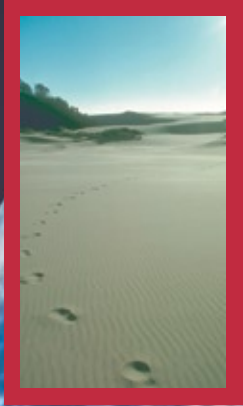
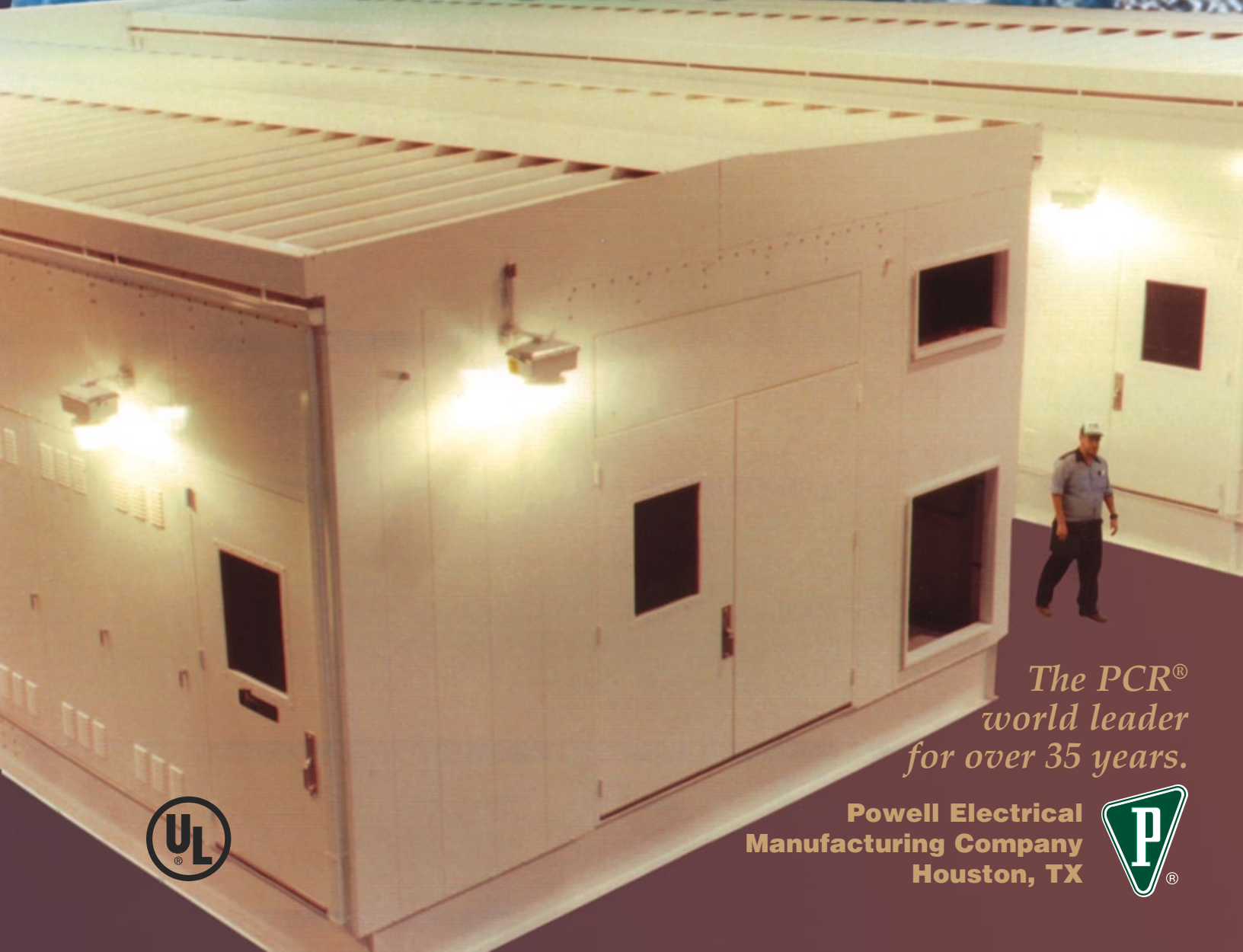


