Cat® C1C2
DIESEL GENERATOR SETS

Image shown may not reflect actual configuration.

6.8 kVA – 22 kVA
50/60 Hz

BENEFITS & FEATURES

CAT® GENERATOR SET PACKAGE

Cat generator set packages have been fully prototype tested and certified torsional vibration analysis reports are available. The packages are designed to meet the NFPA 110 requirement for loading, conform to the ISO 8528-5 steady state and fill transient response requirements.

CAT DIESEL ENGINES

The four-cycle Cat diesel engine combines consistent performance with excellent fuel economy and transient response that meets or exceeds ISO 8528-5. The engines feature a reliable, rugged, and durable design that has been field proven in thousands of applications worldwide in emergency standby installations.

COOLING SYSTEM

The cooling system has been designed and tested to ensure proper generator set cooling, and includes the radiator, fan, belts, and all guarding installed as standard. Contact your Cat dealer for specific ambient and altitude capabilities.

GENERATORS

The generators used on Cat packages have been designed and tested to work with the Cat engine. The generators are built with robust Class H insulation and provide industry-leading motor starting capability and altitude capabilities.

GCCP CONTROL PANELS

The GCCP controller features the reliability and durability you have to come to expect from your Cat equipment. Monitoring an extensive number of engine parameters, the controller will display warnings, shutdown and engine status information on the back-lit LCD screen, illuminated LEDs and remote PC. The controllers offer extensive number of flexible inputs, outputs and extensive engine protections so the system can be easily adapted to meet the most demanding industry requirements.

SPECIFICATIONS

ENGINE SPECIFICATIONS

Engine Model	Cat® C1.1, C1.5, C2.2
Cooling	Water Cooled
Aspiration	Naturally Aspirated Engines
Governor	Mechanical
Governing Class	ISO 8528
Emission Certifications Options	Non- Regulated & EU IIIA

GENERATOR SET SPECIFICATIONS

Alternator Design	Brushless Single Bearing, 4 Pole
Stator	2/3-6 Pitch
Available Voltage Options	230V/240V/220V/380V/400V/ 415V
Frequency	50 Hz or 60 Hz
Engine Alternator Voltage	12V
Alternator Insulation & IP	Class H

