



Power Products

DCathlon® DC Generator

Model GCAB 4.5kW
Model GCAC 5.5kW

Natural Gas / LP Vapor
DC Generator Set



Description

DCathlon® DC generators from Cummins Power Products are fully integrated power generation units, providing optimum performance, reliability, and versatility for backup power for remote terminal cabinets, wireless networks, and, or CATV/broadband applications.

Powered by pipeline or LP gas, **DCathlon®** DC generators significantly increase the reliability of remote telecom and CATV sites while reducing your backup battery plant; they will continuously charge your battery plant while saving valuable cabinet space and reducing maintenance costs.

The unit mounted, microprocessor based control is an integrated system that combines engine and alternator controls for high reliability and optimum DC generator performance.

DCathlon® DC generators are available in 4.5 kW & 5.5 kW, 24VDC & 48VDC, and feature sound attenuated, lockable aluminum enclosures. Each unit is microprocessor controlled with a variable speed engine to further reduce noise for applications in residential or commercial areas.

Each production unit is factory tested at rated load and voltage. Cummins Power Products manufacturing facilities are committed to the highest possible quality in the design, manufacture, and support of our products.

Features

- **Enclosure** - Aluminum, Locking Enclosure. Rear and Side Doors Removable for Servicability
- **Heavy Duty Engine** – Rugged 4-cycle air cooled industrial spark ignited engine delivers reliable power. Variable Speed Engine Matches RPM to Load & Voltage Requirements
- **Alternator** - Permanent Rare Earth Magnet, Brushless Design
- **Power Connection** - Direct Connection to DC Bus Reduces Battery Requirements and Extends Battery Life
- **Control** - Microprocessor Controller Monitors Both Incoming AC and DC Bus Battery Voltage, Controls Genset Operation, and Protects the Generator & Loads
- Integral Exhaust System & Muffler
- **Warranty and Service** – Backed by a comprehensive warranty and world wide distributor network.
- **Certifications** - All **DCathlon®** generators are tested and certified to meet Telcordia/Bellcore standards GR-63-CORE, GR-487-CORE, GR-1089-CORE, and UL2200.

GenSet Performance**

DC System Voltage: 24VDC, 48 VDC
DC Output Voltage: 26VDC, 52 VDC
DC Ripple: <250mV peak to peak, 100 mV RMS, 10 Hz – 20 mhz (batteries connected)
Voltage Regulation: 2% no load to full load
Voltage Stability: +/- 1% of output voltage, +/-1% due to temperature variation
Operating Temperature Range: -40° F (-40° C) to 122° F (50° C)
EMI: Meets FCC Part 15, for Class A equipment, meets Telecordia/Bellcore 1089-CORE
Agency Compliance: Telecordia GR 487, GR 1089, GR 63, UL 2200, NFPA 37, 54, 58, 110

Engine Features

Model: Briggs & Stratton
Design: V-Twin Cylinder, Overhead Valve, 4-cycle, Air Cooled
Compression Ratio: 8.5:1
Emissions Certification: CARB Tier 2
Oil Sump Capacity: 1.5 qt. (1.4 L)
Operating Speed: Variable 2200-3750 RPM
Displacement: 30.0 cu. in (480 cc) 4.5kW
 34.7 cu. In (570cc) 5.5kW

- Cast iron cylinder liners
- Aluminum alloy crankcase
- Alloy exhaust valves
- Gear driven oil pump
- Spin-on, full flow oil filtration
- 12 V electric starting
- Mounted 12VDC battery charger
- NG/LP vapor fuel system
- Magnotronic® electronic ignition
- Electronic governor
- Dual element air cleaner
- Air Cooled
- Mounted Intregal Muffler

Alternator Details

- Permanent rare earth magnet
- Brushless design
- Bearingless
- 3-phase
- 24 pole pair
- Air cooled by internal fan mounted to rotor
- NEMA MG1-1-66 Class H insulation system

Models	Rated kW**	Rated Amps**	DC Voltage	Standard Features	
4.5 GCAB	4.5	86	48	• NG/LP Fuel	• Mounted Annunciator Panel
4.5 GCAB	4.5	172	24	• Skid Skirt	
5.5 GCAC	5.5	106	48	• Low Fuel Pressure Alarm	• Gas Hazard*
5.5 GCAC	5.5	216	24	• Battery Heater	• Pad Sheer*
				• Block Heater	*Customer Supplied Sensing Equipment
				• Exercise Clock	
				• Enclosure	

	Fuel Consumption**								
	4.5kW		5.5kW		4.5kW		5.5kW		
<u>Natural Gas</u>	<u>cu.ft/hr</u>	<u>cu.m/hr</u>	<u>gal/hr</u>	<u>l/hr</u>	<u>Natural Gas</u>	<u>cu.ft/hr</u>	<u>cu.m/hr</u>	<u>gal/hr</u>	<u>l/hr</u>
25% Load:	63	1.8	0.68	2.6	25% Load:	60	1.31	0.66	2.6
50% Load:	79	2.2	0.86	3.3	50% Load:	80	1.70	0.86	3.3
75% Load:	85.5	2.4	0.93	3.5	75% Load:	107	3.23	1.17	4.4
Full Load:	106	3.0	1.15	4.4	Full Load:	125	3.54	1.35	5.1

**Standard ratings apply to altitudes up to 10,000 ft. (3049m) and ambient temperatures up to 122° F (50° C) without derate. For higher elevations contact Cummins Power Products for exact ratings Specifications subject to change without notice.