**Power and Performance... Anytime, Anywhere.**



# ***Powell*** ***Power Control Rooms***



*The PCR<sup>®</sup>  
world leader  
for over 35 years.*



**Powell Electrical  
Manufacturing Company  
Houston, TX**





***More than a quarter of a century  
of proven performance.***

*When Powell introduced the PCR® concept in 1968,  
it was an industry first. From the beginning our  
design and construction excellence defined the  
standard for others to follow. Soon, the PCR was  
widely imitated throughout the industry.  
Now, more than a quarter of a century later,  
our Power Control Rooms still set the  
benchmark for reliability and performance.*



***Built on our site... shipped to your site.***



***Is a Powell PCR® right for us?***

Powell PCR's are, for many applications, the sensible alternative to building on-site. They are more cost effective and significantly reduce construction and installation hassles. Our Power Control Rooms can ship by land, air, or sea and are designed for quick installation on a prepared foundation. The PCR arrives tested, complete, and ready to install.

***Customized to your needs.***

Every Powell PCR is customer-driven for optimum design efficiency. You can elect to have us build the entire package, or just a portion; it can be shipped as one piece, or several. Internally and externally, the Power Control Room is matched to your precise specifications. From beginning to end, Powell designs, manufactures and coordinates the complete package, including all associated components. Any size, any service, any environment – we can quickly and economically fill your needs.

***End-to-end responsibility.***

Tell us what you need, and we will take it from there. No one else can approach Powell's resources and level of experience. From the deserts of Saudi Arabia to the north slopes of Alaska, literally thousands of our Power Control Rooms have been proven under extreme environmental and operational conditions. Powell gives you single-source convenience and end-to-end responsibility from electrical design, through construction, testing, final inspection and installation.



# The POW-R-LOK® Concept

Powell buildings are designed and built to withstand the most challenging environments. Our unique POW-R-LOK wall concept provides maximum protection against the elements, eliminating potential corrosion problems. The wall, roof and ceiling panels are interlocked to maximize structural strength and to minimize enclosure weight. Exterior panels are constructed of galvanized steel and finished with an electrostatic powdercoat paint to provide the most corrosion resistant product on the market.

## *Built for strength and a long, trouble-free service life*

**Length:** Minimum length is six feet; customers can increase building length in sixteen-inch increments. Shipping requirements usually limit the maximum length of a section to approximately 60 feet; longer buildings may be shipped in two or more sections.

**Width:** Six, eight, twelve, fourteen feet or wider on request.

**Height:** Standard PCR®s are ten feet high from the floor to ceiling with the capability to increase the interior building height in one foot increments, depending on the requirements and shipping location. Two-story designs are also available.

**Base:** Skid-type C-Channel construction permits either permanent or portable installations. Welded structural C-Channel beams are sized and reinforced to meet or exceed specified static and dynamic loading. Channels are sized according to specific load requirements.

**Flooring:** Standard flooring is 1/4" steel plate welded to a framework and epoxy-coated for skid reduction. Double floors and computer-type flooring are both available; standard floor loading is 200 lbs. per square foot.

**Exterior Walls:** Formed galvanized 18-gauge steel to create interlocking panels. This POW-R-LOK design provides exceptional mechanical strength with an environment-proof seal. Standard PCR designs withstand 125 m.p.h. winds and provide a three-inch insulation space. Aluminum or stainless steel walls may be provided upon request.

**Insulation:** Three-inch-thick R11 fiberglass insulation is standard in both the ceiling and walls. Thermax R19 insulation is available. Structural bases can be foam insulated if specified.

**Exterior Roofing:** Design, construction and insulation space are the same as the walls. Our standard roof is sloped, with an option of a peak-type roof. Standard roofs will withstand 40 lbs. per square foot snow loading.

**Interior Ceiling:** Design, construction and insulation space are the same as the walls.

**Coatings:** Structural bases are first primed and then an undercoat of high-build epoxy is applied. Once the epoxy is applied to the entire structure, the channels and angles are then sealed

with caulk. At that point, another layer of epoxy undercoating is applied, followed by a polyurethane coat. Wall and roof panels are first primed and then final finished with electrostatic powdercoat paint for service in the most corrosive environments. Standard exterior and interior color is white, but any color may be specified.

**Lighting:** Fluorescent fixtures provide an average of approximately 50 foot-candles measured at floor level.

**Hardware:** Exterior fasteners are top quality stainless steel. Panic-type interior door hardware is standard on personnel doors.

**Doors:** Standard PCRs feature one equipment door and one personnel door with tempered safety glass windows. We fabricate the doors from 14-gauge steel in a double-wall construction with cellular neoprene gaskets. Doors always swing outwardly, and may be placed as appropriate for any specific layout or design. Larger or additional doors are available.

