



**IPP Rated 1150 kW**  
**IPP Overload 1205 kW**  
**50/60 Hz Switchable**

Image shown may not reflect actual configuration

### Specifications

Frequency	Voltage	IPP Rated kW (kVA)	IPP Overload kW (kVA)	Speed (rpm)
50 Hz	400V	1150 (1438)	1205 (1506)	1500
60 Hz	480V	1260 (1575)	1330 (1662)	1800

Cat® 3512C Diesel Engine	Metric	Imperial (English)
Configuration	4-Stroke Diesel	
Bore	170 mm	6.7 in
Stroke	215 mm	8.5 in
Displacement	58.6 L	3,576 in <sup>3</sup>
Aspiration	TA	
Compression Ratio	14.7:1	
Governor Type	ADEM™ A4	

## Features & Benefits

### Worldwide Product Support

- Cat® dealers provide extensive post sale support including maintenance and repair agreements
- Supported 100% by your Cat dealer with warranty on parts and labor
- Extended Service Coverage (ESC) options available for coverage beyond the Standard Warranty period

### Cat® 3512C Diesel Engine

- The compact, four-cycle Cat 3512C turbocharged-aftercooled (SCAC) diesel engine
- Reliable, Fuel Efficient
- Best-in-class fuel economy
- 50/60 Hz switchable for greater fleet utilization and versatility with neither software re-flashing, nor iron changes required
- Other engine features include: electric fuel priming, individual cylinder temperature monitoring, and extended filter change intervals
- Electronic differential pressure monitoring of all filters

### Cat SR500 High Efficiency Generator

- Designed to match performance and output characteristics of Cat diesel engines
- Class H insulation operating at Class F temperature for extended life
- Stator winding and bearing temperature monitoring
- Coastal insulation protection and anti-condensation space heaters for extended life and increased reliability

### Cat EMCP 4.3 Control Panel

- Provides full engine and generator monitoring and fault protection
- Graphical display (5.5 in.) denotes text alarm/ event descriptions, set points, engine and generator monitoring, and is visible in all lighting conditions
- Simple, user-friendly interface and navigation
- 50/60hz toggle switch via terminal link
- Integrated Voltage Regulator (IVR) to provide precise steady state control and excellent transient response
  - Removes duplicate set points and wiring for simplified operation and troubleshooting
  - Dedicated IVR status screens in EMCP4.4
  - IVR fully supported by Cat ET (Electronic Technician) service tool
- Panel mounted emergency stop switch

\* Does not conform to EPA/EU emissions standards

### Power Distribution and Paralleling Controls

- Externally-accessible, 100kAIC power distribution panel
- 3-pole, 4000A-frame (set to 2500A), electrically operated, insulated IEC Circuit Breaker (Optional 4-pole breaker)
- Externally-accessible, package mounted auto paralleling controls behind hinged door
- AGC-4 provides paralleling, load sharing, VFD control, and additional generator protection

### Sound-attenuated Container

- Provides 9-high stackable, 20-ft ISO high-cube CSC enclosure for ease of transportation and protection
- Personnel doors (2 total) on both sides of the engine for service access
- Container doors on each end for ease of service
- Service door for access to primary fuel filters
- Foldable, stowable awnings on engine room air inlets also serve as shipping covers
- Radiator louvers and louvered container end door are hinged for ease of cleaning and maintenance

### Fuel System

- Fuel system operates on a variety of fuels
- Triple primary fuel filters with water separators, service valves, and differential pressure monitoring

### Reduced Environmental Impact

- 110% spill containment of onboard engine fluids
- Positive crankcase fumes ventilation
- Low BSFC and Low Emissions\* ratings, switchable via Cat Electronic Technician (ET)

### Asset Monitoring and Management

- Cat Connect PLE601

### Quality

- Single source supplier
- Factory designed and production tested to assure customer satisfaction
- Package factory designed and production tested
- Manufactured in ISO 9001:2000 certified facility

## Standard Equipment

### Cat 3512C Heavy Duty Diesel Engine

- Turbocharged, air-to-water aftercooler
- Electronic ADEM™ A4 engine controls

### Generator

- N4345L4 frame; 3-phase random wound, 4 lead, Permanent Magnet, 2/3 pitch
- Double bearing, wye-connected, brushless
- Stator winding and bearing temperature sensors and RTD module
- Metallic mesh generator air inlet filters (washable) with differential pressure monitoring

