



Prime 47.5 kW 60 kVA 60 Hz U.S. EPA Tier 4 Final

Image shown may not reflect actual configuration

# **Specifications**

Generator	Frequency	Voltage	Prime kW (kVA)	Speed rpm
Standard	60 Hz	480/277 V	47.5 (60)	1800
		208/120 V	47.5 (60)	1800
		240/120 V	39 (39)	1800
Optional		600/349V	47.5 (60)	1800
	60 Hz	480/277V	47.5 (60)	1800 1800 1800
	00 112	208/120V	42 (53)	
		240/120V	33 (33)	1800

Cat <sup>®</sup> C3.4B Diesel Engine	Metric	Imperial (English)	
Configuration	I-4, 4-stroke diesel		
Bore	99 mm	3.89 in	
Stroke	110 mm	4.83 in	
Displacement	3.4 L	207 in <sup>3</sup>	
Aspiration	ATAAC		
Compression Ratio	17:1		
Engine Speed	1800 rpm		
Governor Type	Electronic		
Governor Class	ISO8528 G1 and G2		
Maximum Power at rated speed – bkW (hp) Standby Prime	55 49.5	74 66	



### **Benefits & Features**

#### **Fuel/Emissions Strategy**

 Meets U.S. EPA Tier 4 Final emission standards and CARB certified for non-road mobile applications at all 60 Hz ratings

#### Cat<sup>®</sup> C3.4B Diesel Engine

- Four-stroke diesel engine combines performance and excellent fuel economy with minimum weight
- On-engine aftertreatment consists of NOx Reduction System (NRS), Diesel Oxidation Catalyst (DOC), and Diesel Particle Filter (DPF) for service-free operation
- 500-hour oil change interval
- Electronic engine controls
- Engine block heater 110-120 VAC

#### **Cat LC Series Generator**

- Matched to the performance and output characteristics of Cat diesel engines
- Class H Insulation

#### Cat EMCP 4.2B Control Panel

- Electronic control panel provides power metering, protective relaying, engine and generator parameter viewing, and expanded AC metering
- Graphical display (3.8 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
- Integrates with the Cat Integrated Voltage Regulator (IVR) to provide precise control, excellent block loading, and constant voltage

#### **Design Features**

- 110% spill containment of all engine fluids
- Nonmetallic fuel tank provides > 24-hour run time at 75% prime load
- Two-way valve and external fuel ports to easily switch between onboard and external fuel source
- Solar battery maintainer

#### Sound-attenuated Enclosure

- Rugged, corrosion-resistant construction:
  - Galvanealed, sheet steel body panels with zinc phosphate pre-treatment prior to polyester powder coating
  - Stainless steel hinges
- Excellent access for service and maintenance:
  - Two doors on each side, and one rear door for power distribution and control panel access
- Lube oil and coolant drains piped to exterior of the enclosure
- · Security and safety features:
  - Control panel located behind rear access door with safety-glass viewing window
  - Padlockable latches on all access doors
  - Exterior emergency stop (E-stop) button

#### **Standard Controls and Power Distribution**

- Three-position switch for easy selection of desired output (480/277V 3-phase, 208/120V 3-phase, or 240/120V single phase)
- Controls, sockets, and power distribution all accessible via rear access door
- Hinged door over main bus bars with safety switch to trip breaker

#### **Asset Monitoring and Management**

- Cat Connect hardware provides two-way communication for remote control and equipment monitoring via cellular or hardwired network
- Customer-defined, equipment-based real-time status updates and alerts
- Flexible and customer-configurable user interface
- · GPS provides asset location and geo-fencing

#### Options

- Generator anti-condensation heater
- Battery charger
- Trailer brake (electric or hydraulic)
- Trailer hitch (2-in. ball, 2-5/16-in. ball, or pintle)
- 600V generator
- · 208V 3-phase sockets with breakers



### Standard Equipment

#### Engine

- Cat C3.4B, heavy-duty, U.S. EPA Tier 4 Final certified diesel engine
- NOx and engine-mounted DOC plus DPF canister
- Block heater, 110-120 VAC
- Requires Ultra Low Sulfur Diesel (ULSD) fuel
- Engine electrical system:
- 12V, DC electrical system
- 80A, DC charging alternator
- Electronic governor and engine controls
- Oil pressure, coolant temperature, and coolant level shutdown switches
- Engine filtration system:
  - Cartridge-type air filter with service indicator
  - Cartridge-type fuel filter with upstream prefilter and water separator; requires ULSD fuel
  - Spin-on, full-flow lube oil filter; requires API CJ-4 lube oil

