

Diesel generator set NT855 series engine



320 kVA–440 kVA 50 Hz
320 kW–400 kW 60 Hz

Description

This Cummins® Power Generation commercial generator set is a fully integrated power generation system, providing optimum performance, reliability, and versatility for stationary standby, prime power, and continuous duty applications.

Features

Cummins® heavy-duty engine – Rugged 4-cycle industrial diesel delivers reliable power, low emissions and fast response to load changes.

Permanent magnet generator (PMG) – Offers enhanced motor starting and fault clearing short circuit capability.

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-circuits capability, and class H insulation.

Cooling system – Standard integral set-mounted radiator system, designed and tested for rated ambient temperatures, simplifies facility design requirements for rejected heat.

Control system – Standard PowerCommand® electronic control provides total system integration including remote start/stop, precise frequency and voltage regulation, alarm and status message display, AmpSentry protection, output metering, auto-shutdown.

Enclosures – Optional weather-protective and sound-attenuated enclosures are available.

Warranty – Backed by a comprehensive warranty and Worldwide distributor network.

Model	Standby rating		Prime rating		Data sheet	
	50 Hz kVA (kW)	60 Hz kW (kVA)	50 Hz kVA (kW)	60 Hz kW (kVA)	50 Hz	60 Hz
C350 D5	350 (280)		320 (256)		DS25-CPGK	
C400 D5	400 (320)		360 (288)		DS26-CPGK	
C440 D5	440 (352)		400 (320)		DS27-CPGK	
C350 D6		350 (438)		320 (400)		DS72-CPGK
C400 D6		400 (500)		365 (456)		DS73-CPGK

Generator set specifications

Governor regulation class	ISO 8528 G2
Voltage regulation, no load to full load	+/- 1%
Random voltage variation	+/- 1%
Frequency regulation	Isochronous
Random frequency variation	+/- 0.25%
EMS compatibility	EN 61000-6-4/EN 61000-6-2

Engine specifications

Design	4 cycle, in-line, turbo charged
Bore	140 mm (5.5 in.)
Stroke	152 mm (6.0 in.)
Displacement	14.0 liter (855 in ³)
Cylinder block	Cast iron, 6 cylinder
Battery capacity	100 amp/hr
Battery charging alternator	55 amps
Starting voltage	24 volt, negative ground
Fuel system	Direct injection
Fuel filter	Spin on fuel filters with water separator
Air cleaner type	Dry replaceable element with restriction indicator
Lube oil filter type(s)	Spin-on full flow filter
Standard cooling system	122 °F (50 °C) ambient radiator

Alternator specifications

Design	Brushless single bearing, revolving field
Stator	2/3 pitch
Rotor	Single bearing, flexible disc
Insulation system	Class H
Standard temperature rise	125–163 °C standby
Exciter type	Self excited
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower fan
AC waveform total harmonic distortion (THDV)	No load < 1.5%. Non distorting balanced linear load < 5%
Telephone influence factor (TIF)	< 50 per NEMA MG1-22.43
Telephone harmonic factor (THF)	< 2%

Available voltages

50 Hz Line-Neutral/Line-Line		60 Hz Line-Neutral/Line-Line	
• 277/480	• 220/380	• 277/480	• 220/380*
• 254/440	• 127/220	• 254/440	• 127/220
• 240/416	• 115/200	• 230/400	• 115/200
• 230/400	• 110/190	• 240/416	• 110/190

* Derate may be applicable at this voltage. Please consult factory for details.

Generator set options and accessories

Engine

- Heavy duty air filter
- Water jacket heater
220/240 V

Cooling

- Antifreeze 50/50 (ethylene glycol)

Enclosure

- Sound attenuated canopy

Alternator

- Alternator heater
- Exciter voltage regulator

Control panel

- PCC3100
- 4 pole main circuit breaker

Warranty

- 5 years for standby application

- 2 years for prime application

Silencer

- 9 dB attenuation critical silencer
- 25 dB residential – delivered loose

Note: Some options may not be available on all models - consult factory for availability.

