



YOUR AC & DC POWER RESOURCE



## Power Technology Center

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# Welcome to the Arthur N. Ulrich Company's Power Technology Center



The Arthur N. Ulrich Company's Power Technology Center is an advanced facility dedicated to showcasing the latest power technology products from manufacturers we represent. The Center features live demonstration products from APC / MGE, Russelectric, PDI and Thor Systems.



**Seeing is Believing** - Want to see first-hand the latest trends in power technology and what they can do for your critical power needs? Having the opportunity to physically see and operate the products goes a long way in helping you decide if they fit your needs.



**Discovery** - The Center allows you to learn about specific products that are right for your critical power needs. Whether your application calls for a lot of power or just a small amount of power, we have a range of power generation, control, conversion and conditioning products to satisfy your needs. Our knowledgeable staff has years of experience to help you determine the right solutions.



**Validation** - The Center is equipped with products that allow for engineers, customers, suppliers and service personnel to test and validate operation. By running different scenarios in operational modes, visitors can get a feel for how the equipment works before making purchasing decisions.



**Test Equipment Safely** - At this Center you have the opportunity to test and experiment with a range of equipment and technologies - everything from uninterruptible power systems and cooling solutions to remote power panels and automatic transfer switches. With our trained staff, we can show you how to safely operate the equipment and avoid potentially dangerous situations.



**Attend** - This Center also houses a conference room dedicated to seminars and training sessions. The conference room is equipped with the APC Design Portal that features on-demand scalable, manageable and pre-engineered solutions to help you configure your desired data center design. We encourage engineers, customers, suppliers and service personnel to visit, see, learn, validate and safely test our products; we're confident you'll find its worth your time!

# Products Showcased

## APC / MGE Symmetra PX

10 to 500 kVA / kW



The APC Symmetra PX is a world class, redundant, scalable, power protection system designed to cost effectively provide high levels of availability. Seamlessly integrating today's state-of-the-art data center designs, the Symmetra PX is a true modular system. Made up to dedicated and redundant modules - power, intelligence, battery and bypass, all engineered into a design that is easily and efficiently serviceable, this architecture can scale power and runtime as demand grows or as higher levels of availability are required. Symmetra PX serves as the core power train device that drives APC InfraStruXure systems for small and medium size data centers but can also power individual "zones" or larger data centers. Highly manageable, the Symmetra PX features self-diagnostic capabilities and standardized modules which mitigate the risk of human error resulting in increased overall data center reliability.



Application Solutions: Server Consolidation, Storage, Servers, High Density Applications, Diagnostics & Medical Imaging, Server Rooms & Data Centers, Wireless LANs (Wi-Fi), Branch Offices

## InRow RC Cooling

Up to 60kW

The InRow RC is a computer room chilled water cooling system designed for installation in the row to maximize sensible cooling and increase efficiency. The InRow product design closely couples cooling with heat load, preventing air recirculation to sensitive IT equipment.



## Hot Aisle Containment (pictured right)

300, 600, and 750mm wide NetShelter Racks, UPS, PDU and InRow Cooling Products

The Hot Aisle Containment system ensures proper air distribution by completely separating supply and return air paths. The hot aisle is sealed off using doors and transparent ceiling tiles that extend the width of the hot aisle.

## APC / MGE Smart Distribution Panel with ATS

250A, 400A & 800A



The Smart Distribution Panel with Automatic Transfer Switch (ATS) integrates an ATS and electrical distribution panel to lower total cost-of-ownership while improving overall availability. The compact, pre-engineered design decreases installation time, minimizes one-time engineering costs and reduces the overall footprint. The device is rich with availability features such as open and closed transfer capabilities, superior device manageability (via the Web, InfraStruXure Manager, or locally), and the ability to view numerous system alarms. Coupled with the a standby generator, the solution monitors critical fluid levels, provides real-time calculations to alert users of available runtime given the current load and remaining fuel, and automatically schedules generator and system load tests. The Smart Distribution Panel with ATS is designed and sized to integrate with the InfraStruXure architecture, and contains many common features such as pre-installed and pre-tested breakers.



