

A photograph of two men in an office setting. An older man with grey hair, wearing a purple shirt and a red patterned tie, is leaning over a laptop and smiling. A younger man with dark hair, wearing a dark shirt, is sitting across from him, also smiling and gesturing with his hand. They are in front of a large window with diagonal frames. The text "Integration Services" is overlaid in the upper right.

Integration Services

Integration Services

Powerware Global Services delivers integration services for comprehensive products and service offerings for the ultimate in power reliability.

Power Protection Products

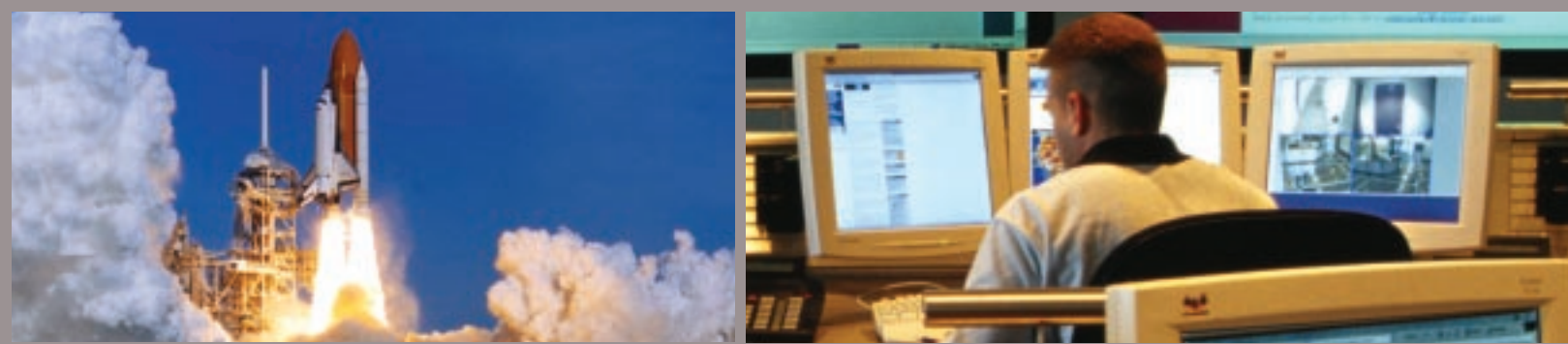
- ▶ UPSs (single & three phase)
- ▶ TVSS surge suppression devices
- ▶ Flywheels
- ▶ PDUs
- ▶ Transfer Switches
- ▶ HVAC Systems
- ▶ Transformers & Voltage Regulators
- ▶ Batteries
- ▶ Switchgear
- ▶ Software
- ▶ Power Generation Systems (standby & prime)
- ▶ Load Banks
- ▶ DC Rectifiers

UPS System Configurations

- ▶ Single Module
- ▶ Double Redundant Module
- ▶ Hot Tie Separate Multi Module system w/automatic paralleling capability
- ▶ Redundant Module
- ▶ Parallel for Capacity

Integrated Solutions Services

- ▶ Installation
- ▶ Maintenance
- ▶ Project Management
- ▶ Testing
- ▶ Power Audit and Studies
- ▶ Training
- ▶ Engineering
- ▶ Logistics Support
- ▶ Modifications
- ▶ Construction



Ideas in action

Effective power protection goes beyond having the industry's most advanced UPS products, one solution for every problem, or a solution that only works under certain conditions. Our Turnkey Integrated Solutions is a global approach that makes the optimal engineered solution available to everyone.

Engineering

The Integration Services team includes experienced engineering professionals who design power protection systems on a daily basis. Our engineers work hand-in-hand with you to maximize your power protection. Some of the engineering services offered are:

- ▶ **Site Surveys** - We can perform site surveys to evaluate the existing site conditions, including physical layout, existing and future building loads, and building usage. We will evaluate the requirements of the power protection system and propose a solution.
- ▶ **Analysis** - Analyses can be performed for cost/benefit, power protection coordination, short circuit, product selection, and reliability. Results are provided to the customer in a structured format for easy interpretation of findings.
- ▶ **Design** - Our team prides itself on the completeness, accuracy, constructability, and operation of our power protection system designs. We provide levels of detail to ensure smooth system installation and startup. We can provide standard or customized designs to match our customers' needs.
- ▶ **Specification** - All designs are normally accompanied by specifications for equipment, installation materials, installation and testing methods, and document submittals.

- ▶ **Estimating** - Our exceptional estimating capabilities are important to our customers due to the criticality of funding for projects regardless of size. We also provide continual refinement of estimates as projects proceed from concept to completion.

- ▶ **Statement Of Work** - Complex projects normally require the use of Statements Of Work (SOWs) to ensure complete communication of project needs to all involved parties, including the customer, subcontractors, Powerware, and OEMs. These SOWs reference the project design drawings, specifications, and schedule.

- ▶ **Power Audits and Studies** - Transient and often undetected power conditions can result in damage to your mission-critical equipment and its daily performance. An in-depth, on-site Power Quality Audit by our power protection professionals will assess your facilities infrastructure including wiring, loading, line balance, polarity, grounding, harmonic distortion, and much more. In order to uncover faults that are otherwise undetectable, data is collected with sophisticated, state of the art, line test equipment that samples as often as every millisecond for a 24 hour period. Detailed findings and data analysis with specific remedial recommendations are provided in a formal written report. This service coupled with our high quality power protection design/products, provides you the peace of mind you need for your mission critical facilities.