Control system

PowerCommand® 2100 – The PowerCommand® control system is a microprocessor based generator set monitoring, and control system.

The control provides an operator interface to the genset, digital voltage regulation, digital governing and generator set protective functions.

The PowerCommand® 2100 generator set control is suitable for use on a wide range of generator sets in nonparalleling applications.

The PowerCommand® Control can be configured for any frequency, voltage and power connection configuration from 120 to 600 VAC for 50 Hz or 60 Hz operation.

Power for the control is derived from the generator set starting batteries. The control functions over a voltage range from 8 VDC to 35 VDC.

Major features

- 12 or 24 VDC battery operation.
- Digital engine speed governing (optional) to provide isochronous frequency regulation.
- Digital voltage regulation with 3-phase sensing.
- AmpSentry™ protection for true alternator overcurrent protection.
- Digital AC output metering with optional analog metering.
- Battery monitoring system to sense and warn against a weak battery condition.
- Digital alarm and status message display.
- Generator set monitoring – Displays status of all critical engine and alternator generator set functions.
- Smart starting control system – Integrated fuel ramping to limit black smoke and frequency overshoot.

Control system

Includes all functions to locally or remotely start and stop, and protect the generator set.

Control switch – RUN/OFF/AUTO

OFF mode – the generator set is shut down and cannot be started.

RUN mode – the generator set will execute its start sequence.

AUTO mode – the generator set can be started with a start signal from a remote device.

LED indicating lamps – includes LED indicating lamps for the following functions:

- Generator set running.
- Not-in-auto mode.
- Common warning.
- Five LED indicating lamps that are configurable for colour and function.
- Low oil pressure warning.
- High engine temperature warning.
- Low oil pressure shutdown.
- Overspeed shutdown.
- Fail to start.

Emergency stop switch

Immediate shut down of the generator set on operation.

Base engine protection

- Overspeed shutdown.
- Low oil pressure warning/shutdown.
- High engine temperature warning/shutdown.
- Underspeed/sensor fail shutdown.
- Fail to start/fail to crank.
- Low/high battery voltage.

Options

- Analog AC metering panel.
- Key type mode selector switch.
- Exhaust temperature monitoring.
- PowerCommand network.
- CAN engine interface (optional on some models).
- Refer to the PowerCommand Controls Technical Bulletin for detailed information (S1409d).



**PowerCommand® 2100
control operator/
display panel**

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):

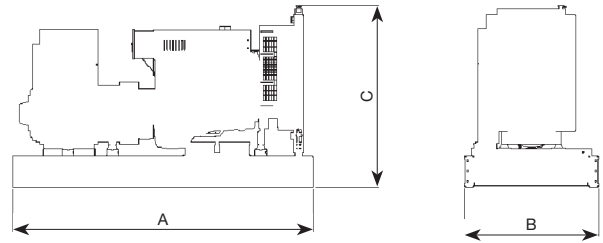
Applicable for supplying power to a constant electrical load for limited hours. Limited time running power (LTP) is in accordance with ISO 8528.

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 to provide representative configuration details for Model series only.

See respective model data sheet for specific model outline drawing number.



Do not use for installation design

Weight and dimensions

Model	A mm	B mm	C mm	Dry Wt. (kg)	Wet Wt. (kg)
C350 D5	3549	1100	2078	3196	3386
C400 D5	3549	1100	2078	3373	3563
C440 D5	3549	1100	2115	3493	3683
C350 D6	3549	1100	2078	3373	3563
C400 D6	3549	1100	2115	3493	3683

*Note: Weights represent a set with standard features. See outline drawings for weights of other configurations.

Certifications

	This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.		This generator set is available with CE certification.
2000/14/EC	All enclosed products are designed to meet or exceed EU noise legislation 2000/14/EC step 2006.	ISO 8528	This generator set has been designed to comply with ISO 8528 regulation.

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