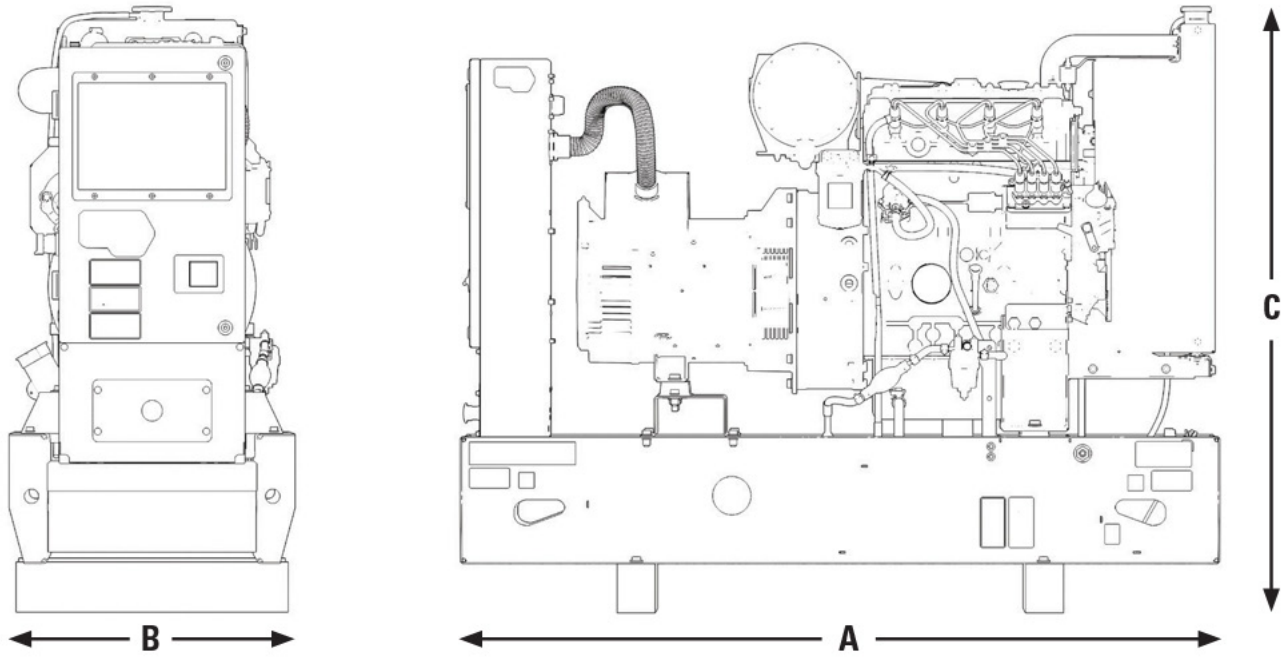
STANDARD EQUIPMENT

Air inlet system	Air Cleaner Light duty with disposable paper filter
Control panels	GCCP1.3 control panel
Cooling system	Radiator and cooling fan with guards Coolant drain line with valve Fan drive, battery charging alternator drive Caterpillar Extended Life Coolant
Exhaust system	Stub pipe, gaskets, raincap & SAE exhaust flange for customer use; shipped loose
Fuel system	Standard open set fuel tank/base supplied Base, formed steel with single wall integral 8-hour fuel tank
Generators and generator attachments	4 leads IP23 Protection Voltage regulator (single phase sensing) Tower panel, IP22, bottom cable entry Circuit breaker, IEC, 3 pole, mounted in tower panel Segregated low voltage (AC/DC) wiring panel
Governing system	Mechanical governing system
Lube system	Lubricating oil Oil drain line with valve
Mounting system	Skid base as standard Anti-vibration mounts
Starting/charging system	12V battery with rack and cables
General	Engine and alternator pre-paint, Caterpillar Yellow

OPTIONAL EQUIPMENT

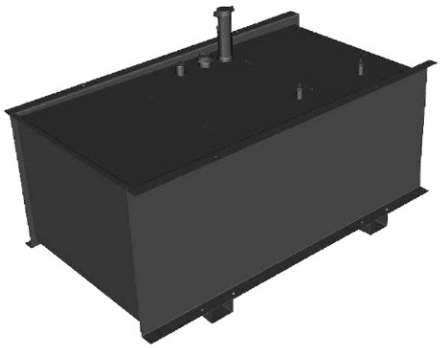
Control panels	Volt free contacts for common alarm Volt free contacts for genset running Battery charger Emergency stop with key
Circuit breakers	4-Pole circuit breaker
Enclosures	Sound attenuated enclosure (GALV) Single point lift for enclosure
Cooling system	Coolant heater
Fuel system	Skidbase for open sets Skidbase for enclosures DEFRA bunded fuel tank Low fuel level alarm Fuel transfer control 1000 hr extended service interval Base feet
Fuel storage	8 Hr Single & dual wall 8 Hr Dual wall – heavy duty 24 Hr Dual wall – heavy duty
Certification	Certification for CIS
European Certifications	Upgrade to STD set for “CE”
Alternator options	Coastal insulation protection
Mounting system	Battery removal Industrial silencer removal Silencer installation kit
Accessories/ Miscellaneous	Radiator stone guard Packing case – compact set Packing case – canopied set

WEIGHTS & DIMENSIONS



Note: General configuration not to be used for installation. See general dimension drawings for detail.

Genset Model	Length "A" mm (in)	Width "B" mm (in)	Height "C" mm (in)	Net Weight (+ lube oil) Kg (lb)	Wet Weight (+ lube oil & coolant) Kg (lb)
DE7.5E3S	1500 (59.1)	860 (33.9)	895 (35.2)	237 (523)	242 (524)
DE9.5E3	1500 (59.1)	860 (33.9)	895 (35.2)	230 (508)	235 (519)
DE9.5E3 (EUR-I)	1500 (59.1)	860 (33.9)	895 (35.2)	237 (523)	242 (524)
DE11E3S	1500 (59.1)	860 (33.9)	895 (35.2)	313 (690)	319 (703)
DE13.5E3	1500 (59.1)	860 (33.9)	895 (35.2)	306 (674)	312 (688)
DE16E0	1500 (59.1)	860 (33.9)	895 (35.2)	333 (734)	339 (747)
DE14E3S	1500 (59.1)	860 (33.9)	895 (35.2)	374 (825)	381 (840)
DE16E3S	1500 (59.1)	860 (33.9)	895 (35.2)	382 (842)	389 (858)
DE18E3	1500 (59.1)	860 (33.9)	895 (35.2)	369 (814)	376 (829)
DE22E3	1500 (59.1)	860 (33.9)	895 (35.2)	382 (842)	389 (858)



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Integral and Sub Base Fuel Tanks

6.8 – 22 kVA (B Series)

A range of fuel tanks are available with capacities from 55 – 1000 litres providing 10 – 250 hours running at 75% prime on the DE22E3 at 50 Hz. Single and dual wall options are available

FEATURES

- 3 mm steel construction
- Dual wall tanks have a secondary containment with capacity for 110% of fuel
- All bund joints are fully seam welded
- Polyester powder painted to ensure maximum scuff resistance
- Pressure tested to 2 psi
- Mechanical direct reading fuel level gauge
- 2 inch (50.8 mm) fuel fill neck
- Fuel feed and return lines to engine
- Tank baffles

OPTIONS

- Low fuel level alarm
- Low fuel level shutdown
- High fuel level alarm
- Fuel transfer control

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SOUND ATTENUATED ENCLOSURES

Level 1, Level 2 & Level 3
6.8 – 22 kVA (B Series) Range

The compact design of the 6.8 – 22 kVA SA Level 1, Level 2 and Level 3 enclosures range provides the flexibility of optimum sound attenuation depending on requirements. Designed on modular principles, the enclosures will have lift off doors or vertically hinged doors providing optimal service and maintenance access.

