PowerCommand

Cummins Power Generation

The Power of One.

PowerCommand® On-Site Power Generation Systems

PowerCommand®

One Company. One Network. One Answer For Standby Power.

This is the system that does it all. With pre-integrated equipment that reduces the complexities of system design and installation. Smart microprocessing that gives the system unprecedented power to monitor itself. And interoperability that provides the flexibility of integrating standby power with a building automation system. If you're looking for the breakthrough system with all kinds of power, this is the one.

Pre-integrated Power.

The new standard for simplicity and performance.

The PowerCommand system from Cummins Power Generation is much more than the combination of a good engine, alternator, controls and transfer switches. It's a new way to be sure that the equipment in that power system works together right from the start.

PowerCommand's pre-integrated design offers advantages for building owners, facility managers, consulting-specifying engineers and electrical contractors. That's because it is the first power system from a single source that pre-integrates all of this key microprocessor-based power system equipment:

- **35 kW to 2 MW generator sets**
- **PowerCommand automatic transfer switches, bypass isolation switches and related switchgear**
- **Paralleling load transfer equipment**
- **Digital paralleling equipment**

Besides designing and producing this equipment to interact seamlessly, we build more features and functionality into it. Then we test the entire system. This pre-integration can save significant time, labor and dollars by:

- **Streamlining specification**
- **Simplifying installation and commissioning**
- **Improving performance and reliability**
- **Reducing installation, operating and maintenance costs**

Smart Power.

A standby system that doesn't spend 99% of the time just standing by.

Microprocessor controls built into the PowerCommand system take it far beyond traditional standby systems. These controls allow the genset and transfer switch to offer "smart" functionality — accessing critical performance data and communicating that data to each other as well as to other building management systems. The controls run continuously, not just on demand, which means PowerCommand can:

- **Detect failures even when not in use**
- **Diagnose network failures**
- **Provide redundant signals**
- **Enable peer-to-peer communication between any node on the network**

Without the expense and complexity of add-on components, the PowerCommand system can remote-sense, monitor, control and store data from up to 150 nodes. Control capabilities include diagnostics, testing, feedback functions and corrective actions for enhancing system reliability and maximizing building operations. Specifically, PowerCommand can:

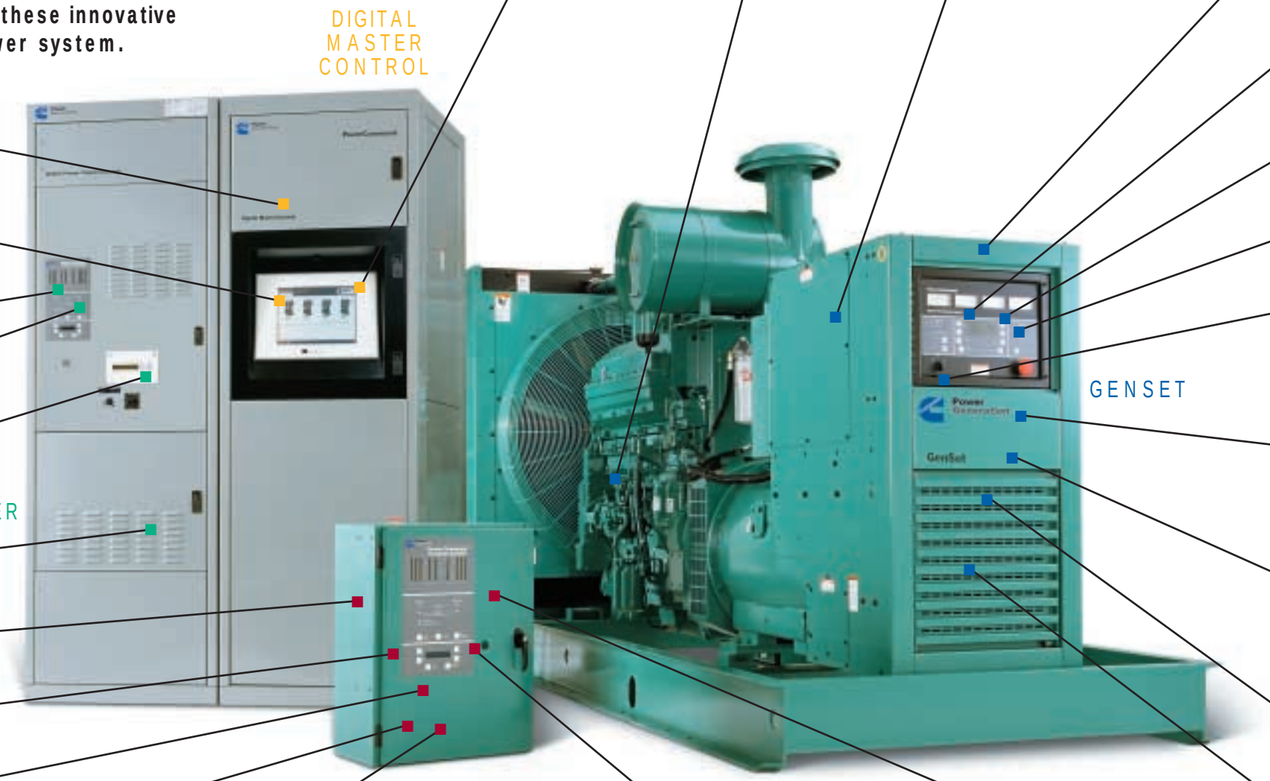
- **Facilitate paralleling and networking applications, including integration with any open system network**
- **Deliver alarm and signaling capabilities to remote microprocessors in the network**
- **Eliminate single points of power system failure — through distributed logic design**
- **Predict and help avoid genset failure — by monitoring the genset starting system**
- **Regulate output current (through the unique AmpSentry™ feature) to facilitate coordination and limit over-volt**
- **Minimize frequency, voltage overshoot on start and load changes, and black smoke — through integrated fuel ramping and field excitation**
- **Prevent pre-mature system failures during load transfers — through programmed transition during switching of inductive loads**