#### **Generator and Voltage Regulation**

- Screen protected and drip-proof (IP23), selfregulating, 12-lead, 4-pole, brushless generator
- Sealed-for-life bearing
- Electrical design in accordance with IEC 60034-1, EN 61000-6, NEMA MG 1-22, and CSA
- Self-excited for self protection against short circuits
- Voltage selection switch (3-position) mounted to generator terminal box
- Optional
  - Anti-condensation, space heater, 60-Watt, 110-120 VAC
- Insulation system:
  - Class H insulation system
  - Windings impregnated in a thermo-setting moisture-, oil-, and acid-resisting varnish
  - Heavy coat of anti-tracking varnish for additional protection against moisture or condensation
- IVR:
  - Simplified operation and troubleshooting
  - Configure IVR parameters and view IVR status screens via the EMCP
  - Fully supported by Cat ET service tool

- Waveform distortion, THF, and TIF factors:
  - Total distortion of voltage waveform with open circuit between phases, or phase and neutral, on the order of 1.8 total distortion < 4%, on a 3-phase, balanced, harmonic-free load
  - Total distortion < 2%, under no load
  - Waveform: NEMA (TIF < 50)
  - 2/3 pitch factor standard on all stator windings

### Generator Set Packaging

- · Base frame and containment tray:
  - Heavy-duty, fabricated steel base frame with specially-designed lifting points
  - Spill containment tray mounted to base frame, with leak-detection switch
- Canopy:
  - Sound attenuated to 63 dBA at 7m (23 ft)
  - Two doors on each side, one rear door for power distribution and control panel access
- Cooling system:
  - Cooling system provides 43°C (109°F) ambient capability at 500 m (2,460 ft) above sea level
- Electrical system:
  - 12V, DC electrical system
  - 850 CCA, maintenance-free, wet battery
  - Battery disconnect switch, lockable
  - Solar battery charger with solar array
  - Resettable, switch-style circuit breakers (DC circuit)
  - Optional battery charger (12V, 10 A) constant voltage, UL Listed
- Engine and generator mounting:
- Engine and generator directly coupled by SAE flange
- Engine flywheel flexibly coupled to the generator rotor, with full torsional analysis completed to ensure no harmful vibration will occur in the assembly
- Anti-vibration pads between engine/generator feet and base frame
- Fuel system:
  - Cross-linked polyethylene (XLPE) fuel tank;
  - 24 hour runtime @ 75% prime load
  - 2-position valves and external ports (1/4-in.NPT) allow connection of an auxiliary fuel source
- CSA 22.2 Certified



## Standard Equipment (continued)

#### Generator Controls and Power Distribution

- EMCP 4.2B, digital generator set controller, mounted behind a hinged, lockable door with viewing window
- Circuit breaker: 3-pole molded case breaker, 175A, UL Listed and CSA Certified with shunt trip
- Safety switch on hinged main bus cover trips breaker if cover is opened
- Two-wire, remote start-stop terminals
- Customer auxiliary power connections:
  - Three 250V, 50A California-style, NEMA, twist lock receptacles
  - Two 120V, 20A duplex receptacles with GFCI\*

\*Voltage at receptacle is 120V when switch is in 240/120 and 208 positions, and 139V in 480V position. Receptacles are not powered when 600V is selected.

- Each receptacle protected by a miniature circuit breaker, which also acts as an on/off switch
- Main customer connections:
  - Tin-plated copper bus bars with phase separators, located behind a protective door with shunt trip switch
  - Bus bars sized for full load capacity of generator set at 0.8 power factor

#### **Quality and Product Support**

- Factory load-testing of complete generator set
- Factory test certificate available upon request
- Equipment meets the following standards: BS 4999, BS 5000, BS 5514, IEC 60034, EN 61000-6, NEMA MG 1-22 & CSA
- Full set of operation and maintenance manuals



# **Technical Data**

Cat Generator				
Frame Size		1514P		
Pitch		0.6667		
No. of poles		4		
Insulation		Class H		
Enclosure		Drip proof IP23		
Voltage regulation		± 0.25% at steady state from no load to full load		
Frequency regulation		± 0.25% for constant load from no load to full load		
Waveform deviation		THD <4%		
Overspeed limit		2250 rpm		
Available voltages	Standard	Switchable voltage output: 480/277V, 3-phase; 208/120V, 3-phase; 240/120V, single-phase		
Available voltages	Optional	Switchable voltage output: 600/349V, 3-phase; 480/277V, 3-phase; 208/120V, 3-phase; 240/120V, single-phase		

