



POWERSMITHS

## Power for the Future for Health Care Facilities of the Future

New Construction and Energy Retrofits

Energy saving technologies to reduce electricity waste, validate energy conservation measures and advance sustainable practices in healthcare facilities.





**Powersmiths products and services help you to:  
Save Electricity, Lower Costs, Reduce Health  
and Safety Risks and Advance Sustainability**

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We have helped the following organizations to reduce electricity waste, and improve the quality and reliability of electrical power in their facilities:

- Applied Health
- Apotex
- Array Biopharm
- Baptist Medical Center
- Cameron Memorial Hospital
- Chandler Spohn MRI
- Danville Medical Center
- Flagstaff Medical Center
- Florida Hospital
- Foothills Hospital
- Holy Spirit Hospital
- ISE Lab
- Kaiser
- Lafayette Hospital
- LaMaestra Community Health Center
- McMaster Health Center
- M.D. Anderson Cancer Center
- Medtonic
- Medusa Labs
- Melville Health Center
- Memorial Herman Hospital
- Novex Pharma
- Pharmacia
- Providence Veterans
- Riderwood Extended Care
- St. Joseph's Hospital
- Sunnybrook Health Sciences Centre
- Surrey Memorial Hospital
- UC Davis Medical Center
- United Health Care
- University of Texas Medical Center
- US Cardio Center
- Valley Baptist Medical Center
- Wilkes-Barre Hospital
- VA Caribbean Healthcare System

# Save Energy, Lower Operating Costs with E-Saver-C3™

All the electrical power used in your facility flows through your building's transformers. Twenty-four hours a day, three hundred and sixty five days a year, transformers work behind the scenes, powering critical electrical equipment. What's more, they last a very long time. Chances are the transformers you install today will still be operating thirty years from now and beyond.



## So what should you look for in the transformers you buy?

### Highest Efficiency

Not all transformers are created equal. By going beyond the legislated minimum standard (TP-1), you can literally reduce thousands of dollars of electricity waste annually. E-Saver-C3 transformers are optimized to the US DOE's CSL-3 efficiency level. This is the level of efficiency deemed by the DOE to provide the lowest life cycle cost. Unlike TP-1 and NEMA Premium transformers, E-Savers maintain their high efficiency under low and non-linear loads. E-Savers provide fast payback and predictable ROI over their thirty-plus year life cycle. E-Savers contribute to Energy Optimization credits in LEED, CHPS and other high performance building frameworks.

### Quality and Reliability

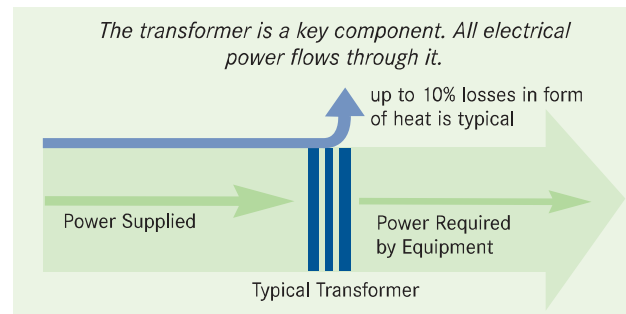
In critical care environments, equipment malfunctions caused by power anomalies can have devastating consequences. By virtually eliminating harmonic distortion, Powersmiths transformers help prevent malfunctions and damage to sensitive electronic equipment. Powersmiths transformers are also available with a seismic bracing option that has been pre-approved by OSHPD for the highest magnitudes. E-Savers are backed by the longest warranty in the industry - 25 years. The warranty includes performance before and after a qualified seismic event.

### Small Footprint

Space can be an important consideration in medical settings. Powersmiths transformers take up less room than most transformers, leaving more room for other needs. And to facilitate installation in tight quarters, Powersmiths designed a unique Easy-Skid that uses 70% less wood and enables single-person installation using only a pallet jack.