**Windows:** Tempered safety glass is available.

**Inner Liners:** Sixteen-gauge sheet steel liners are precision-cut and formed, then attached to the exterior walls.

**Wiring:** Internal wiring for lighting and environmental controls in conduit, cable trays or wireways.

**Heating:** A variety of heating methods: electric wall-type; space heaters, or combination heating/cooling units. These units are provided as a standard with thermostats.

**Cooling:** Wall-mounted air conditioners are standard. Central or chilled-water types are also available upon request. Air conditioning is sized based upon heat gain from mounted equipment. On request, we can provide air conditioners meeting the explosion proof requirements for operation in Class I, Group D, Division 2 areas. We can also supply combination pressurizing and dehumidifying air conditioning units to meet your specific needs. You can choose from commercial or industrial wall-type air conditioners using single or three-phase power.

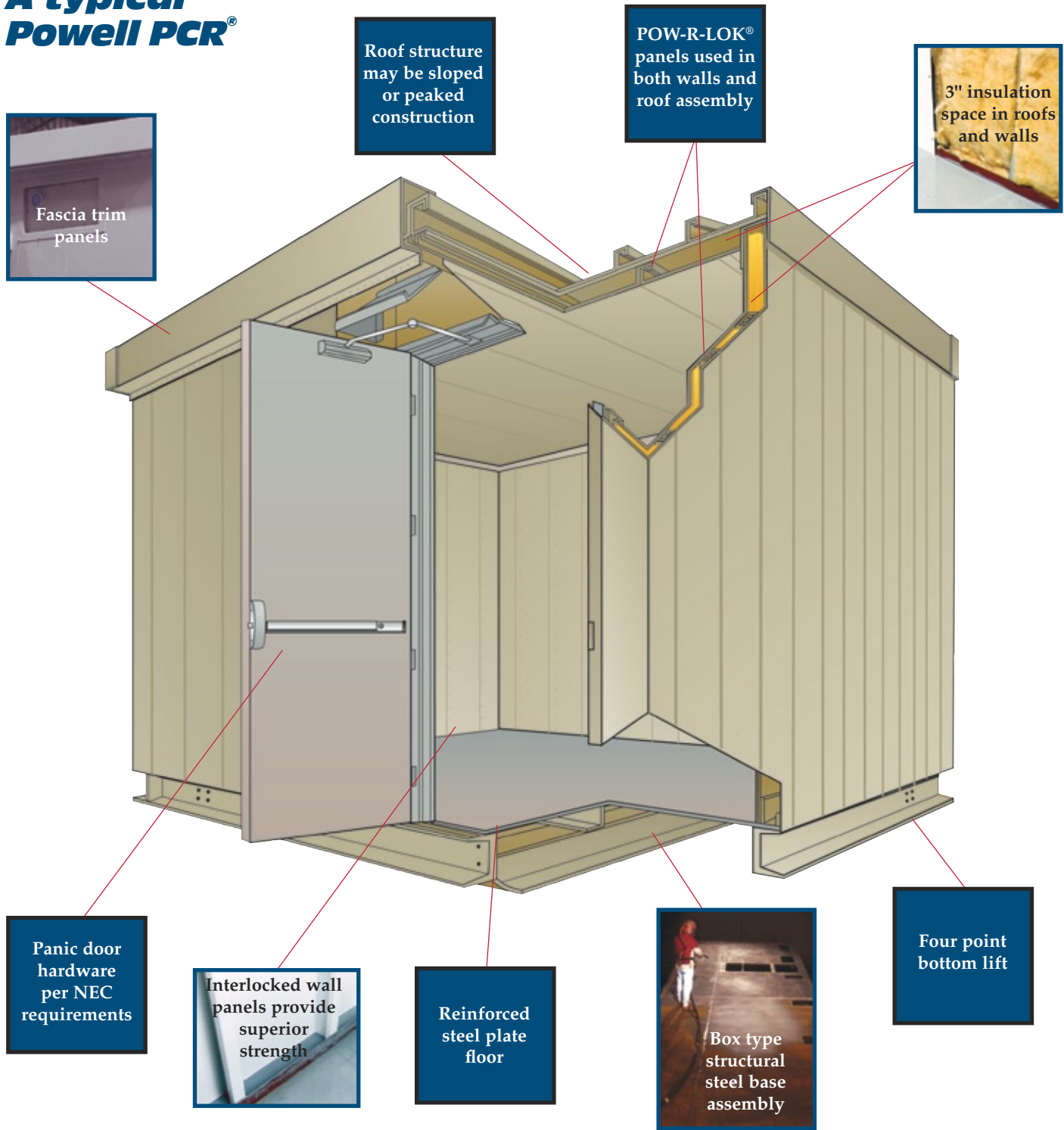
**Pressurizing:** Electrically motor-driven filtered pressurizing units in single or double blower units can be provided. Pressurization equipment capable of 1/2" of water static pressure, supplied with manometers with alarm contacts. Pressurizing units can be combined with existing filtered, fresh-air supply ducts; or Powell can supply galvanized steel or aluminum pressurization stacks for turn-key installations.