Cat Generator Set – 1800 rpm/60 Hz				
	Units	Prime		
Power Rating	kW (kVA)	47.5 (60)		
Performanc	Performance Specification			
<b>Lubricating System</b> Total oil Capacity oil	L (gal) L (gal)	9.5 (2.5) 8 (2.1)		
		0 (2.1)		
Fuel System   Fuel consumption**   100% Load   75% Load   50% Load   50% Load   Fuel tank capacity   ISO Prime Running Time   Cooling System	L/hr (gal/hr) L/hr (gal/hr) L/hr (gal/hr) L/hr (gal/hr) Hours	13.9 (3.7) 10.5 (2.8) 7.1 (1.9) 303 (80) >24		
Radiator system capacity including engine Heat rejected to coolant at rated power	L (U.S. gal) kW (Btu/min)	18.9 (5.0) 44.6 (2539)		
Air Requirements Combustion air flow Radiator cooling air Generator cooling air	m³/min (cfm) m³/min (cfm) m³/min (cfm)	3.3 (117) 77 (2743) 7.8 (275)		
Noise Rating** with enclosure at 7 meters (23 feet)	dB(A)	63		

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



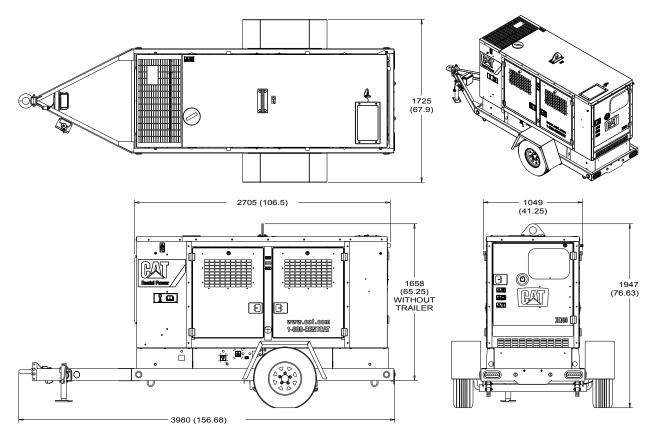
## **Technical Data (continued)**

Dimensions and Weights					
Model	Length mm (in)	Width mm (in)	Height mm (in)	With Lube Oil & Coolant Kg (Ib)	With Fuel, Lube Oil & Coolant Kg (lb)
XQ60	2705 (106.5)	1049 (41.3)	1658 (65.3)	1305 (2877)	1565 (3450)
XQ60 with trailer (electric brakes)	3980 (156.7)	1725 (67.9)	1947 (76.6)	1518 (3347)	1778 (3920)
XQ60 with trailer (hydraulic brakes)	4059 (159.8)	1725 (67.9)	1947 (76.6)	1523 (3357)	1783 (3930)

## **General Layout Dimensions**

Dimensions in millimeters (inches).

Shown with optional trailer.

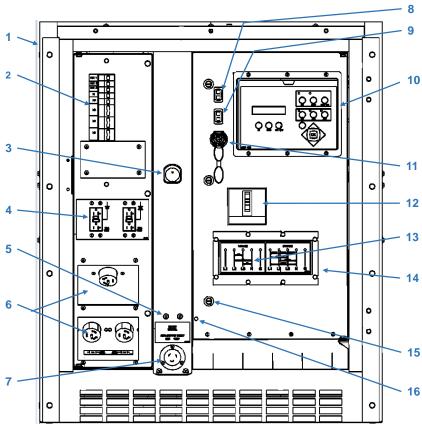


XQ60 GENERAL LAYOUT DRAWING



## **Control Panel and Power Distribution Layout**

lte m	Description	
1	Steel enclosure with hinged, lockable door (not shown)	
2	Circuit breakers for receptacles	
3	Emergency stop	
4	Single-phase GFCI duplex receptacles (20A @120V)	
5	Two-wire remote start terminals	
6	Single-phase, California-style, twist-lock receptacles, 50A @208V phase-to-phase, 120V phase to neutral, or 240/120 V single phase when in that voltage position	
7	Single-phase NEMA locking input receptacle (30A @120V) to power optional block heater, battery charger, and generator space heater	
8	HEST and DPF lamp	
9	Glow plug lamp	
10	EMCP 4.2B digital generator set controller	
11	Cat ET service tool connector	
12	Circuit breaker, 3-pole molded case, 175A	
13	Main bus connection (bus bars attached to breaker) behind door and viewing window	
14	Bus bar viewing window w/ phase diagram film	
15	Quarter-turn door lock	
16	Breaker trip door switch	



### **Ratings Definitions and Conditions**

**ISO Prime** — Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated ekW.

www.Cat.com/rentalpower ©2018 Caterpillar All rights reserved.

Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication.

CAT, CATERPILLAR, their respective logos, Product Link, "Caterpillar Yellow", 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.