### Cool and Quiet Operation

E-Savers transformers waste less electricity so they give off less heat. Installing E-Saver transformers in your buildings will result in direct energy savings and indirect savings through lowered cooling costs. Standard transformers are often noisy. This can be particularly troubling in hospital environments. E-Saver transformers have embedded structural and acoustic treatments that combine to ensure quiet-operation. Extra low-noise models are available for noise-sensitive areas. Every E-Saver is noise-tested prior to shipping.



“High efficiency transformers have the greatest opportunity to save money on electrical distribution of anything that we as engineers specify.”

- Doug Garrison P.E.  
Senior Principal  
Shah Smith & Associates,  
Houston, TX



[>Energy Retrofit Applications](#)



[>Learn more](#)

Discover the role transformers play in efficient and reliable electrical supplies

# Energy Efficient Power Distribution Tailored to Fit Your Facility's Data Center

Digitized imagery, remote accessibility, and video-conferencing require ever increasing data center capacity. While in the past, medical facility data centers primarily supported administrative functions, today they increasingly support clinical care.



## What criteria govern your data center equipment purchases?

### Energy Efficiency

Energy wasted during power conversion is given off as heat. As it is, cooling costs can make up close to half of the electricity costs of a typical data centers. CSL-3 E-Saver transformers are included as standard in Powersmiths Energy Station (PDU). This level of energy efficiency is recommended by Intel, Accenture and Cisco, to reduce PDU running costs and lower cooling costs.

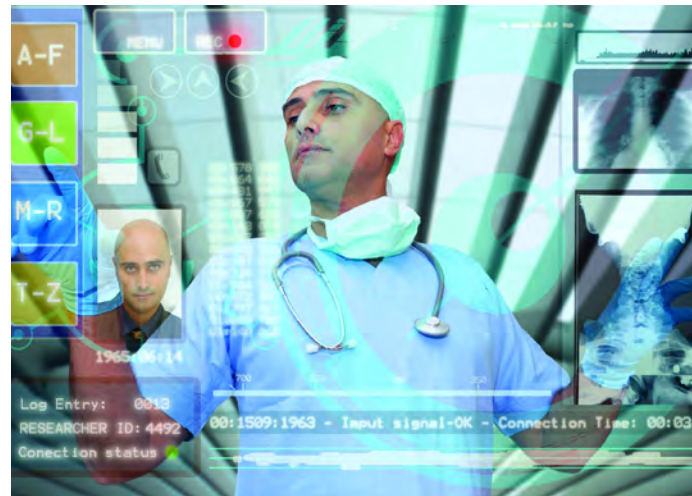
### Small Footprint

Data centers in medical facilities are typically confined to a relatively small footprint. Mass produced PDUs may not fit. Energy Station has a compact, modular and “true” front-access design that saves floor space. The “High Density” model offers both front and rear distribution and front-access, making it suitable for mid aisle placement between server racks. Powersmiths design engineers specialize in configuring PDUs to meet your specific footprint and technical requirements.



### Dependability

Because so much depends on the accessibility of information housed in your data center, effective monitoring and preventative maintenance are the routine. Powersmiths Energy Station supports operational oversight programs by integrating a state-of-the-art Cyberhawk power monitor into each unit. Cyberhawk continuously monitors both input and output, providing valuable information to critical operations, including efficiency, losses, energy, and power quality. Time and date stamped event logs record sags and swells.



Electronic information supports almost every aspect of your services. Powersmiths engineers customizes high efficiency power distribution solutions to meet the tight space constraints of medical facilities.

“Even a slight improvement in transformer efficiency can yield large savings in utility bills. PDUs that include transformers that meet or exceed the Department of Energy Candidate Standard Level3 Efficiency, (CSL-3) had 60 to 70 percent lower operating cost than other PDUs measured.”

- “Energy Efficiency for Information Technology”  
Lauri Minas and Brad Ellison, 2009 Intel Press



[>Learn about Energy Station](#)



[>Energy Retrofit Applications](#)

# Stay on Track with Effective Sub-Metering

Fifty-eight percent of healthcare building decision-makers say that energy management is very important to their organization. Selecting the most energy efficient equipment today is good both for the bottom line and the environment.

