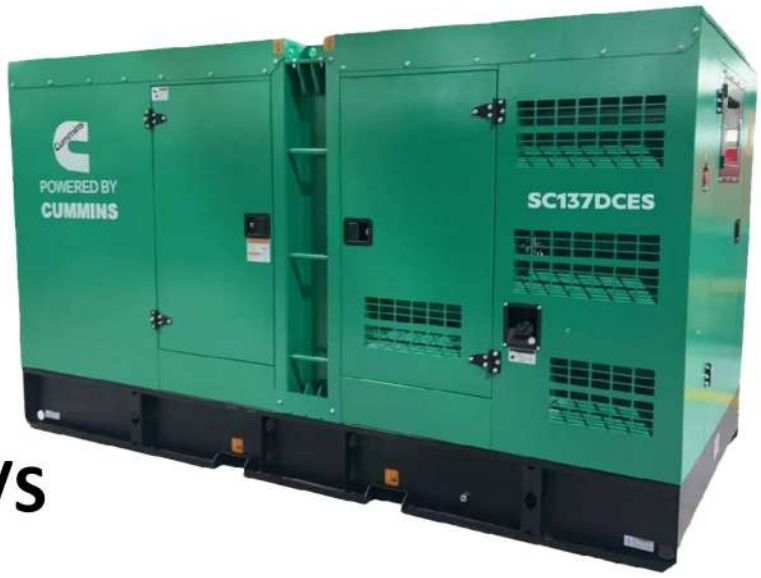


# SC137DCE F/S

## Introduction

This generation system, providing optimum performance, and reliability, for stationary standby, prime power, and continuous duty applications. All generator sets are factory build, and production tested.

## Power

| Voltage (V) | STANDBY RATING (ESP) | | PRIME RATING (PRP) | | STANDBY CURREN(A) |
|---|---|---|---|---|---|
| | kW | kVA | kW | kVA | |
| 400 / 231 | 120 | 150 | 110 | 137 | 198A |

STANDBY RATING (ESP) Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. ESP is in accordance with ISO 8528-1. Overload is not allowed.

PRIME RATING (PRP) Applicable for supplying power to varying electrical load for unlimited hours. PRP is in accordance with ISO 8528-1. 10 % overload capability is available for a period of 1 hour within 12-hour period of operation.

## General Characteristics

| | |
|---|---|
| Model Name | SC137-DCEF / SC137-DCES |
| Frequency (Hz) | 50 |
| Fuel Type | Diesel |
| Engine Make and Model | CUMMINS/6BTAA5.9-G2 |
| Alternator Make and Model | Stamford/UCI274E |
| Control Panel Model | DSE 6120 |
| Canopy | OPEN / SILENT |

## Engine Specifications

**General Data**

| | |
|---|---|
| Manufacturer | CUMMINS |
| Engine Model | 6BTAA5.9-G2 |
| Number of Cylinders / Type | 6cylinders - in Line |
| Bore mm (in) | 102 |

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| | |
|---|---|
| Stroke mm (in) | 120 |
| Displacement l (cu. In) | 5.9L |
| Compression Ratio | 17.3:1 |
| Engine Speed (rpm) | 1500 |
| Standby Power (kW) | 130 |
| Standby Speed (rpm) | 1500 |
| Start Motor (V) | 24V |
| Governor System | Electronic Governor |
| Air Filter | Dry Type |
| Aspiration | Turbo Charge and After cooled |

## Lubrication System

| | |
|---|---|
| Oil Capacity (l) | 16.4 L |

## Fuel System

| | |
|---|---|
| Fuel Type | Diesel |
| Injection Type | Direct |
| Frequency Droop | <0.5hz |

## Electrical System

| | |
|---|---|
| Operating Voltage (Vdc) | 24V |
| Battery and Charge (Qty/A) | 2.40A |

## Cooling System

| | |
|---|---|
| Cooling Method | Water Cooled |

## Exhaust System

| | |
|---|---|
| Exhaust Gas Flow (L/S ) | 293 |
| Exhaust Back Pressure kPa | N/A |
| Exhaust Gas Temperature $^{o}$C (F) | 481 |

## Radiator

| | |
|---|---|
| Total Coolant Capacity (l) | 16.4 |
| Cooling Fan Air Flow m$^3$/min | N/A |
| Type of Coolant | Liquid (water + 50% antifreeze) |

## Fuel Consumption

| | | |
|---|---|---|
| Fuel Cons. @100% Prime Load (kg/h) | 210g·kW/H | 210*110Kw/1000/0.85 = 27.1(l/h) |
| Fuel Cons. @75% Prime Load (kg/h) | 210g·kW/H | 210*82.5Kw/1000/0.85 = 20.38(l/h) |
| Fuel Cons. @50% Prime Load (kg/h) | 210g·kW/H | 210*55Kw/1000/0.85 = 13.58(l/h) |


