



# Spark-Ignited Generator set

125, 150, 175, & 200 kW  
Standby  
EPA Emissions



## Description

Cummins Power Generation generator sets are fully integrated power generation systems providing optimum performance, reliability and versatility for stationary standby applications.

## Features

**Gas engine** - Rugged 6-cylinder Cummins QSJ8.9G spark-ignited engine delivers reliable power. The electronic air/fuel ratio control provides optimum engine performance and fast response to load changes.

**Alternator** - Several alternator sizes offer selectable motor starting capability with low reactance 2/3 pitch windings, low waveform distortion with non-linear loads and fault clearing short-circuit capability.

**Control system** - The PowerCommand® 2.3 electronic control is standard equipment and provides total generator set system integration including automatic remote starting/stopping, precise frequency and voltage regulation, alarm and status message display, output metering, auto-shutdown at fault detection and NFPA 110 Level 1 compliance.

**Cooling system** - Standard cooling package provides reliable running at up to 50 °C (122 °F) ambient temperature.

**Enclosures** - The aesthetically appealing enclosure incorporates special designs that deliver one of the quietest generators of its kind. Aluminum material plus durable powder coat paint provides the best anti-corrosion performance. The generator set enclosure has been evaluated to withstand 180 MPH wind loads in accordance with ASCE7-10. The design has hinged doors to provide easy access for service and maintenance.

**NFPA** - The generator set accepts full rated load in a single step in accordance with NFPA 110 for Level 1 systems.

**Warranty and service** - Backed by a comprehensive warranty and worldwide distributor and dealer network.

Model	Natural Gas		Data sheets
	Standby (60 Hz)		
	kW	kVA	60 Hz
C125N6	125	156	NAD-6303
C150N6	150	188	NAD-6304
C175N6B	175	218	NAD-6632
C200N6B	200	250	NAD-6633

## Generator Set Specifications

Governor regulation class	ISO 8528 Part 1 Class G3
Voltage regulation, no load to full load	± 1.0%
Random voltage variation	± 1.0%
Frequency regulation	Isochronous
Random frequency variation	± 0.25% @ 60 Hz
Radio frequency emissions compliance	FCC code title 47 part 15 class B

## Engine Specifications

Design	Turbocharged and Aftercooled
Bore	114.1 mm (4.49 in)
Stroke	144.5 mm (5.69 in)
Displacement	8.9 liters (543 in <sup>3</sup> )
Cylinder block	Cast iron, in-line 6 cylinder
Battery capacity	850 amps standard, dual battery optional
Battery charging alternator	100 amps
Starting voltage	12-volt, negative ground
Lube oil filter type(s)	Spin-on
Standard cooling system	125 kW - 50 °C (122 °F) ambient cooling system 150 kW - 45 °C (113 °F) ambient cooling system 175 kW - 50° C (122° F) ambient cooling system 200 kW - 45° C (113° F) ambient cooling system
Rated speed	1800 rpm

## Alternator Specifications

Design	Brushless, 4 pole, drip proof, revolving field
Stator	2/3 pitch
Rotor	Direct coupled, flexible disc
Insulation system	Class H per NEMA MG1-1.65
Standard temperature rise	120 °C (248 °F) standby
Exciter type	Torque match (shunt) with PMG as option
Alternator cooling	Direct drive centrifugal blower
AC waveform total harmonic distortion	< 5% no load to full linear load, < 3% for any single harmonic
Telephone influence factor (TIF)	< 50 per NEMA MG1-22.43
Telephone harmonic factor (THF)	< 3%

## Available Voltages

1-phase	3-phase
• 120/240	• 120/208
• 120/240	• 277/480
• 277/480	• 347/600
• 347/600	• 127/220

## Generator Set Options

### Fuel system

- 125 and 150 kW:
  - Single fuel – natural gas or propane vapor, field selectable
  - Dual fuel – natural gas or propane vapor, auto changeover
- 175 and 200 kW:
  - Single fuel – natural gas
- Low fuel gas pressure warning

### Engine

- Normal or Heavy-duty engine air cleaner
- Shut down – low oil pressure
- Extension – oil drain
- Engine oil heater

### Electrical

- One, two or three circuit breaker configurations
- 80% rated circuit breakers
- 100% rated LSI circuit breakers

