



## Specification sheet

# Gaseous Fuel Generator Set

## GTA 855 MOH Engine Series



150 kW - 225 kW 60 Hz

### Description

The Cummins Inc. commercial Generator Set (GenSet) is a fully integrated power generation system providing optimum performance, reliability, and versatility for prime and continuous power applications.

### Features

**Cummins Heavy-Duty Engine** - Rugged 4-cycle industrial spark-ignited engine delivers reliable power, low emissions, and quick 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, fault-clearing short-circuit capability, and class H insulation.

**Control System** - The PowerCommand® electronic control is standard equipment and provides total GenSet system integration, including automatic remote starting/stopping, precise voltage regulation, alarm and status message display, AmpSentry™ protective relay, output metering, and auto-shutdown at fault detection.

**Warranty and Service** - Backed by a one-year warranty and worldwide distributor network.

Model	Standby rating		Prime rating		Continuous rating		Data sheet	
	60Hz kW (kVa)	50 Hz kW (kVa)	60 Hz kW (kVa)	50 Hz kW (kVa)	60 Hz kW (kVa)	50 Hz kW (kVa)	60 Hz kW (kVa)	50 Hz kW (kVa)
C225N6			225 (281)		150 (188)		FR 11546	

## GenSet Specifications

Voltage Regulation, No Load to Full Load	±1%
Random Voltage Variation	±1% (Three-phase only.)
Frequency Regulation	Isochronous
Random Frequency Variation	±0.5%
Radio Frequency Interference	Optional PMG excitation operates in compliance with BS800 and VDE level G and N. Addition of RFI protection kit allows operation per MIL-STD-461 and VDE level K.

## Engine Specifications

Base Engine	Cummins Model GTA 855E
Displacement	14 L (855 in <sup>3</sup> )
Overspeed Limit	2100 rpm
Regenerative Power	TBD
Cylinder Block Configuration	Cast iron
Cranking Current	860 CCA at ambient temp of 0 °C (32 °F)
Battery Charging Alternator	43 amps
Battery Type	8D (x2)
Starting Voltage	24-volt, negative ground
Standard Cooling System	See derates on Engine Data Sheet
Lube Oil Filter Types	One spin-on canister-combination full flow with bypass
Total System Back Pressure Allowed	51 mm Hg (2 in. Hg)
Catalyst Back Pressure	22 mm Hg (.88 in. Hg)
Silencer Back Pressure (Factory Enclosed Units Only)	5.6 mm Hg (.22 in. Hg)

## Alternator Specifications

Design	Brushless, 4-pole, drip-proof revolving field
Stator	2/3 pitch
Rotor	Direct-coupled by flexible disc
Insulation System	Class H per NEMA MG1-1.65 or better
Standard Temperature Rise *	125 °C
Exciter Type	Shunt or Permanent Magnet Generator (PMG)
Phase Rotation	A (U), B (V), C (W)
Alternator Cooling	Direct-drive centrifugal blower

\* For UL 1004 ratings, refer to temperature rise at 120 °C or below, and ambient temperature up to 40 °C

## Amp Rating at Full-load Voltage

Full Load Voltage			120/240 (1 Ph)	120/208	127/220	139/240	220/380	240/416	254/440	277/480	347/600
<b>C225N6</b>	Cont.	<b>Amps</b>	N/A	520	492	451	285	260	246	226	180
<b>C225N6</b>	Prime	<b>Amps</b>	N/A	781	738	677	427	390	369	338	271

## Fuel Consumption

Model	Fuel Type	Rated Load Fuel Consumption in Standard Cubic Feet per Hour (CFH)			
		1/4	1/2	3/4	Full
<b>C225N6</b>	Propane	447	695	960	1217
<b>C225N6</b>	NG	1162	1805	2493	3161

Fuel inlet pressure at GenSet connection: 381 to 508 mm WC (15 to 20 in. WC)

# PowerCommand<sup>®</sup> 3.3 Control System



An integrated microprocessor based generator set control system providing voltage regulation, engine protection, alternator protection, operator interface and isochronous governing. Refer to document S-1570 for more detailed information on the control.

**AmpSentry™** - Includes integral AmpSentry™ protection, which provides a full range of alternator protection functions that are matched to the alternator provided.

**Power management** - Control function provides battery monitoring and testing features and smart starting control system.

**Advanced control methodology** - Three-phase sensing, full wave rectified voltage regulation, with a PWM output for stable operation with all load types.

**Communications interface** - Control comes standard with PCCNet and Modbus<sup>®</sup> interface.

**Regulation compliant** - Prototype tested: UL, CSA and CE compliant.

**Service** - InPower™ PC-based service tool available for detailed diagnostics, setup, data logging and fault simulation.

**Easily upgradeable** - PowerCommand<sup>®</sup> controls are designed with common control interfaces.

**Reliable design** - The control system is designed for reliable operation in harsh environment.

**Multi-language support** - English, Spanish, French (standard); other languages (optional).

## Operator Panel Features

### Operator/Display Panel

- Displays paralleling breaker status.
- 320 x 240 pixels graphic LED backlight LCD.
- Provides direct control of the paralleling breaker.
- Alphanumeric display with pushbuttons.
- Auto, manual, start, stop, fault reset, and lamp test/panel lamp switches.
- LED lamps indicating GenSet running, remote start, not in auto, common shutdown, common warning, manual run mode, auto mode and stop.