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## Alternator Characteristics

| | |
|---|---|
| Manufacturer | Stanford |
| Alternator Model | UC1274C |
| Frequency (Hz) | 50 |
| Rate Power (kVA) | 137 |
| Voltage (V) | 400 |
| Phase | 3 Phase |
| Rated Speed (rpm) | 1500 |
| Voltage Regulation | Included |
| Insulation Class | H |
| Protection Class | IP 23 |
| Rated Power Factor | 0/8 |
| Voltage Adjust Range % | ±10% |
| Efficiency | 93% |

## Open Generator Set Characteristics (F)

| | |
|---|---|
| Length (mm) | 2350 |
| Width (mm) | 920 |
| Height (mm) | 1450 |
| Open Genet Gross Weight Dry (kg) | 1470 |
| Full Tank Capacity (l) | 300L |
| Noise | 102dB@7m |

## Silent Generator Set Characteristics (S)

| | |
|---|---|
| Length (mm) | 3000 |
| Width (mm) | 1100 |
| Height (mm) | 1800 |
| Silent Genset Gross Weight Dry (kg) | 1820 |
| Full Tank Capacity (l) | 265L |
| Noise | <85dB |

## Control Panel

| | |
|---|---|
| Manufacturer | DeepSea |
| Control Module Model | DSE 6120 |
| Communication Ports | ModBus |

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1. Menu navigation buttons
2. Close mains button
3. Main Status and instrumentation display
4. Alarm LED's
5. Close generator button
6. Status LED's
7. Operation selecting buttons

## Standard Devices

DSE model 6120, Auto Mains Failure control module, with a highly sophisticated level of new features and functions Static battery charger, Fuses for control circuits

## Control Unit

- The DSE 6120 control module is a standard addition to our generator sets from 220 kVA upwards and it has been designed to start and stop diesel and gas generating sets that include electronic and non electronic engines. - The DSE 6120 includes the additional capability of being able to monitor a mains (utility) supply and is therefore suitable for controlling a standby generating set in conjunction with an automatic transfer switch. - The DSE7320 also indicates operational status and fault conditions, automatically shutting down the generating set and indicating faults by means of its LCD display on the front panel.

## Construction and Finish

- Components installed in sheet steel enclosure.
- Phosphate chemical, pre-coating of steel provides corrosion resistant surface
- Polyester composite powder topcoat forms high gloss and extremely durable finish

## Installation

The Control panel is mounted at the generating set baseframe on robust steel stand or power module. Located at side of generating set with properly panel visibility.

## Engine

-Engine speed
-Oil pressure
-Coolant temperature
-Run time
-Battery volts
-Engine maintenance due

## Shut Down

- Fail to start
- Emergency stop
- Low oil pressure
- High engine temperature
- Low coolant level
- Under/over speed
- Under/over generator frequency
- Under/over generator voltage
- Oil pressure sensor open
- Phase rotation

## Warnings

- Charge failure
- Battery under voltage
- Fail to stop
- Low fuel level (opt.)
- kW over load
- Negative phase sequence
- Loss of speed signal


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## Generator

- Voltage (L-L, L-N)
- Current (L1-L2-L3)
- Frequency
- Earth current
- kW
- Pf
- kVAr
- kWh, kVAh, kVArh
- Phase sequence

## Pre-alarms

- Low oil pressure
- High engine temperature
- Low engine temperature
- Under/over speed
- Under/over generator frequency
- Under/over generator voltage
- ECU warning

## Electrical Trip

- Earth fault
- kW over load
- Generator over current
- Negative phase sequence

## Mains

- Voltage (L-L, L-N)
- Frequency

## Expansions

- Additional LED module (2548)
- Expansion relay module (2157)
- Expansion input module (2130)

## Options

- High oil temperature
- Low fuel level shut down
- Low fuel level alarm
- High fuel level alarm

## Control Panel Compliance List

- Electrical Safety / Electro Magnetic Compatibility
- BS EN 61000-6-2 EMC Generic Immunity Standard
- BS EN 61000-6-4 EMC Generic Emission Standard
- BS EN 60950 Electrical Safety

## Conductors

- Terminals suitable for connection of conductor size 12 AWG to 26 AWG (0.5 $mm^2$ to 2.0 $mm^2$).
- Conductor protection must be provided in accordance with NFPA 70, Article 240
- Low voltage circuits (35 volts or less) must be supplied from the engine starting battery or an isolated secondary circuit.
- The communication, sensor, and/or battery derived circuit conductors shall be separated and secured to maintain at least ¼" (6mm) separation from the generator and mains connected circuit conductors unless all conductors are rated 600 Volts or greater.

## Standard Equipment

- Water cooled, Diesel engine
- Radiator with mechanical fan
- Protective grille for rotating and hot parts
- Electric starter and charge alternator
- Starting battery (with lead acid) including rack and cables
- Engine coolant heater
- Steel base frame and anti-vibration isolators
- Spare external fuel tank
- Flexible fuel connection hoses
- Single bearing, class H alternator
- Industrial exhaust silencer and steel bellows supplied separately (for open sets)
- Static battery charger
- Manual for application and installation

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