**Ventilation:** We provide fixed or variable air flow, wall-mounted electrical motor-driven ventilation equipment. On request, we can also supply filtered ventilation units or optional automatic, thermostatically-controlled ventilation fans.

**Whatever the size and type of your PCR, Powell can deliver. When it comes to meeting today's stringent environmental and operational challenges, it makes more sense than ever to come to the experts.**



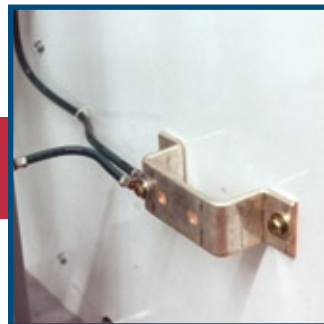
# A typical Powell PCR®



Battery Racks



Cable Trays



Grounding Pad



Emergency Lighting

# Complete, turn-key service from design through delivery.

## *The Powell difference*

For more than three decades, Powell has been designing, manufacturing and shipping low and medium voltage switchgear motor control, and instrumentation control equipment. Our products have been field-proven in thousands of installations worldwide. Powell's experience and capability, speed and ease every stage of the design and manufacturing process. We help you achieve the lowest installed cost.

## *Integrated solutions*

Powell makes it easy. From a simple one-line diagram, Powell can engineer, design and fabricate a complete PCR® package. We work closely with you from the first rough concept through on-site installation. Our engineers examine every component and every design decision to achieve an efficiently integrated solution.

## *Quality construction*

Your custom-engineered PCR is assembled under factory-controlled quality control procedures. Powell standards are uncompromising. Extensive factory testing in accordance with the latest standards of UL, IEEE and NEMA ensures that your PCR will meet, or exceed, all applicable codes. Skilled craftsmanship and advanced production techniques provide many years of reliable, trouble-free service.



PCR installed on concrete piers at a gulf coast petrochemical complex.



Powell PCR's are UL classified to the requirements of the National Electric Code as Commercial and Industrial buildings (Category QRNZ). You can be assured that each custom designed unit meets the stringent requirements as set forth by the NEC. Each Power Control Room can bear the UL label upon customer request.

## *Full transportation services*

Powell PCR's are shipped worldwide and into every state of the Union. Our shippers are fully qualified for export documentation, including the preparation of pro forma invoices and export declarations, and the securing of import permits for licensed and unlicensed commodities.



Our customers can depend on our decades of experience in transporting sensitive electrical and electronic equipment.

## *Arrives ready-to-go*

We are serious about turn-key service. Powell combines comprehensive services with single-source convenience and accountability. End-to-end control of every aspect of design, manufacture and delivery means effortless installation, inspection and operation. There are no delivery snags, and no start-up or check-out headaches: your PCR arrives fully inspected and ready to go.

## *Advantages of the PCR concept*

- Reduces engineering and procurement costs
- Packaged construction reduces space requirements
- Project coordination by Powell
- Fully tested and inspected prior to shipment
- Single source of supply
- Capital expenditure/tax advantages
- Completely customized to *YOUR* needs

# We give you all the choices.



## Configurations

- Arctic and desert applications
- High wind loading design
- Earthquake resistant for high seismic areas
- Spreader bars with slings for lifting
- Stairways, walkways and ladders
- Top lifting provisions
- Future expansion both ends
- Two story design
- Front and rear aisle space
- Central power size and source
- Sloped or peak roof
- Multiple piece shipments for very large designs

## Doors

- Special sizes
- Rain shields
- Closures and stops
- Panic style hardware
- Gasketed and hinged external access doors

## Floors

- Double flooring for walkways
- Removable floor access plates 1/8", 3/16", or 1/4" thicknesses
- Non-skid epoxy finish
- Electrical-grade rubber aisle matting
- Tile or other special floor coverings

## Walls

- Special finishes
- Aluminum exterior panels
- Anti-galvanic corrosion protection
- Anti-electrolytic coupling protection
- Choice of colors

