



Power Innovations
INTERNATIONAL, INC.

Case Study 1300

Perfect Quality Power for L-3 Communications-- TANO Division's Critical Command Centers

The Customer

L-3 Communications Westwood Corporation, TANO Division, formerly known as TANO Corporation, has been in the marine and industrial controls business since it was founded in 1961. TANO now operates as a Louisiana-based division of the Tulsa, Oklahoma, company, L-3 Communications Westwood Corporation.

TANO designs, manufactures, installs, and services high-reliability automation and control systems for harsh-environment industrial and marine applications. For over 30 years, TANO has been providing entire Supervisory Control and Data Acquisition (SCADA) packages.

TANO can provide systems ranging from a single computer with direct sender inputs to a densely populated grid of RTUs networked to an industrial VME main computer. TANO SCADA systems are designed with the ability to grow as the customer's project grows.

With complete in-house capabilities in systems engineering (over 150 years combined experience), integration and service, TANO has the experience and application knowledge to offer high reliability turn-key systems. TANO also provides support services such as training courses in systems operation and maintenance, user documentation, and maintenance and installation services.

The Challenge

As TANO develops critical command center technology and control systems, shipboard power must be addressed. Ship and land power configurations differ, and all shipboard equipment must accommodate both, plus conform to rugged environmental requirements, while being flexible in configuration. Naval standards must also be addressed.

The Solution

The Power Innovations Q-RX™3000 (rugged) Uninterruptible Power Quality™ (UPQ™) system has been customized for TANO with special charging and communication capability. The design allows for specific naval requirements in control and operation, while providing perfect, quality power to the specialized communications equipment.

Advantages of the UPQ Technology

A single power problem can cause disaster for military communications systems on U.S. Naval ships. UPQ from Power Innovations is an unprecedented new standard that began with traditional Uninterruptible Power Supply (UPS) technologies, and then moved forward to address critical modern power issues, while still providing traditional UPS backup functions.

Extreme Environmental Requirements

Shipboard applications are subjected to vibration, temperature, shock, humidity, and air quality problems. Power Innovations developed its Q-RX (rugged) Series of UPQ systems to meet the military standard requirements for these extreme environmental conditions. Q-RX systems for military use comply with the following U.S. military standards:

L-3 Communications

INDUSTRY SERVED

Military / Defense

CHALLENGE

As L-3 TANO develops critical command center technology and control systems, shipboard power must be addressed.

SOLUTION

The Q-RX™ 3000 was customized for L-3 TANO with special charging and communication capability.

ADVANTAGES

- MIL-STD-167 -- Vibration Standards
- MIL-STD 810E - Shock Standards
- MIL-STD 810 -- Thermal and Humidity Standards
- Extreme Environ. Requirements
- Extreme Environ. Applications
- Web Management

Vibration and Shock Testing

MIL-STD-167 (Mechanical Vibrations for On-Ship Board Systems) – Q-RX systems meet or exceed this vibration standard from 4 to 50 Hz. The operational and non-operational vibration tests deliver up to 2g forces for two to four hours.

MIL-STD-810E (Environmental Test Methods and Engineering Guidelines) – Q-RX systems meet or exceed this shock standard. In each axis, multiple positive and negative shocks are induced up to 30g forces for levels ranging from 2g to 30g.

Thermal and Humidity Testing

MIL-STD-810 – Q-RX systems meet or exceed this environmental standard. The systems operate in freezing temperatures of -22° F (-30°C), sweltering temperatures up to 140° F (60° C), and even in condensing humidity.

Extreme Environmental Applications

Military applications for Q-RX systems include critical power applications on Navy ships and in battle-tested vehicles. Meeting or exceeding MIL-STDs 167, 810 and 810E allows these Q-RX units to keep these vehicle systems powered under the harshest battlefield conditions.

Web Management

Individual Power Innovations units can be outfitted with an internal Web server. This server hosts a Web page that allows the management and control of all of the features of a UPQ and connected site equipment. By using an internal Simple Network Management Protocol (SNMP), a Web server can communicate with, and enable all of the get, set, and trap features of SNMP.

A web server is also capable of providing remote monitoring through a video surveillance system. Video images can be viewed and managed by connecting small USB cameras to the Web servers, and then using the pan and tilt functions to position the cameras. The cameras can be managed from a single screen.

Through the flexibility of a web server, programmable and configurable responses can be determined and set by the user to allow such functions as text messaging, pages, and conditional decision trees. Acceptable inputs include Ethernet, dial-up modem, RS-232, USB, and RE. A web server is also customizable to any site and any network through its programmable IP, Mask, and Gateway addresses. Security protocol can be implemented in a Web server to allow secure operation.

Power Innovations

Launched in 1997, Power Innovations has pioneered a revolutionary set of solutions to generate, store, and manage AC power. Power Innovations' mission is to provide and manage continuous high-quality power in conjunction with, or even independent of, utility services worldwide. Power Innovations is helping forward-thinking companies accomplish this goal through a new class of technology called Uninterruptible Power Quality (UPQ).

Today, Power Innovations' UPQ systems, coupled with its UPQnet-agent II™ IP management tools, assist organizations of every size in addressing the key issues surrounding power management. On its own, this is an area of tremendous need and opportunity that has Power Innovations poised for long-term success.

Power management is just one arm of Power Innovations' long-term strategy. The company is involved in the development of a spectrum of solutions for power storage. Ultimately, Power Innovations will premier revolutionary solutions for the generation of new power. Together, these three areas are the foundation of Power Innovations' long-term strategy.

Powering Life

Powering Miracles
Powering Peace of Mind
Powering Life's Connections
Powering the Human Spirit
Powering Freedom
Powering Innovation



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