superior power quality.

The **T1000-C3™** has a 115 °C temperature rise standard. A zigzag secondary with low zero sequence impedance treats the 3rd and 9th harmonics; 5th and 7th harmonics are treated on a system basis by alternating the 0 and 30 degree phase shift models.

The **E-Saver-C3™** is available in 2 models. The C3L has a K-7 rating and a 130 °C temperature rise. The C3H has a 105 °C temperature rise and a K-13 rating. Both meet the US DOE's CSL-3 efficiency.

The **MIGRATOR-C3™** provides dual outputs for seamless migration from 120/208V to 230V loads. It has a 105 °C temperature rise, a K-13 rating and meets the US DOE's CSL-3.

## ALUMINUM OPTIONS

All models are available with aluminum windings and meet US DOE CSL-2 efficiency. Aluminum windings reduce first cost, but copper delivers lower life cycle cost.

## TECHNICAL DATA

kVA	# of Circuits	Case Size (Inches)
30, 45, 50	1 panel, 42 poles	24W x 32D x 76.5H
30, 45, 50, 75, 100, 112.5	2 panels, 84 poles	34W x 32D x 76.5H
75, 100, 112.5, 125, 150	3 panels, 126 poles	44W x 32D x 76.5H
75, 100, 112.5, 125, 150, 225, 300	4 panels, 168 poles	54W x 32D x 76.5H
125, 150, 225, 300	5 panels, 210 poles	68W x 32D x 76.5H
125, 150, 225, 300	6 panels, 252 poles	78W x 32D x 76.5H

5 and 6 panel configurations are shipped as 2 cabinets to be assembled at the job site. Selection of some options may change enclosure size and weight. Consult factory for detailed product data sheet for these and other configurations.

## AVAILABLE OPTIONS

**TX:** Transformer Type: T1000, E-SAVER, KSTAR-D, MIGRATOR, CUSTOM

**kVA:** 30, 45, 75, 100, 112.5, 125, 150, 225, 300, other available

**PV:** Primary Voltage (600, 480, 415, 400, 380, 208)

**SV:** Secondary Voltage (208/120V, other available)

**F50:** 50Hz system

**1S:** Single electrostatic shield

**2S:** Dual electrostatic shields

**NP:** Number of Panels: 1-10 panels

**EPO:** 24VDC Emergency Power Off, up to 5 remote contacts

**MON1:** Touch Screen, 128x64 pixels (3" display)

**MON2C:** Color Touch Screen, Q VGA (5.7" display)

**MON2BW:** Monochrome Touch Screen, Q VGA (5.7" display)

**JBX:** External Input Junction Box with 10 ft. of liquid tight flex conduit

**SPD:** (120/208V)

**PRO80:** 80kA, 7 mode, Filter

**PRO120:** 120kA, 7 mode, Filter

**PRO160:** 160kA, 7 mode, Filter

**PRO200:** 200kA, 7 mode, Filter

**PRO240:** 240kA, 7 mode, Filter

**SPDxx:** Where xx is custom ID

**CB:** Branch Circuit Breakers to be provided according to panel schedule per quote. Units ordered without CBs have filler plates.

**ISO:** Isolated ground terminal block for each panel

**SRMB:** Special main breaker requirement. Standard Input breaker is 35kAIC @480V, 22kAIC @600V, with shunt trip. Specify MBUV for under-voltage trip coil, MB65 for 65kAIC rating.

**NLT:** Factory Nonlinear load test

**ECO:** Ecologo certified

**AL:** Aluminum windings



**Warranty:** 10 years pro-rated for the transformer, 3 years full replacement for the Cyberhawk meter, 1 year for all other components (extended warranty available)

Technical specification subject to change without notice.

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