



The 3512 generator set has been developed for a wide range of applications, from emergency standby installations such as healthcare and datacenters to continuously powering remote installations. The packages can be optimized for performance that matters to you with either low emissions or low fuel consumption versions available. Backed by the worldwide network of Cat dealers ready to support your operation with technical support, service, parts, and warranty, Cat generator sets will provide the reliability and durability you expect.

Specifications

Generator Set Specifications		
Height - Maximum	2336 mm	92 in
Length - Maximum	5269 mm	207.5 in
Width - Maximum	2015 mm	79.3 in
Minimum Rating	1000 kVA	
Maximum Rating	1400 kVA	
Voltage	400 to 415 Volts	
Frequency	50 Hz	
Speed	1500 rpm	
Duty Cycle	Continuous, Prime, Standby, Mission Critical	

Generator Set Configurations	
Emissions/Fuel Strategy	Low Fuel Consumption, Low Emissions

Engine Specifications		
Engine Model	3512 TA, V-12, 4-Stroke Water-Cooled Diesel	
Compression Ratio	13.5:1	
Aspiration	TA	
Governor Type	Woodward	
Fuel System	Direct Unit Injection	
Bore	170 mm	6.69 in
Displacement	51.8 l	3161.03 in ³
Stroke	190 mm	7.48 in
Air Inlet	Single element canister style with service indicator	
Exhaust Flange Size	203.2 mm (8.0 in)	

Benefits and 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 accept 100% load in one step, meet the NFPA 110 requirement for loading, and conform to the ISO 8528-5 steady state and transient response requirements

Cat Diesel Engine

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 have been designed and built for a wide range of applications and can be optimized for low fuel consumption or low emissions. The engines feature a reliable, rugged, and durable design that has been field proven in thousands of applications worldwide from emergency standby installations to continuously operating power plants.

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. Random wound generators provide good generator performance in a majority of applications and form wound is available for harsh mechanical and electrical environments.

Cat EMCP Control Panel

The EMCP controller features the reliability and durability you have come to expect from your Cat equipment. EMCP4 is a scalable control platform designed to ensure reliable generator set operation, providing extensive information about power output and engine operation. EMCP4 systems can be further customized to meet your needs through programming and expansion modules.

Cooling System

The cooling system has been designed to operate in standard ambient temperatures up to 50°C (122°F), with optional high ambient radiators available. The factory installed 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.

World Wide Product Support

Cat Dealers provide extensive post sale support including maintenance and repair agreements. Cat dealers have over 1,800 dealer branch stores operating in 200 countries. The Caterpillar S•O•SSM program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products.

Standard Equipment

Air Inlet System

- Air cleaner; single element canister type with service indicator

Control Panel

- EMCP4.2 controls including:
- Emergency stop pushbutton
- 24 Volt DC operation
- Environmental sealed front face
- Text alarm / event descriptions
- Generator mounted - rear facing
- Controls:

- Speed adjust
- Auto / start / stop control
- Engine cool-down timer
- Engine cycle crank
- Alarm acknowledge
- Lamp test
- True RMS AC metering, 3 phase, +/-2% accuracy
- Digital indication for:
 - RPM
 - DC volts
 - Operating hours
 - Oil pressure (psi, kPa or bar)
 - Coolant temperature
 - Volts (L-L & L-N)
 - Frequency (Hz)
 - Amps (per phase & average)
 - Power Factor (per phase & average)
 - kW (per phase, average & percent)
 - kVA (per phase, average & percent)
 - kVAr (per phase, average & percent)
 - kW-hr (total)
 - kVAr-hr (total)
- Warning / shutdown with common LED indication of shutdowns for:
 - Low oil pressure
 - High coolant temperature
 - Overspeed
 - Emergency stop
 - Failure to start (overcrank)
 - Low coolant temperature
 - Low coolant level
- Programmable protective relaying functions:
 - Generator phase sequence
 - Over / under voltage (27 / 59)
 - Over / under frequency (81 o/u)
 - Reverse Power (kW) (32)
 - Reverse Reactive Power (kVAr) (32RV)
 - Overcurrent (50 / 51)
- Communication:

- Customer data link (Modbus RTU)
- Accessory module data link
- Serial annunciator module data link
- 6 programmable digital inputs
- 4 programmable relay outputs (Form A)
- 2 programmable relay outputs (Form C)
- 2 programmable digital outputs

Cooling System

- JWAC
- Radiator fan and fan drive
- Fan and belt guards
- Coolant drain line with valve
- Coolant level sensors. (Not included with packages without radiator)
- Caterpillar extended life coolant. (Not included with packages without radiator, installed SF44CTS, shipped loose radiators or heat exchangers)

Exhaust

- Dry exhaust manifold
- Flanged faced outlet(s)

