Image shown may not reflect actual configuration.

Cat® Power Grid Stabilization (PGS)

840 - 1260 kW
448 - 672 kWh
50 Hz 380-415 Volt
60 Hz 480-600 Volt

The Cat® PGS Module is a scalable, rapidly deployable energy storage system. The PGS integrates with solar or other renewable sources to provide short duration power when the renewable source is not available or reserve power capacity to optimize generator sets efficiency. This system provides temporary backup power to facilities in the event of a power outage.

Features

Reliable, Modular and Scalable

The Cat PGS module is a robust, scalable energy storage platform. The module consists of a pre-engineered container that is easily installed on site. Multiple modules may operate in parallel 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.

Transient Assist

When used with a generator set, the Cat PGS module will provide power to decrease the transient voltage and frequency dips resulting from the application of large loads.

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) Inverter

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:

- Controls for the charging and discharging of the energy storage equipment.
- 2 per unit fault current capability
- Static VAR compensator

- Four-quadrant output power factor control
- Patented Non-Linear droop control for ultra-fast response
- Seamless mode transfer
- Automatic anti-islanding
- Grid forming
- Grid firming
- Grid following
- Autonomous mode or Remote-Control mode
- Parallel ready – multiple modules may be used in parallel to increase total output up to 100+MW)

Energy Storage

- Advanced lithium-ion batteries provide good energy density, high discharge/recharge efficiency, and high cycle life.

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
- Convenience receptacles
- Fire suppression system

Applications

- Renewable smoothing
- Grid firming/grid stabilization
- Generator set transient assist
- Facility backup
- Reserve power capacity

Technical Specifications¥

Model		PGS840	PGS1260
Output Power			
Maximum Continuous at 1.0 PF	**kW**	**840**	**1000**
Overload (Only in Island Mode)			
15 min Overload at 1.0 PF	kW	840	1170
10 min Overload at 1.0 PF	kW	840	1225
5 min Overload at 1.0 PF	kW	840	1260
1 min Overload at 1.0 PF	kW	840	1260
10 s Overload at 1.0 PF	**kW**	**840**	**1260**
Energy (Nameplate Start of Life)	kWh	448	672
Number of Battery Rack	qty	4	6
Battery type		Li-Ion	
Battery Chemistry		NMC	
Application		High Power	
Inverter Model		BDP1000	
Number of inverters		1	
Isolation Transformer	Pri / Sec	△-Delta / Y-Wye	
Number of Transformers		1	
Output Voltage	(50Hz)	380-415 VAC	
	(60Hz)	480-600 VAC	
Output Voltage THD		<3%	
Ambient Temperature Capability	°C	-40 to +50	
Average Parasitic Load			
At 0° / 40°C in standby operation (0% load)	kW	2.0/4.0	2.0/4.0
At 0° / 40°C in continuous operation	kW	33.0/36.0	33.0/36.0
Shore Power Connection	V (50Hz)	400V 50Hz	
	V (60Hz)	480V 60Hz	
Features			
Transient Ride Thru & Stabilization		Yes	
Patented Non-Linear Droop Control		Yes	
Seamless mode transfer		Yes	
Islanding detection		Yes	
Grid forming		Yes	
Four Quadrant Power Factor Control		Yes	
Static VAR compensator		Yes	
2 Per Unit Fault Current Capability		Yes	
Reserve Power Capacity		Yes	
Plug-and-Play parallel ready		Yes	
Energy Storage Management		Yes	
Human-Machine Interface		Yes	
Fire Suppression System		Yes	
Communications Protocols		Modbus TCP/IP	

¥ - Ensure compatibility of all microgrid equipment by referring to A&I guides (or equivalent) for generator sets, BDP inverters, PV inverters, switchgear, controls and loads. Contact your local Cat dealer for assistance selecting compatible equipment.

Applicable Standards and Certifications

- UL Listed to the following standards (certification and mark pending)
  - UL 9540
  - UL 1741 SB
    - IEEE1547-2018
    - IEEE1547.1-2020
    - UL1998
  - CSA C22.2 No. 107.1/16
  - $_c$UL$_{US}$ mark
- Declarations (pending):
  - CE Declaration of Conformity
    - IEC60204-1

Remote Monitoring (Sold Separately)

The Cat® Connect telematic device (PLR809 router) and an active subscription to Cat Connect are required for battery warranty. The internet connection provides real time monitoring of the performance and health of the battery and installation. If an issue is detected, local technicians can be dispatched to resolve the problem.

Worldwide Product Support

- Cat dealers provide extensive post-sale support including maintenance and repair agreements.
- Cat dealers have over 1,800 dealer branch stores operating in 200 countries.
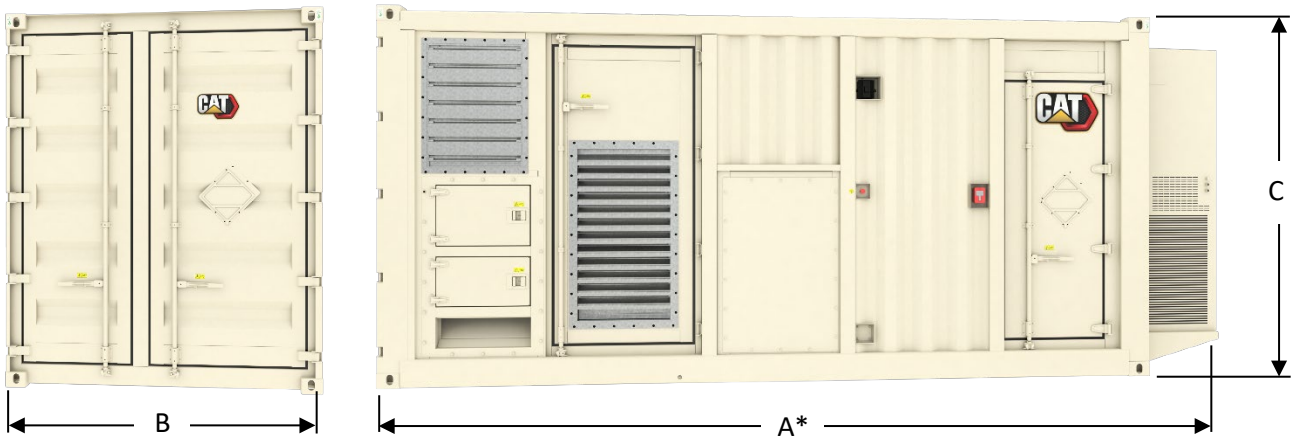
Dimensions		PGS840	PGS1260
A - Length	m (ft)	6.75 (22.13)	
B - Width	m (ft)	2.4 (8)	
C - Height	m (ft)	2.8 (9.5)	
Weight (approximate)	kg	15,357	18,725
	(lbs)	33,856	41,282

Note: Do not use for installation design. See general dimension drawings for detail. Dimensions are dependent on selected options.
* Without A/C module length 6.06 m or 19.87 ft