# Products Showcased

## APC / MGE Symmetra LX

4 - 16kVA N+1 Redundant Rack/Tower Convertible 13U - 19U

4 - 16kVA N+1 Redundant Extended Run Tower



Engineered to deliver the highest level of business continuity possible, the Symmetra LX uses a modular, redundant architecture that can scale power and runtime as demand increases or when higher levels of availability are required. With built-in network manageability, rack optimized and tower models available from 4-16kVA N+1 redundant, the online Symmetra LX is the choice to protect high performance IT and Telecom equipment in business-critical server and network rooms. A flexible rack/stack design offers unmatched runtime and power capacity in space constrained environments. Symmetra LX allows incredibly fast upgrades and maintenance with virtually all of its parts contained in field-swappable components. These include hot-swappable batteries, user replaceable power, battery and intelligence modules, management cards, LCD display, fans and external battery frames. Additionally the wiring tray, frame electronics, receptacles, and casters can be swapped in minutes if necessary. Symmetra LX achieves industry-leading footprint or U-space needed in an equipment rack, increased speed and ease of deployment, and reduced repair time.

Application Solutions: Servers, Diagnostics & Medical Imaging, VoIP, Wireless LANs (Wi-Fi), Branch Offices



## Rack Air Removal Unit

Up to 16.5kW of heat removal per rack

The Rack Air Removal Unit captures exhaust heat, returns the warm air to the plenum and eliminates hot spots from the data center. Through automatic fan speed control based upon temperature, the fans will self-adjust for optimal performance. With a unit-mounted LCD display, users can view temperatures at the rack, monitor alarm conditions and adjust unit set points. The integrated network management card allows for remote monitoring and control of the Rack Air Removal Unit. This space-saving solution mounts to the back of either the NetShelter SX or VX enclosure, requiring zero U space.

Application Solutions: High Density Applications, Wiring Closets



## APC / MGE NetworkAir FM (Replaced by InRoom Precision Cooling)

The NetworkAir FM utilizes precision air technology. Modular construction, variable frequency drives, dedicated de-humidification, tandem scroll compressors, and front service access are all integrated into one high efficiency system. A scalable design enables customers to meet the changing needs of their environments.

### **NEW:** InRoom Precision Cooling

InRoom Chilled Water (up to 150kW) - The InRoom Chilled Water suite of products are built-to-order and available in five cabinet sizes. These energy efficient chilled water solutions are available to meet the needs of every application.

InRoom Direct Expansion (up to 86kW) - The InRoom Direct Expansion suite of products are built-to-order and available in five cabinet sizes. These energy efficient solutions are available in air, water, and glycol-cooled configurations with multicool and economizer options to meet the needs of every application.



# Products Showcased

## APC / MGE Galaxy PW

100, 130, 150, 180, 200, 225 kVA



The Galaxy PW UPS from MGE UPS Systems is a worldwide success, with over 5000 installations. The Galaxy PW's popularity is due not only to its exceptional reliability track record but also for its modular design that permits the paralleling of modules for capacity or redundancy without extra paralleling gear. The lower power ratings on the Galaxy PW can also be field upgraded up to 225 kVA, addressing smaller increases in power requirements without incurring the cost of another UPS module. Providing up to 225 kVA / 200 kW in a space saving 11 square feet, the Galaxy PW has one of the highest power densities available complimented by a 0.9+ output factor to perfectly match load profiles.

### Notable Features:

- Generator friendly topology to avoid excessive generator over-sizing requirements
- User friendly operator interface
- High energy efficiency
- Advanced battery management system with automated self-testing, alerting you to battery performance issues before they affect UPS reliability



## APC / MGE Galaxy 3000

10 / 15 / 20 / 30 kVA



The Galaxy 3000 is 3-phase power protection designed to meet the requirements of small to large facility and equipment room applications. The Galaxy 3000 offers technology that increases performance and reliability. Online technology fully isolates and protects against all power quality disturbances. The upstream harmonics management allows a generator friendly installation. The Galaxy 3000 offers features such as paralleling capability for both capacity and redundancy, full front access for ease of serviceability, user friendly graphical display with multiple language options, and SNMP with network based power management options. The Galaxy 3000 is the all-in-one complete solution.



## APC / MGE PMM (Power Distribution Unit)

30 - 300 kVA



The PMM integrates isolation, electronic grade grounding, and distribution for up to 252 output breakers in a single system. The result is a simple, versatile solution for constructing high reliability distribution systems.

Designed to specifically handle the high current distortion associated with electronic equipment, the PMM features a computer grade high K-Factor isolation transformer and 200% rated neutral bus. This allows the PMM to resist thermal stresses that compromise conventional transformers and distribution systems for unsurpassed reliability.

