



# DATA CENTER INSTRUMENTATION & CONTROLS

*Focused on efficiency, uptime, and long-term management*

Affinity Energy's dedicated professionals are fluent in the language of data center infrastructure and have a diversified portfolio of >450 mission critical projects, including electrical power management systems (EPMS) for some of the largest co-location data centers in the U.S.

Our high degree of focus on instrumentation and controls for data centers means we're able to develop systems that provide data center operators with advanced monitoring capabilities, fault diagnostics, and trending to allow maximum reliability and visibility to allocate or manage energy costs.

## AT A GLANCE

- >450 mission critical projects
- Turnkey or a la carte solutions
- Key performance indicators (KPIs) and benchmarking
- Scalable and flexible
- Emergency power system testing automation
- Text/email alarming of events
- 3-year service warranty including 24/7/365 support
- Redundancy options
- Minority business certified
- Small business certified

## ENSURE MAXIMUM UPTIME

Affinity Energy designs systems that help identify abnormalities, equipment problems, capacity concerns, and power quality issues that can lead to premature equipment failure. This visibility into the electrical distribution systems also helps data center owners and operators prioritize and optimize equipment maintenance and testing.

Our customized systems help you:

- Reduce maintenance costs by using condition-based strategies.
- Minimize the risk of unplanned downtime by proactively addressing issues.
- Optimize facility operation by trending and analyzing hundreds of data points





## SOLUTIONS FOR DATA CENTERS

### —SCADA— *Optimize your data center*

Crafted from industrial-grade software and hardware components, Affinity Energy SCADA systems help you understand both the high-level and granular status of your equipment.

- Custom reports on energy production key performance indicators (KPIs)
- In-depth system control, management, and real-time monitoring
- Alarm notification, data storage, and trending

### —PLC— *Control and flexibility*

Affinity Energy's industrial hardened programmable logic controller expertise includes transfer schemes, energy curtailment, load shed, active power management, motor controls, and application-specific controls for motors, circuit breakers, transformers, inverters, generators, and battery systems.

- Flexible, scalable, redundant, and reliable
- Control panel design, programming, field installation, commissioning, and support

### —EPMS— *Manage emergency power*

Affinity Energy's turnkey electrical power management systems allow you to identify costly problems, reduce operating expenses, and streamline maintenance activities.

- Quickly assess/respond to abnormal conditions such as sags, swells, unbalance, and faults
- Automate emergency power system tests; reducing time associated with manual records
- Use sequence of events diagnostics to root cause disturbances

### —SUBMETERING— *Measure and contain resources*

Helping you manage demand to avoid cost spikes, Affinity Energy designs and installs industrial instrumentation to measure energy usage and quality.

- Allocate electrical costs by system, process, or tenant
- Analyze and verify electric bills
- Retrofit electro-mechanical submeters or relays with digital intelligent electronic devices

"The commissioning of the EPMS was the smoothest I have ever experienced. Affinity Energy engineers demonstrated professionalism and responsiveness that is hard to find in today's fast-paced, high-pressure construction environment."

-Brandon Sedgwick, P.E.,  
Project Manager at Hood-Patterson & Dewar, Inc.  
Project: QTS Atlanta-Metro Data Center

## FLEXIBLE & SCALABLE

At Affinity Energy, we understand the need for rapid and flexible deployment of enterprise controls and management systems. Our experts leverage object-oriented technologies to support an agile, dynamic design and build process that allows for standardization and cost benefits resulting from economies of scale.

Depending on your needs, we have the capacity to serve a full turnkey solution, or a la carte services as needed, including, but not limited to:

- System installation
- Design/architecture
- Commissioning
- Programming
- Testing
- OEM coordination
- Training personnel
- Engineering
- Emergency field services
- Instrumentation and controls specification
- Fiber optic termination/testing
- Maintenance/repairs
- Upgrades
- Data acquisition
- Wired/wireless network design, setup, and programming

## DATA CENTER PROJECTS

Quality Technology Services

- Atlanta, GA
- Suwanee, GA
- Richmond, VA
- Santa Clara, CA
- Sacramento, CA

Bank of America

- Charlotte, NC
- Greensboro, NC

Verizon

- Ashburn, VA
- Greenville, SC

AT&T

- Bedminster, NJ
- Middletown, NJ

Wells Fargo, Charlotte, NC

Duke Energy, Charlotte, NC

Xerox, Charlotte, NC

Wipro, Kings Mountain, NC

EDS, Charlotte, NC

NetApp, Research Triangle Park, NC

## CUSTOMER REFERENCES

Site Director  
QTS Atlanta-Metro

Operating Engineer  
Bank of America

*(Contact info by request)*

## ABOUT AFFINITY ENERGY

Affinity Energy is a vendor-neutral control systems integrator with a national portfolio of over 800 power automation projects. The company helps customers throughout the U.S. operate efficiently, safely and, reliably. Founded in 2002, Affinity Energy is headquartered in Charlotte, NC.