

# MANUFACTURING PLANT INSTRUMENTATION & CONTROLS

*Focused on managing electricity quality, consumption, and cost*

Affinity Energy's dedicated professionals are fluent in the language of manufacturing plant infrastructure and have a diversified portfolio of >450 mission critical projects.

Our high degree of focus on instrumentation, controls, and electrical distribution for manufacturing facilities means we're able to develop systems that provide operators with strategies for peak demand reduction, power quality analysis, standby power, cogeneration, motor management, and cost allocation to manage your unique energy requirements and 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

## CONTROL ENERGY COSTS

Affinity Energy designs SCADA systems that help control electrical loads and identify power quality problems that can lead to abnormally high bills or additional manufacturing costs due to inefficiencies or unexpected downtime.

- Optimize facility operation by trending and analyzing key performance indicators integrated from multiple components and/or multiple manufacturers
- Manage operational energy costs by allocating costs to various equipment and/or processes, and receive process/equipment-specific strategies. For example, an overlooked strategy for compressed air energy reduction is the use of base and trim controls.
- Start, stop, and adjust set points on key facility equipment taking into account process flexibility and production schedules in relation to utility tariffs.





## SOLUTIONS FOR MANUFACTURING FACILITIES

### —SCADA— *Optimize your plant*

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 advanced analysis to root cause disturbances or identify sources of poor power quality

### —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

"Because of Affinity Energy's solution, we save approximately **\$6,000 per month; \$12,000 during the summer months.** Without the monitoring and measuring systems Affinity Energy helped put in place, we would not have the means to even begin making energy saving decisions."

-Olda Gardon, Maintenance Manager  
Charlotte Pipe and Foundry

## MINIMIZE DOWNTIME

At Affinity Energy, we understand the importance of visibility into your electrical distribution system. Our systems help gather the data that makes it possible to identify abnormalities and minimize the risk of unplanned downtime by alerting on potential equipment failures, electrical faults, and capacity overloads.

## FLEXIBLE & SCALABLE

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
- Low-voltage cable installation and termination
- Maintenance/repairs
- Upgrades
- Data acquisition
- Wired/wireless network design, setup, and programming

## RECENT PROJECTS

**Automotive & Machinery**  
Caterpillar, IL  
Continental Teves, Inc., NC  
DesignLine, NC  
Ford, ON  
General Motors, NC  
Hella Lighting, SC  
Nissan Corporation, TN  
Toyo Tires, GA  
Visteon Corporation, MI  
ZF Transmissions, SC

**Building Materials**  
Certainteed Corporation, GA  
Cree Inc., NC  
General Electric, NC  
National Gypsum Corp., NC

**Metals**  
California Steel Industries, CA  
Charlotte Pipe and Foundry, NC  
Gerdau Ameristeel, TN

**Paper**  
Champion Paper, MN  
Clearwater Paper, NC  
Resolute Forest Products, SC  
Rock-Tenn, SC

**Pharmaceuticals**  
Amylin Pharmaceuticals, OH  
Bristol-Myers Squibb, PR  
Merck & Co., VA

**Plastics**  
GE Plastics, MA  
Honeywell, VA  
Nanya Plastics, SC

## REFERENCES

Maintenance Manager  
**Charlotte Pipe and Foundry**  
(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.