### Air Filter

- Air cleaner - Heavy duty element, canister type air with service indicator

### CAT Cooling System

- Cooling package provides 40°C (104F) ambient capability at 50 Hz, or 42°C (108F) capability at 60 Hz at the IPP Rating at 750m (2,460 ft) above sea level
- Jacket water heater (9 kW, 3-phase 480VAC) with electric pump
- Variable frequency fan drive with smart fan control
- Cat Extended Life Coolant (ELC)
- Vertical, non-stacked radiator cores and dimpled fins to minimize clogging
- Energy efficient direct drive fans (2)

### Starting/Charging System

- Dual 24-Volt Electric Starting Motors
- 24 VDC/50A battery charger with float/equalize modes and charging ammeter
- Four (4) 1400CCA, 24V-Maintenance

### Fuel System

- 378-L (100gal) single-wall fuel tank
- BS799-5 certified
- Solenoid fuel fill control valve
- Triple, primary fuel filters externally accessible via filter service door
- Secondary fuel filters
- Fuel cooler and electric priming pump

### Exhaust System

- Internally mounted, insulated, puck-style exhaust silencer suspended from container roof
- 1.8m (6ft) vertical discharge exhaust stack, stows for shipping inside container

### Lube Oil System

- Full flow oil filters with water-cooled oil cooler (Requires API CI-4 or higher lube oil)
- Oil drain lines routed to the engine rail
- Includes engine-mounted oil level regulator and 114-L (30gal) oil tank for maintaining oil pan levels in extended run applications.
- Oil tank can be remotely filled without shutting down the engine
- Oil evacuation system for faster, cleaner oil changes

### Control Panel

- Package-mounted EMCP 4.3 provides power metering, protective relaying, and engine and generator control and monitoring.
- Convenient service access for Cat service tools
- Integration with the Cat Integrated Voltage Regulator (IVR) provides enhanced system monitoring.
- Ability to view and reset diagnostics of all controls networked on J1939 data link eliminates need for separate service tools for troubleshooting.
- Real-time clock allows for date and time-stamping of diagnostics and events.
- True RMS AC metering, 3 phase: L-L volts, L-N volts, Phase, Amps, Hz, ekW, kVA, kVAR, kWhr, % kW, PF
- Graphical display with positive image, transreflective
- LCD, adjustable white backlight/contrast.
- Digital indication for
  - RPM - DC Volts
  - Operating hours
  - Oil pressure
  - Coolant Temperature
  - Oil Temperature
- Two LED status indicators (1 red, 1 amber)
- Engine cool-down timer
- Engine cycle crank
- Three engine control keys and status indicators (Run/Auto/Stop).
- Lamp test and Alarm acknowledgement keys
- Warnings/shutdowns with indicating text for:
  - Low oil pressure
  - Overspeed
  - High Oil Temperature
  - Overcrank
  - Emergency stop
  - AGC-4
- Emergency stop pushbutton
- Display navigation keys including two shortcut keys for Engine Parameters or Generator Parameters



## Standard Equipment

### Container

- Sound attenuated to 83 dBA (50 Hz) / 85 dBA (60 Hz) at 7m (23 ft)
- Two (2) lockable personnel doors with panic releases
- Interior walls and ceilings insulated with 50 mm of acoustic paneling
- Side bus bar access door with external access load cable connections
- Four (4) DC lights with 60-min timer
- One (1) International-style convenience receptacle located on the front of the control panel
- Engine vibration isolators
- E-stops located on each side of the container (2)
- Easy drain access to standard fluids

### Distribution System

- Current transformers rated 3000:5 with secondaries wired to shorting terminal strips
- Three phase, plus full rated neutral bus bars are tin-plated copper with IEC standard 2-hole pattern for connection of customer load cables and generator cables.
- Bus bars are sized for full load capacity of the generator set at 0.8 power factor.
- Includes ground bus, tin-plated copper, for connection to the generator frame ground and field ground cable.
- Transformer provides 120 and 240 VAC for module accessories.
- Includes controls to de-energize jacket water heaters and generator space heater when the engine is running
- One (1) shore power connection for generator anti-condensation heaters, battery charger, jacket water heater, and convenience receptacle
- Solid state trip unit for overload (time overcurrent) and fault (instantaneous) overcurrent protection. LSIG is standard.
- Includes DC shunt trip coil activated on any monitored engine or electrical fault
- Ground fault sensing/trip (Requires Optional ground CT)

### Power Factor Control Circuitry

- Manual raise/lower voltage adjust capability and VAR/power factor control circuitry for maintaining constant generator power factor while paralleled with the utility. Voltage and power factor adjustments are performed on the Generator Paralleling Control
- Includes RFI suppression, exciter limiter, and exciter diode monitoring