Instant front access via hinged doors, dead front panels, and ample raceway and landing space simplifies cable routing changes and makes adding circuits easy. Since all necessary components are integrated into the PMM, the requirement for extra parts is limited, keeping wiring pathways neat and increasing the integrity of all connections. This is why thousands of Engineers, Technicians, and MIS professionals realize the PMM is the best way to deliver reliable power to all critical loads.



# Products Showcased

## APC / MGE RPMM (Remote Power Distribution Unit)



The RPMM integrates electronic grade grounding and distribution for up to 168 output breakers in a completely self-contained, single enclosure. The RPMM provides distribution, control, and optional monitoring of AC power, and will properly interface the building's AC power source with sensitive electronic loads.

When adding additional poles, the RPMM can be configured back-to-back or side-to-side for ease of installation. Instant front access via hinged doors, dead front panels, and ample raceway and landing space simplifies cable routing changes and makes adding circuits easy. Since all necessary components are integrated into the RPMM the requirement for extra parts is limited keeping wiring pathways neat and increasing the integrity of all connections.



## Russelectric RTBD-LB ATS w/ Load-Break Bypass / Isolation



The Russelectric RTBD-LB switch provides all of the functions of a Russelectric RMTD automatic transfer switch plus the ability to bypass power from a live source to load in the event the transfer switch is disabled. It also allows the transfer switch to be isolated and deenergized for maintenance, testing and repair.

- UL Listed through 4000 A
- The bypass switch quick-break / quick-make contacts and basic operating mechanisms are identical to those of the transfer switch and have full load-break capability with the same electrical ratings
- Can be bypassed / isolated regardless of the position or condition of the automatic transfer switch
- True drawout construction allows safe, easy removal of the transfer switch and eliminates the need to make any electrical or mechanical disconnections
- Positive mechanical interlocks ensure that bypass/isolation functions are accomplished without danger of a short circuit between power sources
- The bypass / isolation switch is fully mechanical and is not dependent upon the operation of interlock circuits or separate load-break contactors for safe operation.



## Microprocessor Control System

The Russelectric Model 2000 *PLUS* microprocessor-based control system provides all the functionality of the Model 2000 automatic transfer control plus the ability to monitor key power data. Designed as a performance upgrade of the Model 2000, it controls all the operational functions of the automatic transfer switch, including optional accessories.

The Model 2000 *PLUS* allows remote monitoring using industry standard open architecture communications protocol through a Modbus RTU communications network or through an Ethernet network (with a converter). Data can be viewed using customer provided software or Russelectric Windows-based SCADA. With the web server communications option, the control provides internet-based remote monitoring and reporting capabilities.



# Products Showcased

## Power Distribution Inc., (PDI) Remote Power Panel (RPP)



PDI's Powerpak Remote Power Panel (RPP) is a freestanding distribution system designed to increase the usable kVA of your Power Distribution Units (PDUs). As your data center evolves from a few high powered devices to many low powered devices, your system becomes limited by the number of distribution points on your PDU's. PDI's RPP gives you the added pole space your system needs.

Custom configured in a freestanding enclosure, the RPP gives you the added flexibility and room for expansion by placing your power connection points closer to your equipment loads. Units are rated for 208v applications and each can provide up to 168 additional single phase circuits. Optional equipment includes Branch Circuit Monitoring System (BCMS), Local Monitoring, Branch Circuit Breakers, Main Input Circuit Breaker, Transient Suppression Network (TSN) and UL Listed Power Cables.



## Thor Systems Inc., Transient Voltage Surge Suppressors (TVSS)



Thor Systems, Inc., Transient Voltage Surge Suppressors (TVSS) are designed for a range of different applications such as service entrances of large facilities to primary and secondary building distribution systems. These systems can include large computer rooms and data processing centers as well as manufacturing process control, small business data processing and individual residential equipment.

### TSrc Commercial Modular

TSrc 300 pictured

Designed for service entrances, switchgear, distribution panels, branch panels and mission critical centers. Options include: surge counter with eight user settable sensitivity settings and audible alarm; form 'C' contacts allowing remote monitoring and current status of unit; 200kA surge rated disconnect switch or fused disconnect switch.