Another key PowerCommand advantage is that digital paralleling is an integrated function of the genset. No add-on relays, controls and hardware mean increased paralleling reliability without the cost and space requirements of added equipment.

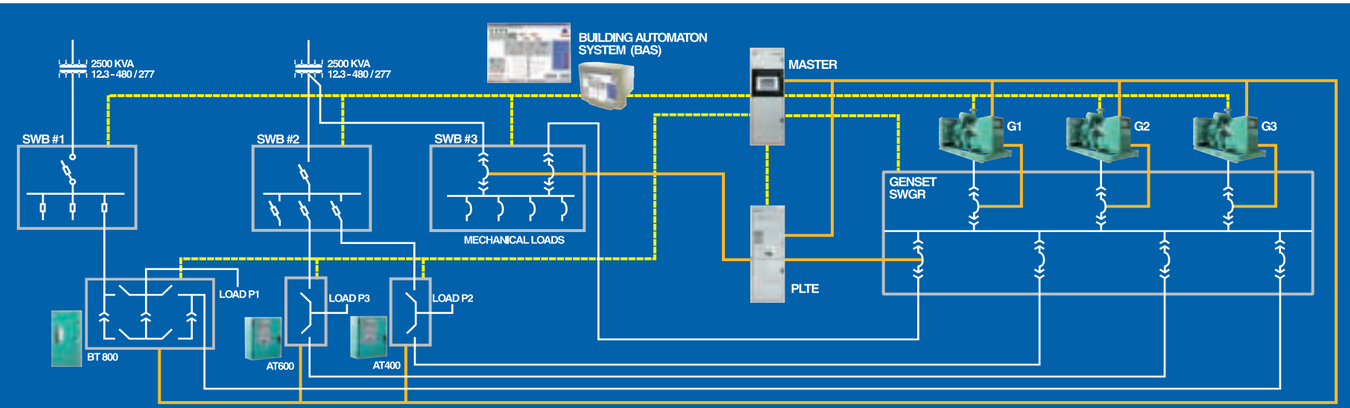
The Power Structure.

Only PowerCommand technology can bring all these innovative features to a single pre-integrated on-site power system.

