



Powering telecoms, keeping people connected

Power generation engineered for telecoms

Our energy working for you.™



**Power
Generation**

Today's telecoms companies rely on uninterrupted power. As a world leader in the field, Cummins Power Generation delivers the power they need to keep on running.

The telecoms sector has changed radically in recent years. The Internet, broadband and 3G revolutions have combined with intense globalisation and competition to put telecoms and data companies under unprecedented pressure.

Compounding this are consumers who expect ever-greater things from their mobile, landline, Internet and broadband networks. They demand continuous, premium quality services at lightning speed and even the slightest service dips are enough to force a switch to a rival provider.

In addition, call centres, co-location sites and data centres need failsafe sources of power just to maintain day-to-day operations.

In today's world where the stakes are high, the solution is simple. A telecoms or data provider needs sufficiently reliable power to deliver an uninterrupted service to its customers, without fail.

This need is even greater in developing countries, where a lack of power, fragile mains supplies or even extreme weather can make business operations dangerously vulnerable.

Cummins: the power to deliver

Cummins Power Generation has the expertise to deliver the power your business needs to keep essential operations running.

As a world leader in power generation, we design and manufacture diesel, natural gas and LPG generator sets spanning 11-3300kVA for prime and standby applications around the globe.

All deliver highly efficient, reliable and economical power, day in, day out, in some of the most remote corners of the world - vital when it comes to maintaining critical services and functions.



Cummins standby generator sets keep Verizon Wireless connected in US blackout

The massive Northeast blackout of 2003 shut down communications from the Great lakes to the Atlantic shore. Businesses without standby power systems were without power for up to five days. Verizon Wireless, serving upstate New York, continued to operate normally throughout the outage.

Upwards of 300 of their cell antenna sites had recently been equipped with on-site 40kW diesel generator sets from Cummins Power Generation, with PowerCommand® digital

controllers for more precise voltage regulation, better combustion efficiency, remote and local networking capabilities and real-time information. In addition, the company's regional switching facilities were protected by either a 500kW or 750kW standby generator set.

Rick Polatas, director of network services for Verizon Wireless confirmed, 'The outage had no impact on service to our customers. Every Cummins generator at our remote cell sites and switching stations started and ran perfectly.'

Generators engineered for telecoms

Cummins Power Generation understands that, in the main, telecoms companies require small-scale standby power solutions, many for residential or remote installations.

In response, we have designed a family of rugged small diesel generators, which specifically meet these needs. Offering ratings from 11-250kVA, they can be custom-configured and matched with our transfer and control technologies to precisely fit your specialised power applications, wherever they are in the world.

One-source power solutions:

The strength of the Power of One™.

Built solely from components created, pre-integrated and serviced by Cummins Power Generation - with automatic transfer switches, switchgear and controls - each generator set provides the seamless reliability that only a single-source power solution can provide. We call this the Power of One™

Low-emission, quiet power

Cummins Power Generation generator sets are designed and tested to comply with and in fact surpass all worldwide environmental standards. Our ongoing commitment to a safer, cleaner world is illustrated by our continual research into more energy efficient generator sets. They also accord with today's noise suppression standards, with soundproofed enclosures that allow even large sets to be located near residential areas.

Cummins Power Generation:

A complete solution

- Full range of generator sets
- Fully integrated systems
- Complete line of automatic transfer switches
- Reliability and support, where and when you need it
- Fast response and delivery, worldwide
- Trusted relationship from Cummins' extensive dealer network



Cummins power solutions for Senegal's Sentel and Sonatel

In 2006, Cummins Power Generation's Senegal distributor, Matforce, provided prime power solutions for the country's two largest mobile operators, Sentel and Sonatel.

The project involved delivering reliable power to nearly 400 rural sites that were without mains supply, to allow both companies' services to operate uninterrupted. Furthermore, the generator sets needed to supply air-conditioning to the shelters housing them and also incorporate sound-attenuation to minimise noise pollution.

Matforce successfully completed work within tight timeframes. Each Sentel site was equipped with a single 11kVA C11D5 enclosed generator set, whilst Sonatel sites were each supplied with enclosed 15kVA generators, which run alternately in 12-hour loops.