## Bases

- Insulated or non-insulated
- Skirt around base
- Undercoated for corrosion resistance

## Cooling

- Wall mounted
- Roof mounted
- Chilled water

## Heating

- Space heaters
- Equipment heaters
- Combination units

## Ventilation

- Wall ventilation
- Filtered ventilation
- Internal pressurization with stack

## Lighting

- Interior lighting for hazardous areas
- Emergency
- Exterior lighting

## Wiring

- Cable tray systems
- Bulkheads for conduit entry and exit
- Bus ducts for transformer or equipment connections
- Integral copper ground bus
- Wireway

## Safety and security

- Gas detectors
- Fire and gas extinguishing systems
- Safety locks
- Emergency showers and eyewashes
- Alarm on loss of pressure

## Special services

- Custom witness-functional testing
- Export preparation, documentation, and permits



Completed PCR® (15' wide x 100' long) split across the width for shipment.



Completed PCR® (28' wide x 60' long) split along the length for shipment.



Internal components are completely coordinated for both fit and function.



# Powell Electrical Manufacturing Company

## Powell Electrical Manufacturing Company

P. O. Box 12818  
Houston, TX 77217-2818  
Phone: (713) 944-6900  
Fax: (713) 947-4453  
info@powellelectric.com  
www.powellelectric.com

### Products & Services

- PowIVac® Metal-Clad Switchgear 5-15kV
- PV System 27® Metal-Clad Switchgear 27kV
- PV System 38® Metal-Clad Switchgear 38kV
- Vacuum Circuit Breakers 5-38kV
- PowIVac-AR® Arc Resistant Metal-Clad Switchgear
- Low Voltage Metal Enclosed Switchgear
- Power Control Rooms (PCR®)
- Secondary Unit Substations
- Load Interrupter Switchgear
- LV and MV Motor Control Centers
- High Resistance Grounding
- DC Switchgear Systems
- Vacuum Circuit Breaker Modules
- Station Circuit Breakers
- Transit Power Systems
- Traction Power Substations

## Powell Power Electronics Company, Inc.

5669 Gibraltar Drive  
Pleasanton, CA 94588-8547  
Phone: (925) 225-0505  
Fax: (925) 225-0606  
info@ppeco.com  
www.ppeco.com

### Products & Services

- Solid State Power Electronics
- Rectifiers
- Rectifier Transformers
- DC Protective Relays

## Traction Power Systems, Inc.

8967 Pleasantwood Avenue NW  
North Canton, OH 44720-4761  
Phone: (330) 966-1750  
Fax: (330) 966-1787  
info@tractionpower.com  
www.tractionpower.com

### Products & Services

- Transit Power Substations
- Project Management
- Field Engineering and Testing
- Turn-Key Installation

## Powell Electrical Manufacturing Company- North Canton Division

8967 Pleasantwood Avenue NW  
North Canton, OH 44720-4761  
Phone: (330) 966-1750  
Fax: (330) 966-1787  
info@powellncd.com  
www.powellncd.com

### Products & Services

- Metal Enclosed Capacitor Banks
- Metal Enclosed Harmonic Filter Systems
- Mobile Capacitor Banks
- DC Switchgear

## Powell Offshore

16535 Jacintoport Boulevard  
Houston, TX 77015-6540  
Phone: (281) 452-4885  
Fax: (281) 452-9956  
info@powelloffshore.com  
www.powelloffshore.com

### Products & Services

- Custom Packaged Modules
- Custom Designed Modules
- Single Lift Modules
- Power Control Modules
- Generator Packages
- Living Quarters

## Powell Apparatus Service Division

### Texas Office

8550 Mosley  
Houston, TX 77075-1180  
Phone: (713) 944-6900  
Fax: (713) 948-4569  
info@powellservice.com  
www.powellservice.com

### Arizona Office

Scottsdale, AZ  
Phone: (480) 998-7718  
Fax: (480) 998-0238

### Pennsylvania Office

Broomall, PA  
Phone: (610) 544-8600  
Fax: (610) 544-8609

### California Office

Rio Linda, CA  
Phone: (916) 991-7190  
Fax: (916) 992-1364

### Products & Services

- Service for All Products
- Field Start-up Services
- Turn-Key Projects
- Retrofill Products
- Replacement Breakers
- Field Testing
- Spare Parts, Components
- Field Modifications
- Match and Line Equipment
- Engineering Support
- Emergency Assistance
- Factory Refurbishment

## Providing Maximum Value