- Distributed logic design enables each individual system component to remain fully functional even if a master component fails.
- Digital MasterControl touch-screen and software allow master paralleling control, including bus RMS digital metering with voltmeter, ammeter, frequency, KW, KWH and PF meters, plus much more.
- Open transition, hard close transition, soft loading/extended paralleling, or extended paralleling/peak shaving models available.
- Microprocessor-based ATS controller interfaces direct with genset for self-diagnostics and event reporting.
- Digital utility protective relaying is programmable to provide code-required protection when paralleling with utility.
- "Ramping" function during switching transfers load without interruption or long-term system wear.
- I/O-isolated transfer switch control protects against damage from voltage transients.
- Convenient front-panel provides easy access to review power and load conditions, make adjustments, review events and check network status.
- High visibility LED indicators and metering provide source and ATS status at a glance.
- Barriers over all live parts on the transfer switch help protect operators from accidental contact during service or maintenance.
- Phase rotation sensing guards against installation errors and severe single-phase imbalance loading.
- Vacuum fluorescent displays are brighter, easier to read and perform better at temperature extremes than other display types.
- Integrated load monitoring option with neutral current sensing provides consistent data acquistion.
- Diagnostic feedback and remote warning/signaling capabilities enhance security and reliability.
- AMPSentry regulates output current on both single and 3Ø faults to facilitate coordination and limit over-volt.
- AC output metering provides easy-to-read analog measurement with color-coding of volts, Hz, %amps and %kW as well as digital readouts for amps, volts, Hz, kW, kW-hours and PF%.
- "Smart starting" integrates fuel ramping and field excitation to minimize frequency and voltage overshoot; temperature compensation enhances cold starting and stability.
- Microprocessor control runs a battery load test, displays "weak battery" warning when the test indicates imminent battery failure, and continuously monitors battery charging system.
- Over 30,000 units in the field with MTBF of over 200,000 hours.
- Integrated digital paralleling reduces cost and space requirements, improves paralleling synchronization and performance.
- Environmentally hardened control panel is listed to UL 508 and includes sealed front control panel with RFI/EMI, dust and moisture gaskets plus vibration proof sealed interconnect plugs.
- LONMARK®-compliant technology allows integration into a building management (BAS) system and provides interoperability with other equipment/systems using the LONMARK protocol.
- Integrated digital governing provides precision starting control, voltage regulation, AC protection and alarm shutdown information.
- Directly controls engine fuel system for responsive, reliable performance.
- ATM-like interface panel is easy for operators to understand.



PowerCommand System



Cummins Power Generation

The Power of One.

Interoperable Structure.

Integrates your standby power into your building automation system (BAS).

Traditionally, standby power systems have been stand-alone systems. But Cummins Power Generation designs and builds its PowerCommand gensets and transfer switches to meet LONMARK™ specifications for open systems interoperability. As a result, you can easily integrate the PowerCommand system into any LONWORKS®-based building automation system, or interface it with other open systems protocols.

BAS integration delivers several advantages:

- **Provides the flexibility of centralized and/or local system feedback**
- **Eliminates the need for expensive or unreliable bridging interfaces**
- **Enhances monitoring and control functions**

With open systems compliance, your BAS can provide the additional advantages of an open, interoperable system:

- **A choice of suppliers**
- **Easy, cost-effective additions and upgrades**
- **Reduced installation costs**

Cummins Power Generation further enhances BAS or industrial control network integration through marketing alliances with other leading building automation hardware and software companies that also adhere to accepted open systems protocols. By sharing technological expertise with these companies, we have increased the reliability, flexibility, comprehensiveness and interoperability of the PowerCommand system, and we have made it operate successfully with most other systems.

More Power To You.

Cummins Power Generation is a world leader in the design and manufacture of power generation equipment, including PowerCommand standby and prime power systems. We also provide single-source warranty, planned maintenance, and round-the-clock emergency service 24 hours a day, seven days a week including back-up power rental through our network of distributors.

To find out how you can benefit from "The Power of One," contact your local Cummins Power Generation distributor. Or call Cummins Power Generation at 800-888-6626 or 763-574-5000.

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Backfeed to a utility system can cause electrocution and or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is opened.

Specifications are subject to change without notice. Printed in the U.S.A.

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