



**INTEGRATED POWER SYSTEMS
FOR MANUFACTURING
AND INDUSTRIAL FACILITIES**





BRINGING YOU CONFIDENCE WHERE POWER IS UNCERTAIN.

“Given the competitive nature of our business, we choose the best quality products for every aspect of our operations. We initially selected Cat® products because they are a formidable brand in the marketplace, and Cat generator sets have helped us manage peak costs better than our competitors.”

– Michel Antonio de Paula, manager of process, products and projects for Condispar.

AN ANSWER FOR ANY POWER CHALLENGE YOU FACE.

When you have customers waiting for the valuable products coming down your manufacturing lines, you need reliable, affordable power. Whether your factory faces a power shortage due to increased demand, interruptions and quality issues due to natural disturbances, or the high cost of utility power, Caterpillar is ready with the solution.

We not only have the right power systems to meet these challenges, we also have the right people to see you through. You will benefit from our vast dealer experience in reducing power costs, and our expert, local product support is always available to help keep your power up and running – no matter what the conditions.

Highlights from our manufacturing customers:



LIOTÉCNICA – Embu, Brazil

With the largest and most modern freeze-drying capabilities in Brazil, Liotécnica specializes in dehydrating foods, including Amazon super fruits such as acai and acerola.



PISA FARMACÉUTICA – Guadalajara, México

As one of the most prestigious pharmaceutical companies in México, Pisa Farmacéutica provides more than 900 products to the public and private sectors throughout Latin America.



NIIGON TECHNOLOGIES – Ontario, Canada

Niigon Technologies is a state-of-the-art injection molding manufacturer that produces small, high-end products for several industries, including automotive, agricultural, and consumer packaging.



GUANGZHOU ZHUJIANG BREWERY GROUP – Guangzhou, China

Established in 1985, Guangzhou Zhujiang Brewery Group Co. Ltd. (GZBC) is the second largest brewery in China with an annual production capacity of 15 million hectoliters.

GENERATOR SETS DESIGNED TO MEET DEMAND.

Whether you install a Cat diesel or gas generator set for continuous or standby use, your facility will be protected with consistently reliable performance. Caterpillar engineering programs demand some of the most stringent testing requirements in the industry, which means that the products are manufactured to run for thousands of hours without overhaul.

PEAK SHAVING

Do you have a solution for meeting power spikes during peak usage times? Peak shaving has become a valuable strategy for manufacturing facilities, reducing overall business costs without sacrificing power quality. Cat diesel and gas generator sets offer an efficient way to provide the additional capacity you need to meet this intermittent demand. In fact, many of our manufacturing customers offset the costs from their initial investment after 2 to 4 years based on utility cost savings.

COMBINED HEAT AND POWER

Many industrial facilities reduce operating costs by implementing a combined heat and power (CHP) system (also known as cogeneration) using clean pipeline natural gas as a fuel source. Cat gas generator sets can simultaneously provide electricity for electrical loads and heat energy for a facility's thermal requirements. Whereas separate grid electricity and natural gas boilers often provide less than 50 percent efficiency, Cat CHP projects offer energy efficiency up to 90 percent, reduced energy costs and reduced emissions.



CAT® DIESEL GENERATORS
12 to 17,460 kW / 15 to 21,825 kVA



CAT GAS GENERATORS
85 to 8,150 kW / 106 to 10,187 kVA

Both diesel and gas generators provide important advantages:

- Powered by Cat engines for the reliability you demand
- Wide range of factory-designed options to meet your requirements
- Easy to specify, permit, install, and test
- World-class fuel efficiency and low life cycle costs
- Excellent transient response and steady state performance
- Emissions compliance with most worldwide regulations
- Single source and turnkey support from the Cat dealer network

UNINTERRUPTIBLE POWER SUPPLY (UPS)

When it comes to your facility, every second counts. Surges, sags, spikes, failures – your business can't tolerate any of these. The Cat UPS with flywheel energy storage provides immediately available power to ride through disturbances and conditions power from the source. When integrated with other Cat products – including generator sets, automatic transfer switch (ATS) and switchgear – you can be assured of the cleanest, most reliable source of power protection.

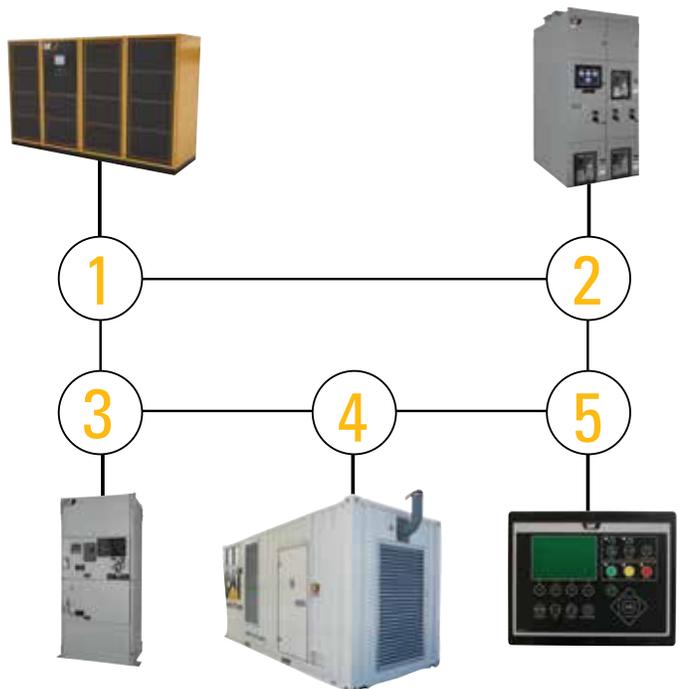


Advantages of the flywheel UPS:

- Lower operating/maintenance/replacement costs
- Smallest available footprint
- Complete system capable of operating at 40°C; no need to up-size HVAC systems
- Industry leading Total Cost of Ownership

INTEGRATED SYSTEMS

- ① UNINTERRUPTIBLE POWER SUPPLY (UPS)
- ② PARALLELING SWITCHGEAR
- ③ AUTOMATIC TRANSFER SWITCH (ATS)
- ④ CUSTOM PACKAGING SOLUTIONS
- ⑤ CONTROLS – EMCP 4



PARALLELING SWITCHGEAR

The amount of control you require varies from application to application. That's why, for simple or complex applications, Cat switchgear provides paralleling capability for multiple generator sets, with single or multiple points of utility connection.

Our switchgear also provides a single point of monitoring and control of your complete solution, including Cat ATS and Cat UPS. When you combine switchgear with Cat generator sets, you get an integrated solution that meets your unique requirements.

Advantages:

- Available 208 V to 35 kV
- Intuitive and easy-to-use graphical operator interface (minimizing potential for operator errors, and integrating other elements of your Cat system such as generator sets, ATS and UPS)
- Redundant communications bus and distributed control processing ensure the utmost in reliability for data center applications
- Automated reporting capability, including generation of custom reports and real-time power use effectiveness (PUE)
- Available in a broad array of configurations, including highly customized designs specifically developed to address specific site requirements



AUTOMATIC TRANSFER SWITCH (ATS)



To ensure you have the power you need, a fully integrated system designed to operate together is crucial. And if your first indicator – your ATS – isn't reliable, your entire system can be compromised. Caterpillar offers you a broad range of transfer solutions and ATS products designed for mission critical applications. These transfer schemes can be arranged to suit any application from simple to highly complex multiple ATS/generator set switchgear systems.

Advantages:

- Available in sizes from 40 to 5000 amps in 2, 3, and 4 pole configurations
- Contractor and circuit breaker-based solutions for flexible coordination
- Open, closed, and delayed transition designs available to meet your specific needs
- Bypass/Isolation type ATS (UL/IEC type)
 - ATS and bypass mechanisms rack in/out with door closed to maximize operator safety
 - Bypass operation accomplished with door closed, again maximizing operator safety
 - Load is not interrupted during bypass operation
 - Interchangeable ATS and bypass mechanisms provide the utmost in redundancy
 - Full automatic mode functionality is maintained with ATS in bypass

PEACE OF MIND. EVERY SINGLE DAY.

Your power system simply cannot fail. To ensure that you are able to maintain your system simply and affordably, we offer Extended Service Coverage, Customer Support Agreements and unparalleled parts availability.

EXTENDED SERVICE COVERAGE

Your Extended Service Coverage offers transferable coverage beyond the standard warranty period, for all Cat branded electric power equipment. Extended Service Coverage protects against unexpected repair bills and offers a hedge against rising parts and labor costs by providing 100 percent parts and labor reimbursement for covered components, less any applicable deductible. The broad range of coverage options, which can be customized to suit your individual needs, combined with simple pricing terms provides confidence and peace of mind toward your power system's performance.

CUSTOMER SUPPORT AGREEMENT

Your Customer Support Agreement is an individualized arrangement between you and your Cat dealer that helps you maintain your products while lowering your cost per unit of production, regardless of the size or age of your product. Agreements are tailored to fit your business needs and can range from simple preventive maintenance kits to sophisticated total cost performance guarantees. No matter which option you choose, you can be assured that your Cat dealer will provide you with the careful planning and ongoing attention that will help you succeed.

PARTS AVAILABILITY

Your Cat dealer is equipped with a parts inventory and access to the global Cat parts network to fulfill 98 percent of parts orders within 24 hours from the time of order. We know that having the right parts on hand is crucial to keep your power system running, so we also provide 24/7 access to information at parts.cat.com. Here you will find videos, reference material, and specs on Cat original, Classic™, and remanufactured parts, as well as information on repair and maintenance parts for your Cat electric power products, all manufactured to original equipment specifications and recommended by Caterpillar.



YOUR MANUFACTURING LINE WILL NEVER LOSE A MINUTE.

You can't have delays when your customers are waiting for products to come off your manufacturing lines. That's why you need affordable, reliable power. Cat generator sets help reduce your overall business costs without sacrificing power quality. Choose a combined heat and power (CHP) system to help you achieve up to 90% energy efficiency. Or take advantage of peak shaving for additional capacity to meet intermittent demand. Let us configure a world-class system that delivers the right power for your project, on time and within budget. We're built to keep your products moving and your customers happy.

learn more at www.cat.com/powergeneration

BUILT FOR IT.™

