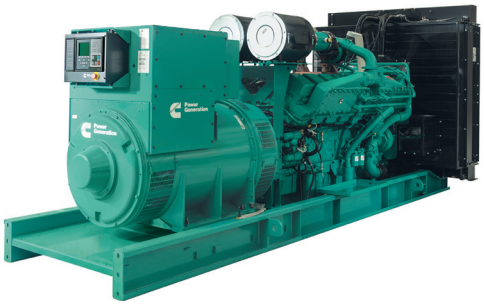
Specification sheet

Diesel generator set KTA50 series engine

1000kVA - 1675kVA 50 Hz
1120kW - 1545kW 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 F or H insulation.

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.

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

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

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

	Standby rating		Prime rating		Emissions compliance	Data sheets	
Model	50 Hz kVA (kW)	60 Hz kW (kVA)	50 Hz kVA (kW)	60 Hz kW (kVA)	TA Luft – EU Stage	50 Hz	60 Hz
C1400 D5	1400 (1120)		1250 (1000)			DS44-CPGK	
C1675 D5	1675 (1340)		1400 (1120)			DS46-CPGK	
C1675 D5A	1675 (1340		1500 (1200)			DS47-CPGK	
C1250 D6		1270 (1588)		1120 (1400)		DS84-CPGK	
C1500 D6		1545 (1931)		1286 (1608)		DS85-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%
EMC compatibility	BS EN 61000-6-4 / BS EN 61000-6-2

Engine specifications

Design	4 cycle, V-black, turbo charged and after-cooled
Bore	158.8 mm (6.25 in)
Stroke	158.8 mm (6.25 in)
Displacement	50 L (3067 in^3)
Cylinder block engine	Sixteen-cylinder vee formation, direct injection, four-cycle diesel
Battery capacity	1800 amps at ambient temperature 32°F (0°C)
Battery charging alternator	55 amps
Starting voltage	24- volt, negative ground
Fuel system	Direct injection
Fuel filter	Dual spin on paper element fuel filters with standard water separator
Air cleaner type	Dry replaceable element
Lube oil filter type(s)	Spin-on paper element full flow and bypass lube oil filters
Standard cooling system	104°F (40°C) ambient radiator

Alternator specifications

Design	Brushless, 4 pole, drip proof revolving field
Stator	2/3 pitch
Rotor	Direct coupled by flexible disc
Insulation system	Class H
Standard temperature rise	
Exciter type	PMG (Permanent magnet generator)
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower fan
AC waveform total harmonic distortion	No load <1.5%. Non distorting balanced linear load <5%
Telephone influence factor (TIF)	< 50% per NEMA MG1-22.43
Telephone harmonic factor (THF)	No load <1.5%. Non distorting balanced linear load <5%

Available voltages

50 Hz line – neutral / line - line		**60 Hz line – neutral / line - line**	
• 220/380*	• 1905/3300	• 219/380	• 2400/4160
• 230/400	• 3640/6300	• 254/440	• 7200/12470
• 240/415	• 3810/6600	• 277/480	• 7620/13200
• 254/440	• 6350/11000	• 347/600	• 7970/13800

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

Generator set options

Engine
☐ Heavy duty air filter
☐ Water jacket heater 220/240 v

Cooling
☐ Antifreeze 50/50 (Ethylene glycol)

Enclosure
☐ High-cube 40 ft container

Alternator
☐ Alternator heater
☐ High humidity isolation
☐ Exciter voltage regulator (PMG)

Control panel
☐ 3 pole main circuit breaker
☐ 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.

PowerCommand 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 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 controls are designed with common control interfaces.

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

Multi-language support

Operator panel features

Operator/display functions

- Displays paralleling breaker status
- Provides direct control of the paralleling breaker
- 320 x 240 pixels graphic LED backlight LCD
- Auto, manual, start, stop, fault reset and lamp test/panel lamp switches
- Alpha-numeric display with pushbuttons
- 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,

Alternator data

- Line-to-neutral and line-to-line AC volts
- 3-phase AC current
- Frequency
- kW, kvar, power factor kVA (three phase and total)

Engine data

- DC voltage
- Engine speed
- Lube oil pressure and temperature
- Coolant temperature
- Comprehensive FAE data (where applicable)

Other data

- Genset model data
- Start attempts, starts, running hours, kW hours
- Load profile (operating hours at % load in 5% increments)
- Fault history
- Data logging and fault simulation (requires InPower)

Standard control functions

Digital governing

- Integrated digital electronic isochronous governor
- Temperature dynamic governing

Digital voltage regulation

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

AmpSentry AC protection

- AmpSentry protective relay
- Over current and short circuit shutdown
- Over current warning
- Single and three phase fault regulation
- Over and under voltage shutdown
- Over and under frequency shutdown
- Overload warning with alarm contact
- Reverse power and reverse var shutdown
- Field overload shutdown

Engine protection

- Battery voltage monitoring, protection and testing
- Overspeed shutdown
- Low oil pressure warning and shutdown
- High coolant temperature warning and shutdown
- Low coolant level warning or shutdown
- Low coolant temperature warning
- Fail to start (overcrank) shutdown
- Fail to crank shutdown
- Cranking lockout
- Sensor failure indication
- Low fuel level warning or shutdown
- Fuel-in-rupture-basin warning or shutdown
- Full authority electronic engine protection

Control functions

- Time delay start and cool down
- Real time clock for fault and event time stamping
- Exerciser clock and time of day start/stop
- Data logging
- Cycle cranking
- Load shed
- Configurable inputs and outputs (4)
- Remote emergency stop

Options

- Auxiliary output relays (2)

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):

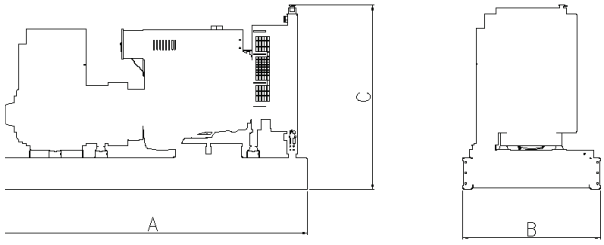
Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.

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

Model	Dim "A" mm	Dim "B" mm	Dim "C" mm	Set Weight* dry kg	Set Weight* wet kg
C1400 D5	5105	2000	2238	9099	10075
C1675 D5	5690	2033	2330	10324	10626
C1675 D5A	5690	2033	2330	10324	10626
C1250 D6	5105	2000	2238	9009	10075
C1500D6	5690	2033	2330	10024	10326

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

Codes and standards

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

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SS16-CPGK-RevB (1/13)

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