### Protective Relaying

- Generator protective relaying features
  - Phase over/under voltage (Device 27/59)
  - Over/Under frequency (Device 81 O/U)
  - Reverse Power (Device 32)
  - Overcurrent (Device 50/51) (GCB trip unit)
- Package mounted AGC-4 controls provides auto paralleling, CAN-bus, Ethernet communications, PWM and Analog outputs, and legacy analog load sharing (real and reactive)
- AGC-4 main display and Additional Operator Panel (AOP) secondary display
- AGC-4/EMCP 4.3 protective relaying features
  - 25 sync-check (AGC-4)
  - 32 rev. power (EMCP 4.3 and AGC-4)
  - 40 loss of excitation (AGC-4 impedance based)
  - 50/51 Inst. and time overcurrent (GCB trip unit and AGC-4)
  - 47 Negative Voltage Sequence (AGC-4)
  - 46 Negative Sequence Current (AGC-4)
  - 27/59 phase under/over voltage (EMCP 4.3 and AGC-4)
  - 81O/U under/over frequency (EMCP 4.3 and AGC-4)

### Modes of Operation

- Provides for single unit stand-alone operation, island mode paralleling and load sharing with other power modules, and single unit-to-utility mode paralleling for base load control (with open transition between paralleling modes)
- Island mode paralleling features:
  - AGC-4 control allows single unit to connect to a dead bus
  - Auto synchronization (voltage & phase matching)
  - Load sharing (kW) analog signal (like units & legacy compatible)
  - Load sharing (kVAR) analog signal (like units only)
- Utility mode paralleling features:
  - Auto synchronization (voltage & phase matching)
  - Base-load control (selectable: programmable set-point or potentiometer adjust)
  - Soft load/unload (programmable, shared set-point)
  - Power Factor control (programmable set-point)



Technical Data

Cat Generator	
Frame size	N4345L4
Pitch	2/3
No. of poles	4
Excitation	Static regulated, brushless, PM excited
Construction	Double bearing, close coupled
Insulation	Class H
Enclosure	Drip proof IP23
Overspeed capability – % of rated	125% of rated
Voltage regulator	3-phase sensing with volts-per-hertz
Voltage regulation	Less than ± 0.5% voltage gain Adjustable to compensate for engine speed droop and line loss
Wave form deviation	Less than 5% deviation
Telephone Influence Factor (TIF)	Less than 50
Harmonic Distortion (THD)	Less than 5%

Cat Generator Set – 50/60 Hz			
	Units	50 Hz EM0577	60 Hz EM0575
IPP Power Rating	kW (kVA)	1150 (1438)	1205 (1506)
IPP Overload	kW (kVA)	1208 (1510)	1330 (1662)
Lubricating System Oil pan capacity	L (gal)	333 (88)	
Fuel System** Fuel consumption @ 1.0 PF			
105% Load	L/hr	299.7	448.8
100% Load	L/hr	285.2	429.3
75% Load	L/hr	218.1	325.2
50% Load	L/hr	152.4	231.8
Fuel Tank Capacity	L (gal)	378 (100)	378 (100)
Running time @ 75% rating	Hr	1.3	1.1
Cooling System Radiator and engine capacity	L (gal)	577 (147)	
Noise @ 7m (23 feet)**	dB(A)	83	85
Low Emissions Performance Number		EM0578	EM0576

\*\*Package fuel consumption and sound levels are for reference only.



**Technical Data (continued)**

Dimensions and Weights					
Model	Length mm (in)	Width mm (in)	Height mm (in)	With Lube Oil & Coolant Kg (lb)	With Fuel, Lube Oil & Coolant Kg (lb)
XQC1200	6,100 (240)	2,438 (97.5)	2,896 (114)	TBD	21,518 (47,440)
Center of gravity	x = + TBD +/- 300 mm (from rear of container); y = + TBD mm +/- 300 mm (from container floor); z = 0 +/- 150 mm (centerline)				

**Ratings Definitions and Conditions**

**Meets or Exceeds International Specifications:** AS1359, CSA, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-33.

**International Power Projects (IPP)** – Output available without varying load for an unlimited time. Average power output is 70 – 100% of the continuous power Rating. Typical peak demand is 105% of continuous rated kW for a maximum of 1 hour in 12 hours, not to exceed 500 hours per year. Typical applications are IPP power plants. Continuous power is in accordance with ISO8528. Fuel stop power is in accordance with ISO3036.

**Fuel rates** are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal).

Additional ratings may be available for specific customer requirements, contact your Cat representative for details. For information regarding low sulfur fuel and biodiesel capability, please consult your Cat dealer.

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