'A key factor was definitely the support of the Cummins Power Generation technical sales team for French-speaking countries in Africa. We are very pleased that this project has been such a success and look forward to the continuation of the installation.'



Flexible generator sets and advanced transfer switches and controls. Cummins Power Generation has everything to solve your power needs.



Cummins Power Generation supplies first-class diesel engine generators for all requirements of prime and standby power installation.

Within this range, we offer small generator sets specifically designed to meet the needs of mobile, landline, Internet and other companies in the telecoms and data sector. Depending on your requirements, we will customise these generators with a variety of performance options and ancillary equipment, including soundproofed enclosures, GTEC transfer switches, fuel tanks and PowerCommand® controls, so ensuring maximum performance and minimum environmental impact.

11-250kVA diesel generator sets

With power outputs spanning 11-250kVA, Cummins Power Generation generator sets for the telecoms market feature the following as standard:

- Soundproofed enclosure
- Mechanical engine governor
- Engine coolant heater
- PCC1301 digital controller
- Auto/remote start capability
- Battery charger
- 3/4-pole circuit breaker
- Great autonomy sub-base fuel tank
- Double skin for fuel containment (except for C70D5 and above)
- CE compliance certificate

Optional features & attachments:

- Single-phase operation
- Electronic speed governor
- Remote monitoring (iWatch 100)
- PCC0300 key start controller for C11D5 to C22D5
- Automatic fuel filling system



Largest mobile phone operator in Thailand picks Cummins for standby generator sets

Advanced Info Service (AIS), the wireless telecommunications arm of Shin Corp of Bangkok, operates the largest GSM 900 mobile network and the second largest GSM 1800 network.

Because uninterrupted, reliable power supply is absolutely essential, the AIS MOM Department installed a standby generator system from Cummins Power Generation to back up the total 2000kVA load requirement. The system comprised two units of

1000kVA 800DFHD generator sets, each powered by a QST30G4 diesel engine. PowerCommand® controls ensures quick start-up to power the 200kVA facility load.

'Having installed 12 units of various models of Cummins Power Generation at several other AIS mobile switching facilities, including two units in Shinawatra Tower 2, what impresses us about Cummins generators is their low noise level at less than 80 dBA at one metre,' said Mr Somkit S, Engineering Support Manager, AIS.

Using the latest technology it is now possible to monitor and control your generator sets wherever you are in the world using PowerCommand iWatch.

GTEC Transfer Switches

Our GTEC series of transfer switches deliver generator set source monitoring, starting and load transfer functions for emergency, standby and optional standby applications. Providing 100% continuous current ratings, they comprise:

- Fully featured, software-enabled microprocessor control
- Advanced transfer switch mechanism
- Manual operation of switch
- Positive interlocking to prevent source-to-source connection
- Main contacts rated for 100% load interruption
- Door-mounted controls and ample space for easy service/access
- Certification to IEC 60947-6-1 AC31B

PowerCommand® iWatch™

PowerCommand® systems from Cummins Power Generation use pre-integrated microprocessor controls to deliver excellent 'smart' functionality in generator set and transfer switch monitoring.

Cummins Power Generation has taken this technology a step further, creating PowerCommand® iWatch™ to provide you with remote web-based monitoring of generators and transfer switches from a single central location.

By allowing monitoring to be conducted via the Cummins PowerCommand® (LonWorks®) RS485 or standard Ethernet connection network using an Internet Explorer browser, this sophisticated system is ideal for telecoms applications, equipping you to manage multiple remote and unattended sites, replace staffed monitoring stations and even predict generator set failure.

PowerCommand® iWatch™ systems offer:

- Advanced generator and transfer switch control
- Remote-senses, monitors, controls and stores data from up to 45 nodes
- Easy-to-use graphical interfaces
- Alarm notification via SMS or pagers plus optional email notification
- Controlled, three-level access by username and password
- Integrated DC power supply
- Certifications, warranty and service



Cummins cooperates with Telnor and Siemens in Pakistan

In 2004 Norwegian mobile telecoms operator Telnor was awarded the contract to run a cellular network in Pakistan, negotiating an agreement with Siemens to build the core network in Southern Pakistan. With mains power unavailable or unreliable at over 75 of the finished sites, the operator turned to Cummins Power Generation to supply the critical backup power.

