



## Generator Set Specifications

Governor Regulation	ISO8528G3
Steady State Voltage Regulation, No Load to Full Load	± 0.25%
Steady State Frequency Variation	± 0.25%
Frequency Regulation	Isochronous
EMC Compatibility	Radiated Emissions to BSEN61000-6.3 Conducted Immunity to BSEN61000-6.2

## Engine Specifications

Design	4 cycle, V, Turbo Charged and Low Temperature After cooled
Bore	170
Stroke	190
Displacement	77.6 liter (4735 in. <sup>3</sup> )
Cylinder Block	Cast iron, 18 cylinder
Battery Capacity	1400 A
Battery Charging Alternator	55 amps
Starting Voltage	24 volt, negative ground
Fuel System	Direct injection: number 2 diesel fuel, fuel filter, automatic electric fuel shutoff
Fuel Filter	Triple element, 10 micron filtration, spin-on fuel filter with water separator
Air Cleaner Type	Dry replaceable element
Lube Oil Filter Type(s)	Six spin-on, combination full flow and bypass filters
Cooling System	104°F (40°C) ambient

## Alternator Specifications

Design	Brushless 4 pole, drip proof revolving field
Stator	2/3 pitch
Rotor	2 bearing, flexible coupling
Insulation System	Class H on low and medium voltage, Class F on high voltage
Standard Temperature Rise	150°C Standby
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 <3 %
Telephone Influence Factor (TIF)	<50 per NEMA MG1-22.43
Telephone Harmonic Factor (THF)	<2%

## Available Voltages

50Hz Line – Neutral / Line – Line	
•220/380	•1905/3300
•230/400	•3810/6600
•240/415	•6350/11000
•254/440	

## Generator Set Options

### Engine

- Water jacket heater 220/240 V
- Centinel
- Eliminator
- Pre-lube system

### Alternator

- Alternator heater
- High humidity isolation
- Exciter voltage regulator (PMG)
- Temperature sensor - RTDs,
- Temperature sensor – alternator bearing RTD
- Differential current transformers
- Exciter voltage regulator (PMG)
- 80C – 150C Temperature Rise

### Generator Set

- Vibration Isolators
- Batteries
- Battery Charger

### Control Panel

- PowerCommand 3.3
- Paralleling
- Multiple language support
- 240 V control anti-condensation

### Exhaust System

- Industrial silencer
- Residential silencer
- In-Line or Side Entry Options
- Accessories

### Cooling System

- Antifreeze 50/50 (Ethylene glycol)
- Radiator, 40 °C ambient
- Radiator, 50 °C ambient
- Remote Cooling
- Fuel Cooler, 40 °C ambient
- Fuel Cooler, 50 °C ambient

### Warranty

- 2 years warranty
- 5 years warranty
- 10 year major component warranty

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

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## PowerCommand® 3.3 – Control System



### Control system

The PowerCommand® control system is an integrated microprocessor based generator set control system providing voltage regulation, engine protection, alternator protection, operator interface and isochronous governing.

**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.

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

**Multi-language support**

### Operator panel features

**Operator panel features** – The operator panel, in addition to the alternator, displays the Utility/AC Bus data.

#### Operator/display functions

- 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

- Digital frequency synchronization and voltage matching
- Isochronous kW and kvar load sharing controls
- Droop kW and kvar control
- Sync check
- Extended paralleling (Peak Shave/Base Load)
- Digital power transfer control (AMF) provides load transfer operation in open or closed transition or soft (ramping) transfer mode

#### 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 (optional)

- 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

#### Engine protection

- Battery voltage monitoring, protection and testing
- Over speed 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 (over crank) 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)

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## 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.

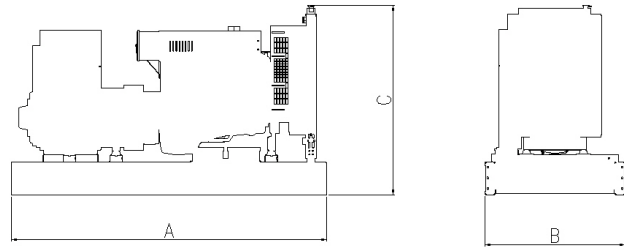
### Prime Power (PRP):

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.

### Open Set



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.

### Open Set

Model	Dim "A" mm	Dim "B" mm	Dim "C" mm	Set weight* dry kg	Set weight* wet kg
C2750 D5	5668	2313	2300	19996	20616
C3000 D5	5668	2313	2300	19996	20616

\*Note: Weights represent a set with standard features. Does not include fuel. See outline drawings for weights of other configurations.

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