



Prime 47.5 kW, 60 kVA  
 U.S. EPA Tier 4 Final  
 60 Hz  
 1800 RPM

Image shown may not reflect actual configuration

## Specifications

| Generator | Frequency | Voltage   | Prime kW (kVA) | Phase   | Amp (A) |
|-----------|-----------|-----------|----------------|---------|---------|
| Standard  | 60 Hz     | 480/277 V | 47.5 (60)      | 3-phase | 71.42   |
|           |           | 208/120 V | 47.5 (60)      | 3-phase | 164.81  |
|           |           | 240/120 V | 39 (39)        | 1-phase | 162.50  |
| Optional  | 60 Hz     | 600/349V  | 47.5 (60)      | 3-phase | 57.13   |
|           |           | 480/277V  | 47.5 (60)      | 3-phase | 71.42   |
|           |           | 208/120V  | 42 (53)        | 3-phase | 145.73  |
|           |           | 240/120V  | 33 (33)        | 1-phase | 137.50  |

| Cat® 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                                 | 55                   | 74                  |
| Prime                                   | 49.5                 | 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® 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
- Single point lifting

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

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

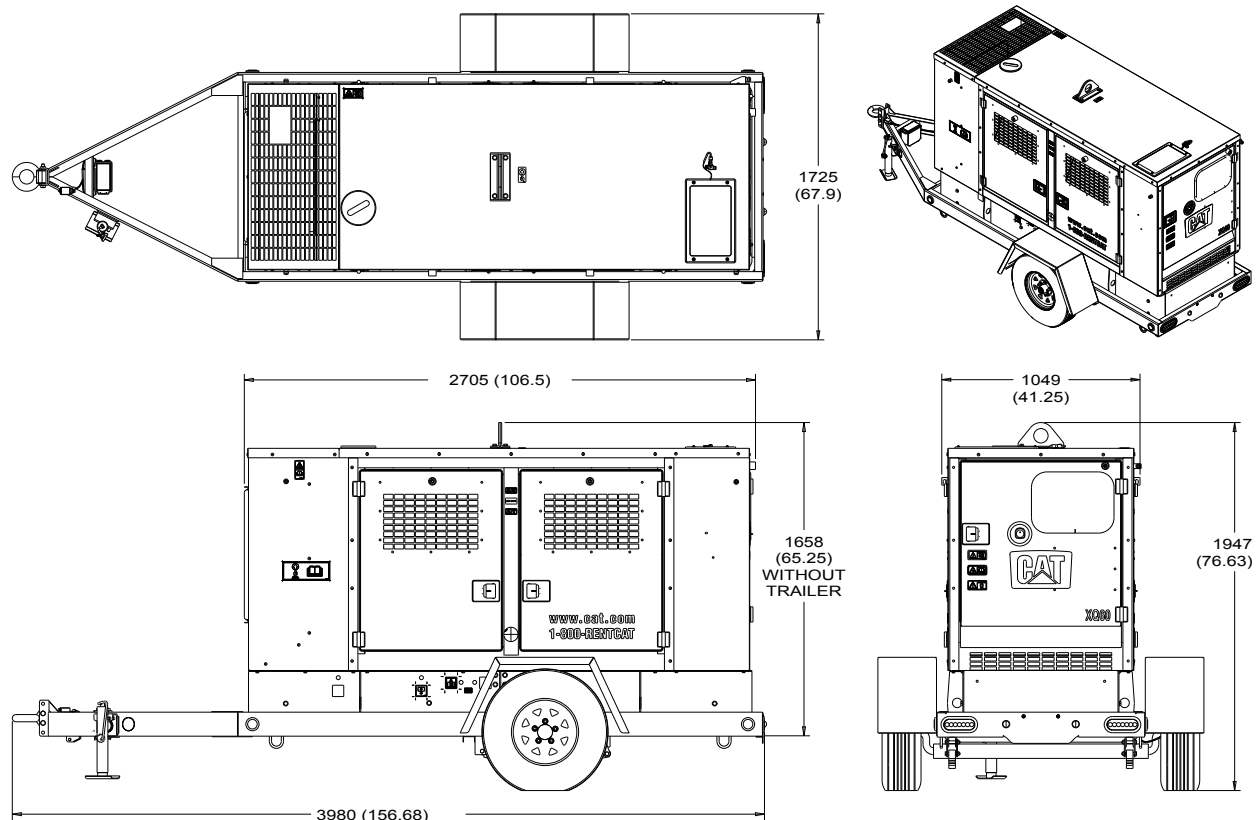
### Technical Data (continued)

| Dimensions and Weights               |                |               |                |                                 |                                       |
|--------------------------------------|----------------|---------------|----------------|---------------------------------|---------------------------------------|
| Model                                | Length mm (in) | Width mm (in) | Height mm (in) | With Lube Oil & Coolant Kg (lb) | 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).

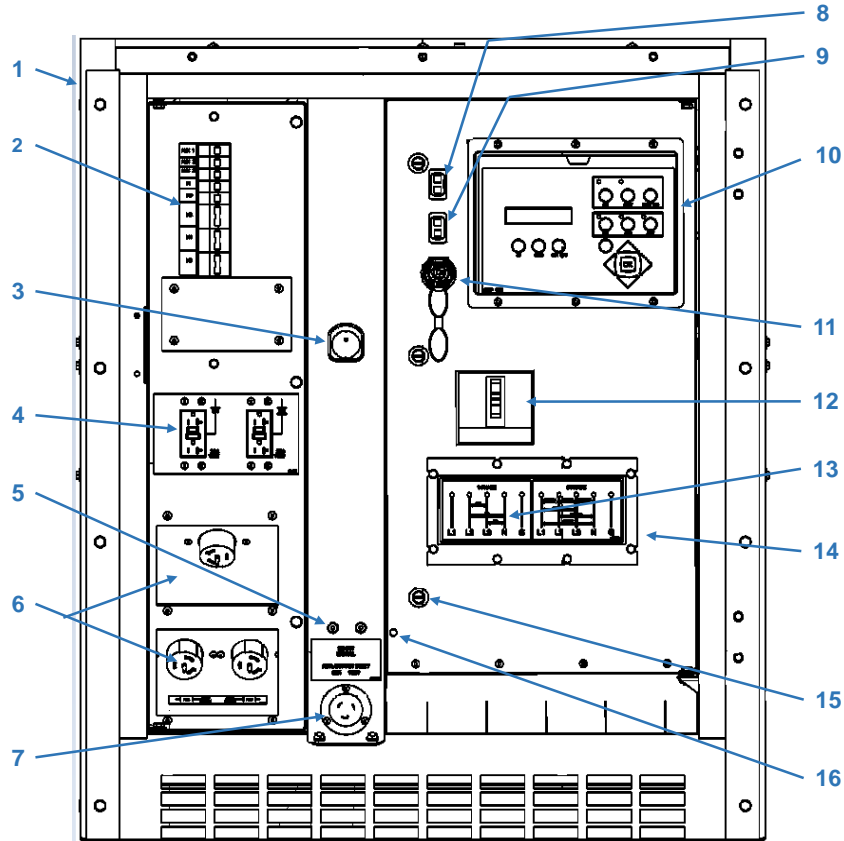
Shown with optional trailer.



XQ60 GENERAL LAYOUT DRAWING

## Control Panel and Power Distribution Layout

| Item | 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 kW.

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