### Paralleling Control Functions

- First Start Sensor System selects first genset to close to bus.
- Phase Lock Loop Synchronizer with voltage matching.
- Sync check relay.
- Isochronous kW and kVar load sharing.
- Load govern control for utility paralleling.
- Extended Paralleling (baseload/peak shave) Mode.
- Digital power transfer control, for use with a breaker pair to provide open transition, closed transition, ramping closed transition, peaking and base load functions.

### Other Control Features

- 150 watt anti-condensation heater.
- DC distribution panel.
- AC auxiliary distribution panel.

## Alternator Data

- Line-to-neutral and line-to-line AC volts.
- Three-phase AC current.
- Frequency.
- kW, kVar, and power factor kVa (three-phase and total).
- Winding temperature (optional).
- Bearing temperature (optional).

## Engine Data

- DC voltage and engine speed.
- Lube oil pressure and temperature.
- Coolant temperature.
- Comprehensive FAE data.

## Other Display Data

- GenSet model data.
- Start attempts, starts, running hours, kW hours.
- Load profile (operating hours at % load in 5% increments).
- Fault history – up to 32 events.
- Data logging and fault simulation (requires InPower™).
- Air cleaner restriction indication.
- Exhaust temperature in each cylinder.

## Standard Control Functions

### Digital Governing

- Temperature dynamic governing.
- Integrated digital electronic isochronous governing.

### Digital Voltage Regulation

- Configurable torque matching.
- 3-phase, 4 wire line-to-line sensing.
- Integrated digital electronic voltage regulator.

### AmpSentry™ AC Protection

- AmpSentry™ protective relay.
- Over current and short circuit shutdown.
- Over current warning.
- Single and three-phase fault regulation.
- Low oil pressure warning and shutdown.
- High coolant temperature warning and shutdown.
- Low coolant level warning and shutdown.
- Low coolant temperature warning.
- Over and under voltage shutdown.
- Over and under frequency shutdown.
- Overload warning with alarm contact.
- Reverse power and reverse var shutdown.
- Field overload shutdown.
- Fuel-in-rupture-basin warning or shutdown.
- Full authority electronic engine protection.
- AMM arc flash provision

### Engine Protection

- Cranking lockout; overspeed shutdown; and battleshort.
- Sensor failure indication.
- Low fuel level warning or shutdown.
- Fail to start (overcrank) and fail to crank shutdown.
- Full authority electronic engine protection.
- Battery voltage monitoring, protection, and testing.

### Control Functions

- Data logging and cycle cranking.
- Load shed.
- Remote emergency stop.
- Time delay start and cooldown.
- Configurable inputs and outputs (20).
- Real time clock for fault and event time stamping.
- Exerciser clock and time of day start/stop.

## GenSet options and accessories

### Engine

- 240/480 V, 4000 W coolant heaters
- Oil pan heater
- Battery heater
- Control heater
- Liquid propane fuel train

### Alternator

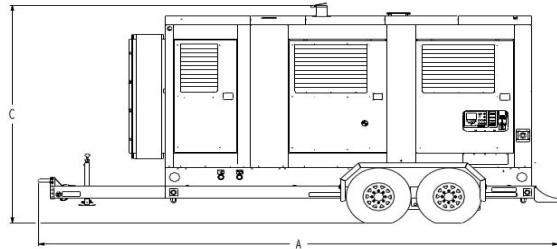
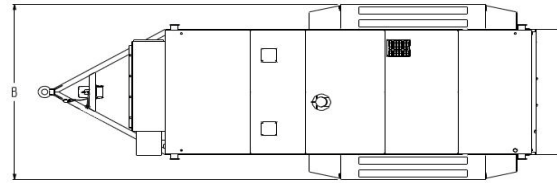
- 80 °C rise
- 105 °C rise

### Exhaust System

- GenSet mounted muffler

### Generator Set

- Batteries
- Audible alarm
- Oil maintainer



This outline drawing is for reference only.

**Do not use for installation design.**

	Dim "A" mm (in.)	Dim "B" mm (in.)	Dim "C" mm (in.)
<b>C225N6</b>	6414 (252)	2432 (96)	3048 (120)

NOTE: Consult drawings for applicable weights. Contact the factory for additional information. See enclosure Specification Sheet for enclosure dimensions.

## Codes and Standards

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



The Prototype Test Support (PTS) program verifies the performance integrity of the GenSet design. Products bearing the PTS symbol have been subjected to demanding tests in accordance with NFPA 110 to verify the design integrity and performance under both normal and abnormal operating conditions. These conditions include: short circuit, endurance, temperature rise, torsional vibration, and transient response, as well as full



Engine is certified to Mobile Non-Emergency U.S. EPA New Source Performance Standards (NSPS), 40 CFR 60 subpart JJJJ. U.S. applications must be applied per EPA regulations.



**This product has been manufactured under the controls established by a Bureau Veritas Certification approved management system that conforms with ISO 9001:2015.**

## 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 is in accordance with ISO 3046, AS 2789, DIN 6271, and BS 5514.

### **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) is in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271, and BS 5514.

**Warning:** Backfeed to a utility system can cause electrocution and/or property damage. Do not connect GenSets to any building electrical system except through an approved device or after the building main disconnect is open. Neutral connection must be bonded in accordance with National Electrical Code.

Specifications are subject to change without notice.



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