The enclosures are constructed with galvanised steel, designed to resist corrosion and handling damage. Developed through continuing research and development by our specialist engineers, the enclosures are weather protective and incorporate internally mounted exhaust silencers.
All of the sound attenuated enclosures reduce sound levels to comply with the stage II levels of the European Community Directive 2000/14/EC, effective from 3 January 2006.

FEATURES

Durable and Robust Construction

- Base frame extends beyond enclosure protecting against handling damage
- Black finish stainless steel locks and hinges
- Zinc plated/stainless steel fasteners

Excellent Service and Maintenance Access

- Optional side hinged doors on both sides of the enclosure
- Optional lift off only doors on both sides of the enclosure
- Coolant drain piped to base frame, exterior to the enclosure

Security and Safety

- Control panel viewing via large viewing window
- Emergency stop push button mounted on enclosure exterior
- Cooling fan and battery charging alternator fully guarded
- Exhaust silencing system totally enclosed for operator safety

Transportability

- Drag points on base frame facilitating handling from both sides

Cat® C1C2
CONTROL PANEL

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GCCP 1.3 – Control Panel

GCCP 1.3 Control Module is suitable for a wide variety of generator set applications. It controls operation of the generator, monitors an extensive number of engine parameters, and displays warnings, shutdown, and engine status information on the back-lit LCD screen, illuminated LEDs and remote PC, if desired

KEY FEATURES

- 4-line back-lit LCD text display
- Multiple display languages
- Five-key menu navigation
- LCD alarm indication
- Customisable power-up text and images
- Data logging facility
- Internal PLC editor
- Protections disable feature
- Fully configurable via PC using USB & RS485 communication
- Front panel configuration with PIN protection
- Power save mode
- 3-phase generator sensing and protection
- 3-phase mains (utility) sensing and protection (Optional)
- Automatic load transfer control (optional)
- Auto Mains (Utility) Failure capable (optional)
- Mains (utility) current and power monitoring (kW, kvar, kVA, pf) (Optional)
- Generator current and power monitoring (kW, kvar, kVA, pf)
- kW and kvar overload and reverse power alarms
- Over current protection
- Unbalanced load protection
- Breaker control via fascia buttons
- Fuel and start outputs configurable when using CAN
- Support for 0 V to 10 V & 4 mA to 20 mA sensors
- 8 configurable digital inputs (3 available for Customer use)
- 8 configurable digital outputs (5 available for Customer use)
- 4 configurable analogue outputs (3 available for Customer Use)
- CAN, MPU and alternator frequency speed sensing in one variant
- Real time clock
- Engine pre-heat and post-heat functions
- Engine run-time scheduler
- Engine idle control for starting & stopping
- Fuel usage monitor and low fuel level alarms
- 3 configurable maintenance alarms

BENEFITS

- Hours counter provides accurate information for monitoring and maintenance periods
- User-friendly set-up and button layout for ease of use
- Multiple parameters are monitored & displayed simultaneously for full visibility
- The module can be configured to suit a wide range of applications for user flexibility
- PLC editor allows user configurable functions to meet user specific application requirements.
- RS485 Communication port can be used for the Remote Monitoring Communication (Compatible with Cat PLG)

SPECIFICATION

DC SUPPLY
CONTINUOUS VOLTAGE RATING
8V to 35V Continuous
5V for upto 1 minute

CRANKING CROPOUTS
Able to survive 0V for 100mS, providing supply was at least 10V before dropout and supply recovers to 5V. This is achieved without the need for internal batteries.
LEDs and backlight will not be maintained during cranking.

MAXIMUM OPERATING CURRENT
260 mA at 12V, 150 mA at 24V

MAXIMUM STANDBY CURRENT
145 mA at 12V, 85 mA at 24V

CHARGE FAIL/EXCITATION RANGE
0V to 35V

GENERATOR & MAINS (UTILITY) VOLTAGE RANGE
15V to 415V AC (Ph to N)
26V to 719V AC (Ph to Ph)

FREQUENCY RANGE
3.5 Hz to 75 Hz

MAGNETIC PICKUP VOLTAGE RANGE
+/-0.5V TO 70V

FREQUENCY RANGE
10,000 Hz (max)

INPUTS

DIGITAL INPUTS A TO H
Negative switching

ANALOGUE INPUTS A & D
Configurable as:
Negative switching digital input 0V to 10V sensor
4 mA 20 mA sensor resistive sensor

ANALOGUE INPUTS B & C
Configurable as:
Negative switching digital input resistive sensor

OUTPUTS

OUTPUT A 7B (FUEL & START)
15A DC at supply voltage

AUXILIARY OUTPUTS C, D, E, F, G & H
2A DC at supply voltage

DIMENSIONS OVERALL
216 mm x 158 mm x 43 mm
8.5" x 6.2" x 1.5"

PANEL CUT-OUT
184 mm x 137 mm
7.2" x 5.3"

MAXIMUM PANEL THICKNESS
8 mm
0.3"

STORAGE TEMPERATURE RANGE
-40°C TO +85°C
-40°F TO 185°F

OPERATING TEMPERATURE RANGE
-30°C to +70°C
-22°F to +158°F

LET'S DO THE WORK.™

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