### Control

- PC2.3 with AmpSentry
- PC3.3 with Paralleling option
- AC output analog meters
- Stop switch – emergency
- Auxiliary output relays (2)
- Auxiliary configurable signal inputs (8) and relay outputs (8)

### Alternator

- 120 °C temperature rise alternator
- 105 °C temperature rise alternator
- PMG
- Alternator heater, 120V Reconnectable full 1 phase output alternator

### Enclosure

- Aluminum enclosures with muffler installed – green color
  - Weather
  - Sound Level 1
  - Sound Level 2
  - Winter

### Cooling system

- Shutdown – low coolant level
- Warning – low coolant level
- Extension – coolant drain
- Coolant heater options:
  - < 4 °C (40 °F) - Cold weather
  - < -17 °C (0 °F) - Extreme cold

### Exhaust system

- Exhaust connector NPT
- Exhaust muffler mounted
- Generator set application**
  - Base barrier – elevated genset
  - Battery rack, single or dual battery
  - Radiator outlet duct adapter

### Warranty

- Base warranty – 2 year / 1000 hours, standby
- 3-year standby warranty options
- 5-year standby warranty options

## Generator Set Accessories

- Coolant heaters – 1500W / 2000W
- Battery rack, single or dual battery
- Battery heater kit
- Engine oil heater
- Remote control displays
- Auxiliary output relays (2)
- Auxiliary configurable signal inputs (8) and relay outputs (8)
- Annunciator – RS485
- Remote monitoring device – PowerCommand 500/550
- Battery charger – stand-alone, 12V
- Circuit breakers
- Enclosure Sound Level 1 to Sound Level 2 upgrade kit
- Base barrier – elevated generator set
- Mufflers – industrial, residential, or critical
- Alternator PMG
- Alternator heater

## Control System PowerCommand 2.3



An integrated generator set control system providing voltage regulation, engine protection and operator interface.

**Power Management** - Provides battery monitoring and testing features and smart-starting control system.

**InPower™** – PC-based service tool available for detailed diagnostics.

**PCCNet RS485** - Network interface (standard) to devices such as remote annunciator for NFPA 110 applications.

**Control boards** - Potted for environmental protection.

**Ambient operation** - Suitable for operation in ambient temperatures from -40 °C to +70 °C and altitudes to 13,000 feet (5,000 meters).

### AC Protection

- AmpSentry protective relay
- Over current warning and shutdown
- Over and under voltage shutdown
- Over and under frequency shutdown
- Over excitation (loss of sensing) fault
- Field overload
- Overload warning
- Reverse kW shutdown
- Reverse VAR shutdown
- Short circuit protection

### Engine protection

- Overspeed shutdown
- Low oil pressure warning and shutdown
- High coolant temperature warning and shutdown
- Low coolant level warning or shutdown
- Low coolant temperature warning
- High, low and weak battery voltage warning
- Fail to start (overcrank) shutdown
- Fail to crank shutdown
- Redundant start disconnect
- Cranking lockout
- Sensor failure indication
- Low fuel level warning or shutdown
- Emergency stop
- Fuel-in-rupture-basin warning or shutdown

### Operator/display panel

- Manual off switch
- 320 x 240 Pixels graphic LED backlight LCD with push button access for viewing engine and alternator data and providing setup, controls, and adjustments (English, Spanish, or French).
- LED lamps indicating genset running, not in auto, common warning, common shutdown, manual run mode and remote start
- Suitable for operation in ambient temperatures from -20 °C to +70 °C

### Alternator data

- Line-to-line and Line-to-neutral AC volts
- 3-phase AC current
- Frequency
- Total kVa

### Engine data

- DC voltage
- Lube oil pressure
- Coolant temperature
- Engine speed

### Other data

- Generator set model data
- Start attempts, starts, running hours
- Fault history
- RS485 Modbus® interface
- Data logging and fault simulation (requires InPower service tool)

### Digital governing (optional)

- Integrated digital electronic isochronous governor
- Temperature dynamic governing

### Digital voltage regulation

- Integrated digital electronic voltage regulator
- 2-phase line-to-line sensing
- Configurable torque matching

### Control functions

- Time delay start and cooldown
- Cycle cranking
- PCCNet interface
- (2) Configurable inputs
- (2) Configurable outputs
- Remote emergency stop
- Automatic transfer switch (ATS) control
- Generator set exercise, field adjustable

