

Caterpillar is leading the power generation marketplace with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost-effectiveness.

### Specifications

Generator Set Specifications	
Minimum Rating	1650 ekW
Maximum Rating	2500 ekW
Emissions/Fuel Strategy	U.S. EPA Cert., Tier 2
Voltage	380 to 13800 Volts
Frequency	60 Hz
Speed	1800 rpm
Duty Cycle	Standby, Mission Critical, Prime, Continuous

Engine Specifications		
Engine Model	3516C, ATAAC, V-16,4-Stroke Water-Cooled Diesel	
Bore	170 mm	6.69 in
Stroke	190 mm	7.48 in
Stroke - HD	215 mm	8.46 in
Displacement	78 l	4764.73 in
Compression Ratio	14.7:1	
Aspiration	TA	
Fuel System	Electronic unit injection	
Governor Type	Adem™3	

Generator Set Dimensions		
Length - Minimum	7229 mm	284.6 in
Length - Maximum	7495 mm	295.1 in
Width - Minimum	2379 mm	93.7 in
Width - Maximum	2569 mm	101.2 in
Height - Minimum	2958 mm	116.5 in

Height - Maximum	3009 mm	118.5 in
Dry Weight - Genset (minimum)	16275 kg	35880 lb
Dry Weight - Genset (maximum)	17590 kg	38780 lb

## Benefits and Features

### Cat Generator Set Package

- Cat generator set packages have been fully prototype tested
- Accepts 100% block load in one step and meets NFPA 110 loading requirements
- Conform to ISO 8528-5 steady state and transient response requirements

### Cat Diesel Engine

- Reliable, rugged, durable design
- Field-proven in thousands of applications worldwide
- Four-stroke-cycle diesel engine combines consistent performance and excellent fuel economy with minimum weight

### SR5 Alternator

- Superior motor starting capability minimizes need for oversizing alternator
- Designed to match performance and output characteristics of Cat diesel engines
- Robust Class H insulation

### EMCP 4 Control Panel

- User-friendly interface and navigation
- Scalable system to meet a wide range of installation requirement
- Expansion modules and site-specific programming for specific customer requirements

### Cooling System

- Designed to operate in standard ambient temperatures up to 50Â°C (122Â°F)
- Contact your Cat Dealer for specific ambient and altitude capabilities

### Certifications

- UL2200 Listed
- CSA Certified
- IBC Seismic Certification
- OSHPD pre-approval

### One Safe Source

- Components used in the generator set are selected at the design stage to provide optimum package performance
- The generator set is fully assembled at a Caterpillar facility following our quality guidelines
- Each generator set package is tested before leaving the Caterpillar facility
- Cat product support, including dealer service, parts and warranty covers the entire Cat power system

### World Wide Product Support

- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- Your local Cat dealer provides extensive post-sale support, including maintenance and repair agreements

## Standard Equipment

### Air Inlet System

- Air Cleaner; single element canister type

### Air Inlet

- Air Cleaner

### Cooling

- Package mounted radiator

### Exhaust

- Exhaust flange outlet

### Control Panels

- Number of I/O varies on options selected:
- Engine cycle crank
- Accessory module data link
- Emergency stop pushbutton
- Environmental sealed front face
- Generator set packages include Caterpillar's Voltage Regulator. IVR includes reactive droop capability, 3-phase voltage sensing, KVAR / PF modes, RFI suppression, min / max exciter. Limiter and exciter diode monitor
- 6 Customer programmable digital inputs
- Controls:
- Serial annunciator module data link
- Auto / start / stop control -
- 1 Programmable digital outputs
- Cat connect
- Customer data link (Modbus RTU)
- Reverse reactive power (kVAr) (32RV)
- 24 Volt DC operation
- Overcurrent (50 / 51)
- Engine cool-down timer
- Speed adjust -
- Generator mounted - rear facing
- 4 Programmable relay outputs (Form A)
- 1 Programmable relay outputs (Form C)
- EMCP 4.2B
- Communications:
- Text alarm / event descriptions
- Alarm acknowledge
- Lamp test
- Load histogram feature
- Customizable screens -0 True RMS AC metering, 3-phase, +/-2% accuracy
- PLC functionality