Project Management

The complexity of your power protection needs may require the services of our Project Management staff. Integration Services provides all technical and management expertise necessary to successfully complete your project on time and within budget. In addition to overall project technical requirements, our innovative Project Management team can provide:

- ▶ **Feasibility Studies** - May be done to evaluate a conceptual project's merits, and can include technical evaluations, alternatives, budgets, reliability and return on investment.
- ▶ **Planning** - Project Management provides additional levels of planning to ensure seamless integration of all project phases, including design, procurement, shipping, installation, training, maintenance, and documentation.

- ▶ **Scheduling** - Our Project Managers utilize the most powerful scheduling tools to track progress of project tasks and milestones to ensure on-time completion.

- ▶ **Procurement** - We work with a select group of highly qualified OEM equipment suppliers to meet the needs of your projects. Our extensive purchasing power allows us to negotiate for the highest quality and best value.

- ▶ **Cost Control** - Our Project Managers bring years of practical business experience to our power protection integration business. They know that on-time delivery of a quality project must be matched with continuous oversight of all costs for equipment and services.

Deployment

After the Integration Services engineering staff skillfully assesses the customer's power quality requirements and designs effective solutions, those solutions are ready to be deployed. Deployment involves installation, startup and testing, and operator familiarization.

► **Installation** - We stand ready to implement the solutions we design. Recommendations are carried out through turnkey key construction/installation, which is managed by a project management staff that has vast experience in providing power quality solutions. Our list of installations includes customers from federal, state & local agencies, and commercial & industrial businesses. Our customers often have critical missions requiring no installation downtime - a requirement we are able to fulfill.

► **Startup and Testing** - Our overall responsibility is to validate total power system operation. Following installation, trained service engineers will perform initial system startup and verify overall system operation. Multiple levels of testing services can be accomplished as required.

► **Operator Familiarization** - After system startup, initial operator familiarization training is completed. Once training is accomplished, site personnel will be able to proficiently perform power protection equipment startup and shutdown.



Logistics support

Logistics support is an integral part of planning and design for all Integration Services projects, to ensure that life cycle costs are minimized. Some of the services offered are:

► **Training** - If desired, we can provide additional power protection system training after installation. For UPS equipment all levels of training classes can be held on site or at our state of the art national training center.

► **Documentation** - Integration Services can consolidate power protection system documentation and provide it in various medium including CD Rom, microfiche, and hard copy.

► **Maintenance** - We offer various preventive and corrective maintenance packages ranging from one to five years. Maintenance on installed equipment is accomplished by factory trained customer support engineers. As emergencies arise, these highly qualified support engineers are available on a 7x24 basis to restore the system to normal operation.

► **Spare Parts** - Depending on your mission requirements, standard and custom spare parts kits are available for your power protection equipment per commercial or military standards.

Construction Solutions

Invensys Powerware is much more than a power equipment and services provider. It is also a proven provider of turnkey construction solutions focusing on value added "mission critical" facility challenges. By combining best practices with industry expertise it delivers high tech complex construction projects on time and under budget. Projects are provided on either a task order or turn key basis. These projects include the following solutions provided in a high tech environment:



- ▶ Powertrain Integration
- ▶ Electrical Systems
- ▶ Mechanical HVAC Systems
- ▶ Telecom Systems
- ▶ Life Safety Systems
- ▶ Telecom Systems
- ▶ General Construction Build-Out
- ▶ Design Coordination
- ▶ Procurement/Estimating
- ▶ Buy-Out/Estimating
- ▶ Primavera Scheduling
- ▶ Budgeting/Cost Control
- ▶ Field Engineering
- ▶ Project Management
- ▶ Construction Administration

Global Services

Even the most superior equipment needs to be maintained, and Invensys Global Services has just the team to do it. We have 40 years of experience training field technicians and providing the highest quality service and support around the clock, worldwide. Whether it is preventive maintenance or an urgent need, clients can benefit from our experience. Global Services offerings include:

- ▶ Complete line of equipment maintenance plans
- ▶ Remote monitoring services to support maximum uptime
- ▶ Battery maintenance and update programs to ensure optimal backup time
- ▶ Service training classes for your employees
- ▶ System enhancements on existing equipment
- ▶ Spare parts kits

Features

- ▶ Technical support for in-depth questions about large systems
- ▶ Multi-Vendor Services (MVS) provide service for all critical power equipment under a single contract, including other manufacturers' equipment
- ▶ Immediate availability of spare parts kits
- ▶ Call Center available 7x24, 365 days a year
- ▶ The best quality of service and global support around the clock

Global Services delivers on-site support from a base of more than 250 engineers in North America and 950 certified international service providers. These engineers support all brands manufactured by Invensys and other best of class power products.

The world's premier supplier of integrated power solutions

Like no other offering in the power protection industry, Integration Services provides a combination of resources to match your exact needs. When those needs change, we have the flexibility to meet each of our customers' unique requirements effectively and efficiently.

Invensys Powerware
8609 Six Forks Road
Raleigh, NC 27615 USA
Toll Free: 1.800.472.8041
or 919.870.3158 or 919.870.3175
Fax: 1.800.472.8042 or 919.870.3191
www.powerware.com

SER49FXA
Revised 05/03
Reprinted 05/03

invensys™
POWERWARE®