Fuel System

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

Generators and Attachments

- 3 Phase brushless, salient pole
- 6 Lead
- Generator set packages include: Regulator (CDVR)
- Caterpillar's Digital Voltage Regulator (CDVR) includes:
 - Reactive droop capability
- 3 Phase voltage sensing
- KVAR / PF modes
- RFI suppression
- Min / max exciter limiter
- Exciter diode monitor
- LV:
 - Random wound
 - Internal Excitation
 - NEMA Class H insulation

- Class H temperature rise at 40C ambient (125C prime/150C standby)
- Winding temperature detectors
- Busbar connections, top center mounted, top cable entry
- 50 Hz models: IEC standard hole pattern
- Note: 1800 frames are form wound, permanent magnet, with winding temp detectors

Governing System

- Woodward 2301A isochronous governor

Lube System

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

Mounting System

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

Starting / Charging System

- 24-volt electric starting motor
- Battery and battery rack w/cables
- Battery disconnect switch

General

- Paint - Caterpillar Yellow with high gloss black rails & radiator
- RH Service
- Flywheel and Flywheel housing-SAE No. 00
- SAE Standard Rotation

Optional Equipment

Air Inlet System

- Dual Element air cleaners
- Remote air inlet adaptors
- Air Inlet protection

Circuit Breakers

- Optional busbar power connections
- Breaker harnesses
- Center posts busbars
- Cable entry options
- Controls packaging - Enclosures

- EMAX circuit breakers
- 2000, 2500, 3200 and 4000 Amp, 3 pole, IEC rated circuit breakers
- 2000, 2500, 3200 and 4000 Amp, 4 pole, IEC rated circuit breakers
- Busbar connections
- EMAX breakers connections

Control Panels

- EMCP 4.3, EMCP 4.4
- Customer connection mounting locations
- Annunciator modules
- Governors
- Mounting group - External box clips
- Auxiliary boxes
- Customer interface options
- Generator temperature monitoring
- Remote speed adjust
- Vandal proof panel door
- Local PC monitoring
- Ground (Automatically selected)

Cooling System

- Optional radiator arrangements
- Water level switch gauges
- Heat exchangers

European Certifications

- European Union Certification
- EU declaration of conformity
- Eurasian conformity (EAC) mark
- European directive genset, Dol (Declaration of Incorporation)

Exhaust System

- Mufflers
- Muffler mounting kits
- Flexible fittings
- Through-wall installation kit

Fuel System

- Primary fuel filter

Generators and Attachments

- 1500 RPM, 380/400/415volts @ 50 Hz, 3 phase, random wound, internal excitation, No. of leads = 6, pitch= 0.6667

- 1500 RPM, 380/400/415volts @ 50 Hz, 3 phase, random wound, permanent magnet, No. of leads = 6, pitch= 0.6667
- 1500 RPM, 380/400/415volts @ 50 Hz, 3 phase, form wound, permanent magnet, No. of leads = 6, pitch= 0.6667
- Generator conversion
- Space heater

Instrumentation

- Pyrometer and thermocouples

Lube System

- Oil level Reg-1 shallow pan
- Electric prelube pumps
- Manual prelube sump pumps

Mounting System

- Spring-type vibration isolator
- IBC vibration isolators

Protection System

- Explosion relief valve

Special Tests / Reports

- Neutral grounding connection
- Neutral ground-LV
- PGS test report @ 1.0 power factor
- PGS test report @ 0.80 power factor
- IBC seismic certifications

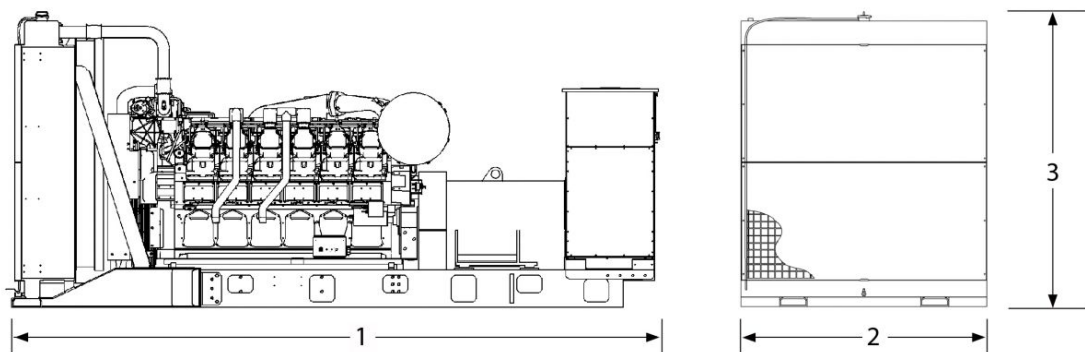
Starting / Charging Systems

- 10 Amp battery chargers
- 20 Amp battery charger
- Oversize battery set
- 24 Volt dual electric starting motor
- Ether starting aid
- Jacket water heaters

General

- Engine barring group

Dimensional Art



Dimensions	Dimension 1	Dimension 2	Dimension 3
Genset dimensions	5656 mm (222.7 in)	1975 mm (77.8 in)	2367 mm (93.2 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.