- Digital indication for:
  - RPM
  - DC volts
  - Operating hours
  - Volts (L-L & L-N)
  - Oil pressure (psi, kPa or bar)
  - Frequency (Hz)
  - Coolant temperature
  - Amps (per phase & average)
  - kVA (per phase, average & percent)
  - kW (per phase, average & percent)
  - kVA<sub>r</sub> (per phase, average & percent)
  - Power Factor (per phase & average)
  - kW-hr (total)
  - kVA<sub>r</sub>-hr (total)
  - Emergency stop
  - Low oil pressure
  - Failure to start (overcrank)
  - High coolant temperature
  - Overspeed
  - Warning / shutdown with common LED indication of shutdowns for:
    - Programmable protective relaying functions:
      - Low coolant temperature
      - Low coolant level -
      - Generator phase sequence
      - Reverse power (kW) (32)
      - Over / under voltage (27 / 59)
      - Over / under Frequency (81 o/u)

### Fuel

- Fuel priming pump
- Primary fuel filter with integral water separator
- Secondary fuel filter

### Generator

- Matched to the performance and output characteristics of Cat engines
- IP23 Protection

### Power Termination

- Bus Bar

### Control Panel

- EMCP 4 Genset Controller

### Cooling System

- ATAAC - 3516E Package Radiators shipped installed
- Certified standard PGS provided

### Exhaust System

- Dry exhaust manifold
- Flanged faced outlet(s)

### Fuel System

- Flexible fuel lines - shipped loose
- Secondary fuel filters
- Fuel priming pump
- Fuel cooler; not included with packages without radiator

### General

- Paint - Caterpillar Yellow except rails and radiators gloss black
- Flywheel and flywheel housing - SAE No. 00
- Caterpillar yellow with high gloss black rails and radiator
- Right hand servicing
- SAE Standard rotation

### Generator and Attachments

- Random wound
- Permanent magnet
- Medium Voltage:
  - Permanent magnet
  - Form wound
  - Winding temperature detectors
  - Class H insulation, Class F temperature rise at 40C ambient (105C prime/130C standby)
  - Bus bar connections, right side extension box, bottom cable entry
- Form wound
- 3 Phase brushless, salient pole
- Low Voltage:
  - Class H temperature rise at 40C ambient (125C prime / 150C standby)
  - Internal excitation
  - NEMA standard hole pattern
  - 6 lead
  - NEMA Class H insulation, Class H temperature rise at 40C ambient (125C prime / 150C standby)
  - Winding temperature detectors
- High Voltage:
  - Busbar connections, top center mounted, top cable entry

- Winding temperature detectors
- Anti condensation space heater
- NEMA standard hole pattern
- NEMA Class H insulation, Class H temperature rise at 40C ambient (125C prime / 150C standby)

### Governing System

- ADEM A3

### Literature

- English

### Lubrication System

- Oil drain lines and valve
- Integral lube oil cool
- Lubricating oil
- Fumes disposal
- Gear type lube oil pump
- Oil filter, filler and dipstick

### Mounting System

- Anti-vibration mounts (shipped loose)
- Rails - engine/generator/radiator mounting
- Rubber anti-vibration mounts (shipped loose)

### Starting System

- 45 Amp charging alternator
- Battery disconnect switch
- Battery and battery rack w/cables
- 24 Volt electric starting motor

## Optional Equipment

### Control System

- EMCP4.3, EMCP 4.4

### Exhaust

- Exhaust mufflers

### Air Inlet System

- Dual element air cleaner
- Single element filter

### Generator

- Anti-condensation heater
- Oversize and premium generators
- Excitation: [ ] Permanent Magnet Excited (PM) [ ] Internally Excited (IE)

### Cooling System

- Standard ambient ATAAC radiators
- Optional installed radiators
- Water level switch gauges
- Optional installed ATAAC radiators
- Standard ambient radiators
- Coolant

### **Power Termination**

- Circuit breakers, UL listed
- Circuit breakers, IEC compliant

### **Crankcase System**

- Explosion relief valves
- No explosion relief valves
- Ventilation system

### **Control Panels**

- Digital I/O module
- EMCP (4.2) (4.3) (4.4)
- Load share module
- Generator temperature monitoring & protection
- Remote monitoring software

### **Exhaust System**

- Y-Adapters
- Tier 4 clean emission MOD Kits
- Flexible fittings
- Tier 4 clean emissions module
- Flanges
- Clean emission parts
- Exhaust offset
- Tier 4 dosing cabinet
- Flange and exhaust expanders
- Elbows
- Mufflers

### **Mounting**

- Rubber anti-vibration mounts
- IBC isolators
- Spring-type vibration isolator

### **Starting/Charging**

- Charging alternator
- Heavy-duty starting system

- Air starting motor with control and silencer
- Battery chargers
- Jacket water heater
- Oversize batteries