But, how will you ensure that the equipment that you buy now continues to operate as designed into the future? Sub-metering can help you to pinpoint resource use by floor, system, and/or piece of equipment. This helps you to understand a facility's energy profile, identify savings opportunities and detect system malfunctions before they become acute.



## What should you look for when sub-metering your building?

### Data Accessibility

Data accessibility is fundamental to your making the greatest use of your sub-metering system.

Powersmiths Cyberhawk and Smart Meters support Modbus and Ethernet communication and offer web-accessibility to enable 24 x 7 monitoring. Data from Powersmiths Cyberhawk and SMART meters can be integrated into your BMS or accessed from your PC using the native Modbus or BACnet protocols. .

### Comprehensive Data

Powersmiths meters provide a comprehensive data set to identify load-shifting opportunities, spot equipment performance problems, monitor the effectiveness of energy conservation measures and support carbon reporting and stakeholder education programs.



### Easily Installed

Cyberhawk meters are shipped pre-wired and ready for installation. SMART and Cyberhawk TX meters can be also factory integrated into Powersmiths transformers.



### Sub-Metering and LEED

LEEDv3 emphasises continuous measurement and verification of building systems.

Installing Cyberhawk sub-meters to monitor specific loads, enables on-going accountability of energy using systems.

Cyberhawk and Smart Meters support LEED for Healthcare Credits:

- EA p1 Fundamental Commissioning
- EA p2 Minimum Energy Performance
- EA c1 Optimize Energy Performance
- EA c3 Enhanced Commissioning.

> [More on Sub-Metering and Sustainability](#)



> [Learn about Cyberhawk 300](#)



> [Learn about Cyberhawk 100](#)



> [Learn about Cyberhawk 100M](#)



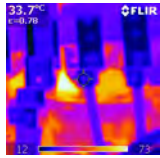
> [Learn about Smart Meters](#)

# Value-Added Features for Preventative Maintenance (PM) and Easier Installation

Powersmiths helps you lower the cost of PM programs and reduce the cost of installing Powersmiths transformers.



## Rotatable IR Port



Powersmiths Rotatable IR Port lets inspectors gain a 360° view of compartment interiors without the need to open equipment enclosures. This

reduces the cost and risk of thermographic preventative maintenance programs. The Port is UL

recognized and can be installed in-field on existing equipment or factory installed on Powersmiths transformers and PDUs.



## Easy Skid

Transformers are heavy and when they are shipped on standard shipping pallets, they must be lifted-off with specialized equipment. Even gaining access to tight electrical rooms can be awkward when standard skids are used.

Powersmiths ships all transformers on a unique Easy Skid. This shipping pallet can be easily moved and guided into position by one person using a standard pallet truck. In keeping with Powersmiths lean and green mission, Easy Skid uses 70% less wood, for reduced waste.

## Hinged Doors

As part of their standard operational maintenance programs, many organizations inspect and clean transformer interiors. Standard transformer front-covers are secured with a number of bolts that must be removed to get at the interior of the equipment. Powersmiths provides a convenient hinged door option to allow quick and easy access to the interior compartment of Powersmiths transformers. This saves significant time and reduces risk during PM procedures.



Powersmiths preventative maintenance solution help you ensure the reliability of your electrical distribution system and vital electrical equipment.



[>More on the Rotatable IR Port](#)



[>Learn about the Easy Skid](#)

# Advancing Sustainability in Your Medical Facility

Selecting the most resource-efficient equipment and ensuring on-going accountability of building systems can deliver substantial economic and environmental savings. Powersmiths WOW helps you manage your sustainability initiatives and supports continuous improvement. Powersmiths WOW™ Sustainability Management Platform supports performance validation, public outreach and education and greenhouse gas management to help you reach your sustainability goals.