Cummins Sales & Service Pakistan completed its largest ever installation for a telecoms company in record

time, installing: 350 20kVA generator sets on top of multi-storey buildings, 20 40kVA twin generator highway sites, 2 master switching controls (MSC) 100kVA twin generator sets and one MSC site comprising 3 500kVA generator sets with MC 150s.

Tariq Haq of Cummins Pakistan: "We met all the requirements. When the Client expands, it is likely that Cummins Pakistan will again be called upon to provide a reliable service."



Outstanding worldwide service and customer support. Cummins Power Generation works locally, on a global scale.

Whether your telecoms business needs standby power for separate small sites across a developed country, or larger applications in areas with unpredictable mains power, Cummins Power Generation will provide a total power solution that meets your precise needs, with outstanding speed and efficiency.

With distributors in over 130 countries worldwide, our services encompass all aspects from specialist plant consultation, system design and engineering to skilled project management, installation and commissioning to get your power systems running at their best.

In addition, our comprehensive after-sales and customer support services will ensure your power systems continue to operate at peak efficiency and reliability at all times. Our extensive network of distributors, pre-integrated products and legendary customer commitment mean you get the convenience and assurance of single-source warranties, planned maintenance programmes and dependable 24-hour emergency services.

It's a package of services that makes Cummins Power Generation a global operator and a local company, all in one.

Solutions Triangle

Only Cummins Power Generation offers you the best power solution with unexcelled reliability, high product and performance value, worldwide service and applications and emissions expertise.

Added value

- Solutions designed to meet specific customer needs
- Services including plant consultation, system design and engineering, installation and commissioning
- Complete range of ancillary products from transfer switches and PowerCommand™ controls to enclosures



Reliable power

- 11-250kVA diesel generators specially engineered for telecoms companies
- Deliver reliable, efficient, low-emissions prime and standby power
- Fully pre-integrated, single-source power systems

Customer Support

- Swift, local response, 24/7, 365 days a year
- Distributors in over 130 countries worldwide
- Full support capabilities including single-source warranties, planned maintenance and 24/7 emergency services



Asia Pacific

10 Toh Guan Road
#07-01
TT International Tradepark
Singapore 608838
Phone 65 6417 2388
Fax 65 6417 2399

Brazil

Rua Jati, 310, Cumbica
Guarulhos, SP 07180-900
Brazil
Phone 55 11 2186 4195
Fax 55 11 2186 4729

China

8 Wanyuan Street
Beijing Economic and
Technological Dev. Area
Beijing 100176
P.R. China
Phone 86 10 6788 2258
Fax 86 10 6788 2285

**Europe, CIS, Middle East
and Africa**

Manston Park Columbus Ave.
Manston Ramsgate
Kent CT 12 5BF
United Kingdom
Phone 44 1843 255000
Fax 44 1843 255902

India

35A/1/2, Erandawana
Pune 411 038
India
Phone 91 020 6602 7525
Fax 91 020 6602 8090

Latin America

3350 Southwest 148th Ave.
Suite 205
Miramar, FL 33027
USA
Phone 1 954 431 5511
Fax 1 954 433 5797

Mexico

Eje 122 No. 200 Zona Industrial
San Luis Potosí, S.L.P. 78090
Mexico
Phone 52 444 870 6700
Fax 52 444 824 0082

North America

1400 73rd Ave. NE
Minneapolis, MN 55432
USA
Phone 1 763 574 5000
USA Toll-free 1 877 769 7669
Fax 1 763 574 5298

Our energy working for you™

www.cumminspower.com

© 2007 | Cummins Power Generation and Cummins are registered trademarks of Cummins Inc. "Our energy working for you." is a trademark of Cummins Power Generation.
TB001 (03/07)

