Cat® Power Grid Stabilization (PGS)

Heavy Duty (HD)
1000 kW, 672 kWh
60 Hz, 600 Volt

Actual configuration may vary from displayed image.

The Cat® PGS Module is a scalable, rapidly deployable energy storage system with a heavy-duty battery structure. The PGS integrates with solar and other renewable sources to provide short duration power when the renewable source is not available or virtual spinning reserve to optimize generator sets efficiency. This system provides transient assist and grid stabilization to the installation.

FEATURES AND BENEFITS

- Transient Ride Through & Stabilization
- Seamless mode transfer
- Islanding detection
- Static VAR compensator
- Reserve Power Cpacity
- Plug-and-Play parallel ready
- Energy Storage Management
- Human-Machine Interface (HMI)
- Fire Suppression System
- Modbus TCP/IP Communications Protocols
- Ambient Temperature Capability -40°C to +50°C

Reliable, Modular, and Mobile

The Cat PGS module is a robust, mobile energy storage platform. The module consists of a pre-engineered container that is easily installed on site. Multiple modules may operate in parallel with other power sources to provide increased power output and/or increase the energy capacity.

Renewable Integration

The modules are designed to work with an array of renewable systems, including solar and wind. Seamless integration with the Cat Microgrid Master Controller (MMC) allows for maximum renewable penetration and full asset control.

Grid Stabilization

The Cat PGS protects against many typical power problems, including power failure, voltage sags/surges, and under/over frequency conditions.

Cat® Bi-Directional Power (BDP) Inverters

The Cat BDP inverters are the core to the energy storage system. Based on technology developed for Cat electric drive machines, the Cat BDP provides exceptional reliability, durability, and features that include:

- Intelligent controls for the charging and discharging of the energy storage equipment.
- 2 per unit fault current capability
- Static VAR compensator
- Four-quadrant output power factory control
- Patented Non-Linear droop control for ultra fast response
- Seamless mode transfer
- Automatic anti-islanding
- Grid forming
- Grid following
- Autonomous mode or Remote-Control mode
- Parallel ready - multiple modules may be use in parallel to increase total output to 100+MW

Energy Storage

- Advanced lithium-ion batteries provide good energy density, high discharge/recharge efficiency, and high cycle life.
- Heavy duty battery structure provides vibration isolation during transport.

Applications

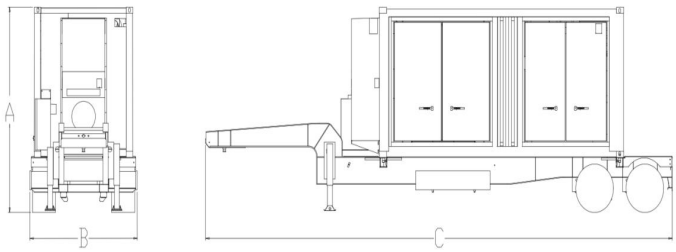
- Grid firming/grid stabilization
- Generator set transient assist
- Black Start Capability/ Rig Up Power
- Reserve Power Capacity

LEHW20329-01
Caterpillar: Confidential Green

TECHNICAL DATA

		PGS1260HD
Sytem Output Power		
Maximum Continuous at 1.0 PF	kW	1000
15 min Overload at 1.0 PF	kW	1170
10 min Overload at 1.0 PF	kW	1225
5 min Overload at 1.0 PF	kW	1260
1 min Overload at 1.0 PF	kW	1260
10 second Overload at 1.0 PF	kW	1260
Output Voltage	V	600 (60 Hz)
Output Voltage THD		<3%
Energy (Nameplate Start of Life)	kWh	672
Energy Type		Li-Ion - Energy
Battery Chemistry		NMC
Inverter Model		BDP1000
Number of Inverters		1
Average Parasitic Load		
Shore Power Connection	V	480 (60 Hz)

DIMENSIONS



Container with Trailer

Length	11.56 m	37.93 ft
Width	2.66 m	8.73 ft
Height	3.96 m	12.99 ft

Container without Trailer

Length*	6.74 m	22.13 ft
Width	2.44 m	8.00 ft
Height	2.89 m	9.50 ft

* Container without cooler has a length of 6.06 m or 19.87 ft

Note: Do not use for installation design. See general dimension drawings for detail. Dimensions are dependent on any options selected.

STANDARD EQUIPMENT

Cat BDP1000 bi-directional power inverters
Energy storage batteries
Color HMI Touchscreen
Remote communications via Modbus TCP
HVAC system to maintain optimal interior temperatures
Fire suppression system

Full listing of equipment (standard and optional), along with additional features and benefits can be found at **www.cat.com/oilandgas** or through your local dealer.