## Performance Validation

WOW consolidates information from all the building's metered systems, and spreadsheet data into a single web-accessible location, and supplies decision support tools for on-going commissioning and validation of building systems.

## Public Outreach and Education

Ensuring that your facility staff, visitors and patients understand your environmental goals helps you to enlist their support and accelerate your progress.

WOW's public outreach and education applications provide colourful interactive sustainability education customized to your building and organization. WOW is accessible to your stakeholders through the WOW touchscreen Kiosk and over the Web. Through WOW your staff, patients and visitors can learn about the measures you take to reduce resource use, lower emissions, improve air quality and protect the environment.

## Greenhouse Gas Management

WOW uses actual resource consumption data acquired from a building's metered systems to automate many aspects of GHG data acquisition. This saves substantial administrative time and improves the accuracy of data. WOW's GHG module has been developed to comply with ISO 14064 and the WRI Carbon Accounting framework and provides verifiable auditable reports.



“WOW helps us reach out to the community and explain how our building achieved LEED certification, with no need to take away from staff time”

- Alexei Ochola  
Board Member  
La Maestra Community  
Health Centers



## >LaMaestra

Discover the role WOW plays in this Health Center

# Energy Retrofit Programs

Powersmiths has developed processes and procedures to reduce installation costs associated with energy retrofits. By lowering installation costs, Powersmiths helps you realize returns on your investments faster.

## Lower Energy Costs

Updating old transformers to Powersmiths E-Saver transformers saves energy and lowers operating costs, for thirty plus years.

## Faster Payback

Payback times increase if electrical rooms must be reconfigured to accommodate mass-produced replacement transformers. To ensure that you achieve the shortest paybacks, Powersmiths streamlines the installation process by customizing all replacement transformers to exactly conform to existing fit and wiring configurations.

## PDU Replacement

As your organization increases its use of electronic medical files, and on-line clinical supports, your facility's data center may be increasingly cramped for space. Powersmiths high density PDUs require no side access enabling them to fit into tight spaces inaccessible to standard side-access units. Replacing less efficient PDUs with Powersmiths Energy Station PDUs lowers energy costs and liberates valuable data center floor space.

## Metering

Cyberhawk meters can be quickly and easily installed to help you monitor all building systems and measure the effectiveness of your energy and water saving initiatives.

“According to research from the American Society for Healthcare Engineering (ASHE) and Johnson Controls, healthcare organizations are more likely to invest in energy efficiency for their facilities compared to other industry sectors across North America”

- Environmental Design and Construction, July 2010



## ESCO Services

Powersmiths works directly with end-users to supply energy saving technologies. We also partner with Energy Services Companies to help you to reap the benefit of lower energy costs with no capital outlay.



There are hidden energy savings in every building. At Powersmiths, we dedicate our working day to unlocking those benefits for you. Our vision is simple – by reducing electricity waste today, we are improving the environment for future generations.

A continuous “lean green” strategy guides Powersmiths’ product design and manufacturing. Our production teams focus on simplifying processes and reducing cycle times to ensure that customers never pay for needless waste.

By optimizing on lowest life cycle cost, maximizing efficiency and minimizing environmental impacts and packing, Powersmiths products align with your green purchasing policies.



ISO 9001  
ISO 14001



## POWERSMITHS

POWERSMITHS INTERNATIONAL CORP. 10 Devon Road, Brampton, Ontario L6T 5B5 Canada

Phone: (905) 791-1493 Toll-free: (800) 747-9627 Fax: (905) 791-8870

www.powersmiths.com

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## Contact Information:

### New Construction

Powersmiths field representatives span the continent. Each has extensive industry experience and technical expertise to help you determine the solution set that will optimize the performance of your buildings electrical system. To find your local representative [click here](#), or call 1-800-747-9627

### Energy Retrofits

Powersmiths energy retrofit specialists can help you save electricity and lower costs. To find your local retrofit specialist, call Powersmiths toll free at: 1-800-747-9627