### Fuel System

- Primary Fuel Filter
- Fuel Priming Pumps (Tier 4) - Manual or Electric

### General

- EU Certificate of Conformance (CE)
- The following options are based on regional and product configuration:
- Integral & sub-base UL listed dual wall fuel tanks
- CSA Certification
- Seismic Certification per applicable building codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, CBC 2007
- UL 2200 package
- EEC Declaration of Conformity
- Integral & sub-base fuel tanks
- Automatic transfer switches (ATS)
- Enclosures: sound attenuated, weather protective
- US aid emblem
- Special paint (Colors other than Caterpillar yellow or high performance paints)

### Generators and Attachments

- High voltage: 12470, 13200, 13800 volts, 3 phase 1800 rpm, FW, PM, No. of Leads = 6, Pitch = .6667: 2700, 3000 Frame
- Alternator air cleaner
- High voltage: 6300, 6600, 6900 volts, 3 phase 1800 rpm, FW, PM, No. of Leads = 6, Pitch = .6667: 2700, 3000 Frame
- Differential current transformers (DCT)
- Thermostate for space heater
- Space heater kits
- Low / Medium voltage: 380, 416, 440, 480, 600, 2400, 4160 Volts, 3 Phase 1800 RPM, FW, PM, No. of Leads = 6, Pitch = .6667: 1600, 1800 Frame
- Differential current transformers (DCT) 8.7 kV and 15 kV classes
- Low / Medium voltage: 380, 440, 480, 600 volts, 3 phase 1800 rpm. RW, IE, No. of Leads = 6, Pitch = .6667: 1600 Frame
- Generator conversion

### Instrumentation

- Pyrometer and thermocouples

### Lubrication System

- Lube oil in standard sump



- Prelube pumps
- Oil level regulator

### Mounting System

- IBC vibration isolators
- Puck style low efficiency isolators
- Spring type vibration isolators

### Power Connections

- Ground cables between generator and terminal box
- Neutral ground connections
- Right side power connections
- Left side power connections
- Rear power connections
- Low voltage circuit breakers
- Center post busbar
- 2700 Frame, four lead, four terminal

### Special Tests / Reports

- Torsional vibration analysis reports
- Standard engine test charge
- PGS test report @ 1.0 power factor
- IBC certification
- Canadian Standards Association certification
- generator test report
- OSHPD certification
- Fuel consumption test
- Generator set fuel consumption test
- PGS test report @ 0.8 power factor

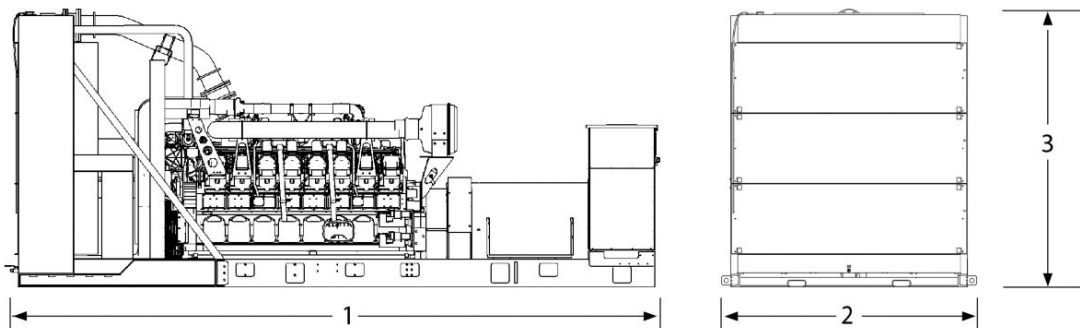
### Starting and Charging

- 24 Volt battery set - Dry
- Electric starting motors
- 10, 20, 35 and 50 amp battery chargers
- Jacket water heaters
- Air pressure regulator
- Engine barring device
- Starter cover
- Air starting motors

### Extended Service Coverage

- Platinum, Gold and Silver coverage

### Dimensional Art



Dimensions	Dimension 1	Dimension 2	Dimension 3
Genset Dimensions	7036 mm (277.0 in)	2569 mm (101.2 in)	3009 mm (118.5 in)

The International System of Units (SI) is used in this publication. CAT, CATERPILLAR, their respective logos, ADEM, EUI, S•O•S, "Caterpillar Yellow" and the "Power Edge" trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.