### Options

- Auxiliary output relays (2)
- Remote annunciator with (3) configurable inputs and (4) configurable outputs
- PMG alternator excitation
- PowerCommand 500/550 for remote monitoring and alarm notification (accessory)
- Auxiliary, configurable signal inputs (8) and configurable relay outputs (8)
- Digital governing
- AC output analog meters (bargraph)
  - Color-coded graphical display of:
    - 3-phase AC voltage
    - 3-phase current
    - Frequency
    - kVa
- Remote operator panel

For further detail on PC 2.3, see document S-1569  
For further detail on PC 3.3, see document S-1570

## Ratings Definitions

### Emergency standby power (ESP):

Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

### Limited-time running power (LTP):

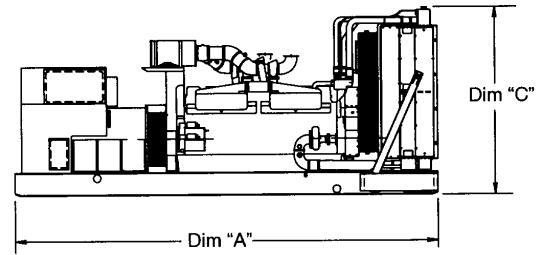
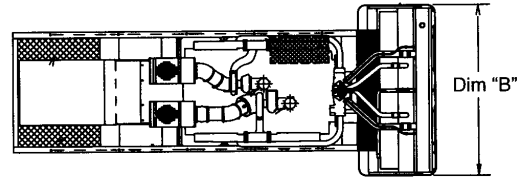
Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.

### Prime power (PRP):

Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

### Base load (continuous) power (COP):

Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.



This outline drawing is for reference only. See respective model data sheet for specific model outline drawing number.





**Do not use for installation design**

Model	Dim "A" mm (in.)	Dim "B" mm (in.)	Dim "C" mm (in.)	Set Weight* wet kg (lbs.)
<b>Open Set</b>				
C125N6	2867 (113)	1016 (40)	1415 (56)	1580 (3483)
C150N6	2867 (113)	1016 (40)	1415 (56)	1580 (3483)
C175N6B	2867 (113)	1016 (40)	1478 (58)	1610 (3543)
C200N6B	2867 (113)	1016 (40)	1478 (58)	1698 (3735)
<b>Weather Protective Enclosure</b>				
C125N6	2867 (113)	1016 (40)	1836 (72)	1661 (3662)
C150N6	2867 (113)	1016 (40)	1836 (72)	1661 (3662)
C175N6B	2867 (113)	1016 (40)	1836 (72)	1691 (3728)
C200N6B	2867 (113)	1016 (40)	1836 (72)	1779 (3922)
<b>Sound Attenuated Enclosure Level 1</b>				
C125N6	3621 (143)	1016 (40)	1836 (72)	1776 (3915)
C150N6	3621 (143)	1016 (40)	1836 (72)	1776 (3915)
C175N6B	3621 (143)	1016 (40)	1836 (72)	1806 (3982)
C200N6B	3621 (143)	1016 (40)	1836 (72)	1894 (4176)
<b>Sound Attenuated Enclosure Level 2</b>				
C125N6	4061 (160)	1016 (40)	1836 (72)	1791 (3940)
C150N6	4061 (160)	1016 (40)	1836 (72)	1791 (3940)
C175N6B	4061 (160)	1016 (40)	1836 (72)	1821 (4015)
C200N6B	4061 (160)	1016 (40)	1836 (72)	1909 (4209)

\* Weights above are average. Actual weight varies with product configuration

## Codes and Standards

Codes or standards compliance may not be available with all model configurations – consult factory for availability.

 <p>The Prototype Test Support (PTS) program verifies the performance integrity of the generator set design. Cummins Power Generation products bearing the PTS symbol meet the prototype test requirements of NFPA 110 for Level 1 systems.</p>	 <p>This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.</p>
<p><b>International Building Code</b></p> <p>The generator set is certified to International Building Code (IBC) 2012.</p>	 <p>The generator set is available Listed to UL 2200, Stationary Engine Generator Assemblies.</p>
	 <p>All low voltage models are CSA certified to product class 4215-01.</p>
	<p><b>U.S. EPA</b></p> <p>Engine certified to U.S. EPA SI Stationary Emission Regulation 40 CFR, Part 60.</p>

**Warning:** Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

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 NAS-6298-EN (12/22) A057Y417



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