Microprocessor Control Panel



Description

- Microprocessor Operation
- 3 Position Run-Off-Auto switch
- Run Time Meter
- Circuit Breaker Disconnect Switch

Features

Microprocessor Controller

- Monitors Both AC Power and DC Bus(Vb)

Variable Speed Engine Control

- Maximizes engine torque curve
- Provides voltage soft transition (walk-in) to DC bus
- Matches engine speed to load demands

Alarm and Status Message Functions

- Customer interface terminal block
- Major, Run, Minor fault alarms
- Proper operation and enclosure intrusion alarm

Remote Operation

- In AUTO mode, remote contact closure or two-wire start system will cause the unit to start and run supplying power to the DC bus

Built-in Time Delay Sequences

- In the AUTO mode, the unit starts on loss of AC power for more than 30 seconds
- After engine start, a 45-second time delay prepares the engine for load assumption by allowing the engine to warm up



Exerciser Clock

- Schedules And Performs Self Test
- 7 Day Programmable
- Digital Display
- 4 Week Cycle (adj.)
- 30 Minute Exercise Time (adj.)

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Annunciator Panel



Description

- 18 - Light Array
- Lamp Test Function
- High-Brightness LED's
- Two (2) Configurable LED's
- 18 - Individual Form "C" Contacts

Alarm Indications

Normal Alarms GREEN:

- AC Power Available
- Unit Under Load

Major Alarms RED:

- Overspeed
- Pad Shear
- Overvoltage
- Undervoltage
- Overcrank
- Engine Stop
- Circuit Breaker Trip
- Over Temperature
- Gas Hazard*
- Pad Shear*

Minor Alarms YELLOW:

- Loss of Fuel
- Remote Start
- Switch Not In Auto
- Low DC/Voltage At Start
- Low Start Battery Voltage
- Commercial Power Fail

*Customer Supplied Sensing Equipment

3 LED Panel

- Unit Run
- Major Alarm
- Minor Alarm

Major Alarms Monitored

- Overspeed
- Overvoltage
- Undervoltage
- Overcrank
- Low Oil Pressure
- Engine Stop
- Circuit Breaker Trip
- Over Temperature

Minor Alarms Monitored

- Loss of Fuel
- Remote Start
- Switch Off Auto
- Low Voltage DC Start
- Starting Battery Voltage

Multiple Sensing Points

- Commercial AC Power
- DC Voltage at Generator Output Terminals
- DC Voltage at Generator Rectifier Assembly
- DC Voltage at Telcom Battery Bus
- Local Alarm Indication

Specifications subject to change without notice

99000229 (4/08)

Enclosure Features



- **Sound-Attenuated Design**
– 70dBA @23ft.(7m)
- **Lockable Access Door**
- **Telecom Style Latches**
- **Clam Shell/lift Up Design For Easy Access & Servicability**
- **Internal Starting Battery Tray & Tie Down**
- **Heavy-Duty, 16-gauge Aluminum Housing, Scratch Resistant, Powder Coated Finish**
- **Designed & Certified To Meet Telcordia GR-487, GR-63, & GR-1089**
- **Common Footprint**



Weight and Physical Dimensions

Refer to Drawing 60000-205 and 60000-206 for Specific Details

GCAB 4.5kW

- **Weight: 350 lb (158 kg)**
- **Length: 41 in (1041 mm)**
- **Width: 28 in (711 mm)**
- **Height: 31 in (787 mm)**
- **<70dBA @ 23 ft. (7m)**

GCAC 5.5kW

- **Weight: 450 lb (203 kg)**
- **Length: 41 in (1041 mm)**
- **Width: 32 in (813 mm)**
- **Height: 37 in (940 mm)**
- **<70 dBA @ 23 ft. (7m)**

Warranty Policy

The Cummins Power Products limited warranty covers **DCathlon®** DC generators for the first year on labor and two-years on parts. See your Cummins distributor for details.

Website: www.cumminspowerproducts.com

After Sale Support

GENUINE MAINTENANCE CARE PARTS AND PRODUCTS - For your ongoing satisfaction and the dependability of your genset, Cummins Distribution offers a complete line of replacement parts, oil and maintenance services.

See your Cummins distributor for more information



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