## Electrical Service Room - Service entrance and building distribution panels





The Arthur N. Ulrich Company is a manufacturer's representative agency specializing in high integrity products related to AC and DC power generation, control, conversion and conditioning. The company was founded in 1958, by Art Ulrich, Sr., and today is a third generation family-owned and operated business. Throughout its history the company has been active in the introduction of many types and designs of batteries, battery chargers, battery testers, uninterruptible power systems and power control systems.

## MANUFACTURERS WE REPRESENT

### APC / MGE

UPS Systems  
Precision Cooling Equipment



### Applied Energy, LLC

Harmonic Mitigation Systems



### BTECH, Inc.

Battery Monitoring Systems



### JCH Fuel Solutions

Automated Fuel Cleaning Systems



### La Marche Manufacturing Co.

Battery Chargers  
Single Phase DC / AC Inverters  
DC Power Supplies & Telecom Power Systems



### Load Technology, Inc. (LoadTec)

Indoor, Outdoor & Portable Load Banks



### Power Distribution, Inc. (PDI)

Power Distribution Units (PDUs)  
Remote Power Panels (RPPs)  
Static Transfer Switches (STS)  
Isolation Transformers  
Voltage Regulators



### RedHawk Energy Systems, LLC

Alternative & Renewable Energy Systems  
Remote Site Power Systems  
Battery Systems, Testers, Enclosures & Accessories



### Russelectric, Inc.

Automatic Transfer / Bypass Isolation Switches  
Generator Control Switchgear



### Saft Batteries

Nickel Cadmium Batteries  
Lead Acid Batteries



### Schaffner USA

Active & Passive Harmonic Filtering Systems



### Thor Systems, Inc.

Transient Voltage Surge Suppressors (TVSS)



## Directions to Our Office

### From Cleveland (North):

- 1) Take I-71 S toward Columbus
- 2) Merge onto I-70 E via Exit 107 toward Wheeling (17.2 mi)
- 3) Take the OH-310 Exit, Exit 118, Pataskala
- 4) Turn Right onto OH-310 (0.7 mi)
- 5) Turn Right onto Palmer Rd SW (0.1 mi)
- 6) Office is at the corner of Palmer & OH-310.

### From Cincinnati (South):

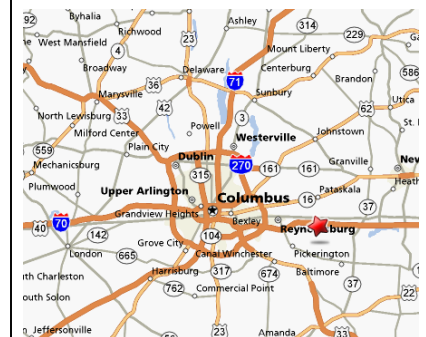
- 1) Take I-71 N toward Columbus
- 2) Take the I-270 Exit, Exit 101, toward Wheeling (0.2 mi)
- 3) Merge onto I-270E via Exit 101B toward Wheeling (12 mi)
- 4) Take the I-70 Exit 43B toward Wheeling (9.3 mi)
- 5) Take the OH-310 Exit, Exit 118, Pataskala
- 6) Turn Right onto OH-310 (0.7 mi)
- 7) Turn Right onto Palmer Rd SW (0.1 mi)
- 8) Office is at the corner of Palmer & OH-310.

### From Dayton (West):

- 1) Take I-75 N toward Toledo/Springfield
- 2) Merge onto I-70 E via Exit 61 toward Columbus (84.4 mi)
- 3) Take the OH-310 Exit, Exit 118, Pataskala
- 4) Turn Right onto OH-310 (0.7 mi)
- 5) Turn Right onto Palmer Rd SW (0.1 mi)
- 6) Office is at the corner of Palmer & OH-310.

### From Pittsburgh (East):

- 1) Take US-22 W / US-30 W toward I-279 S
- 2) Merge onto I-79 S via Exit 1A toward Washington (21 mi)
- 3) Merge onto I-70 W via Exit 38 toward Wheeling (27 mi)
- 4) Merge onto I-470 W via Exit 5A on the Left toward Columbus (10.6 mi)
- 5) Merge onto I-70 W via Exit on the Left toward Columbus (101.2 mi)
- 6) Take the OH-310 Exit, Exit 118, Pataskala
- 7) Turn Left onto OH-310 (0.7 mi)
- 8) Turn Right onto Palmer Rd SW (0.1 mi)
- 9) Office is at the corner of Palmer & OH-310.



## ARTHUR N. ULRICH COMPANY

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