

Cat® XQ35 Rental Generator Set



Standby 30 kW, 38 kVA
Prime 27 kW, 35 kVA
U.S. EPA Tier 4 Final
60 Hz
1800 RPM

Image shown may not reflect actual configuration.

Specifications

Generator	Frequency	Voltage	Standby ekW (kVA)	Prime ekW (kVA)	Phase	Amp (A)
Standard	60 Hz	480/277V	30 (38)	27 (35)	3-phase	40.59
	60 Hz	208/120V	30 (38)	27 (35)	3-phase	93.68
	60 Hz	240/120V	30 (30)	27 (27)	1-phase	112.5
Optional	60 Hz	600/349V	30 (38)	27 (35)	3-phase	32.48
	60 Hz	480/277V	30 (38)	27 (35)	3-phase	40.59
	60 Hz	208/120V	26 (33)	24 (30)	3-phase	83.27
	60 Hz	240/120V	21 (21)	19 (19)	1-phase	79.17

Cat® C2.2T Diesel Engine	Metric		Imperial (English)	
Configuration	I-4, 4-Stroke Diesel			
Bore	84 mm		3.3 in	
Stroke	100 mm		3.9 in	
Displacement	2.2 L		135 in ³	
Aspiration	ATAAC			
Compression Ratio	18:1			
Engine Speed	1800 rpm			
Governor Type	Electronic			
Governor Class	ISO8528 G1			
Maximum power at rated speed – bkW (hp)				
Standby	36.4		(49)	
Prime	32.8		(44)	

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 C2.2T 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 Particulate Filter (DPF) for service-free operation
- 500-hour oil change interval
- Common rail direct injection
- 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

XQCP Control Panel

- Electronic control panel provides power metering, protective relaying, engine, and generator parameter viewing, and expanded AC metering
- Four lines back-lit LCD text display
- Simple, user-friendly interface and navigation
- Integrates with the Automatic Voltage Regulator (AVR) to provide precise control, excellent block loading, and constant voltage

Environmentally Friendly Design

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

Sound-attenuated Enclosure

- Rugged, corrosion-resistant construction:
 - Galvannealed, sheet steel body panels with zinc phosphate pretreatment 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 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 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 (electric, hydraulic, or no brakes)
- Trailer hitch (2-in. ball, 2-5/16-in. ball, or pintle)
- 600V generator

Standard Equipment

Engine

- Cat C2.2T, heavy-duty, EPA Tier 4 Final certified NOx and engine-mounted DOC and DPF
- Block heater, 110-120 VAC
- Requires Ultra Low Sulfur Diesel (ULSD) fuel
- Engine Electrical diesel engine
- System:
 - 12-volt, DC electrical system
 - 85-amp, 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,
 - 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 IEC60034-1, EN61000-6, 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 are impregnated in a thermo-setting moisture, oil, and acid resisting varnish
 - Heavy coat of anti-tracking varnish for additional protection against moisture or condensation
- AVR D350:
 - Simplified operation and troubleshooting
 - Equipped with NFC technology for communication and configuration purposes
 - 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 1.7 Total distortion <4%, on a 3-phase, balanced, harmonic-free load
 - Total distortion <2%, under no load
 - Waveform: NEMA (TIF <50)
 - 2/3 pitch 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 64 dBA at 7 m (23 ft)
 - Two doors on each side, and one rear door for power distribution and control panel access
- Cooling System:
 - Radiator and two-speed, electric cooling fans (2) complete with protective guards
 - Cooling system provides 43°C (109°F) ambient capability at 500 m (2,460 ft) above sea level
- Electrical System:
 - 12-volt, DC electrical system
 - 850CCA, maintenance-free, wet battery
 - Battery disconnect switch, lockable
 - Solar battery maintainer with solar array
 - Resettable, switch-style circuit breakers (DC circuit)
 - Optional 10A battery charger, 110-120 VAC constant voltage, UL listed
- Engine and generator mounting
 - Engine and generator are directly coupled by an SAE flange
 - Engine flywheel is 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; 55-gallon usable volume
 - 24-hour runtime @ 100% 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

- XQCP, digital generator set controller, mounted behind a hinged, lockable door with viewing window
- Circuit Breaker: 3-pole molded case breaker, 125A, UL- and CSA-listed 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*
 - Each receptacle is 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: BS4999, BS5000, BS5514, IEC60034, EN61000- 6, NEMA MG-1.22 & CSA
- Full set of operation and maintenance manuals

*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.

Technical Data

Cat Generator		
Frame Size		1514J
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 distortion		THD <4%
Telephone interference		TIF<50, THF<2%
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	Standby	Prime
Power Rating	kW (kVA)	30 (37.5)	27 (35)
Performance Specification			
Lubricating System			
Total oil	L (gal)	10.6 (2.8)	10.6 (2.8)
Capacity oil	L (gal)	8.9 (2.4)	8.9 (2.4)
Fuel System			
Fuel Consumption** — 100% Load	L/hr (gal/hr)	9.8 (2.6)	8.8 (2.3)
75% Load	L/hr (gal/hr)	7.4 (2.0)	6.7 (1.8)
50% Load	L/hr (gal/hr)	4.9 (1.3)	4.4 (1.2)
Fuel Tank Capacity	L (gal)	208 (55)	208 (55)
Running Time — at 100% Load	Hours	>20	>24
Cooling System			
Radiator system capacity including engine	L (U.S. gal) kW	11.5 (3.0)	11.5 (3.0)
Heat rejected to coolant at rated power	(Btu/min)	29.6 (1,685)	26.6 (1,514)
Air Requirements			
Combustion air flow	m³/min (cfm) m³/min	3.3 (116.5)	3.3 (116.5)
Radiator cooling air	min (cfm) m³/min	86.5 (3,023)	86.5 (3,023)
Generator cooling air	(cfm)	19.2 (678)	19.2 (678)
Noise Rating** [with enclosure at 7 meters (23 feet)]	dB(A)	64.3	63.9

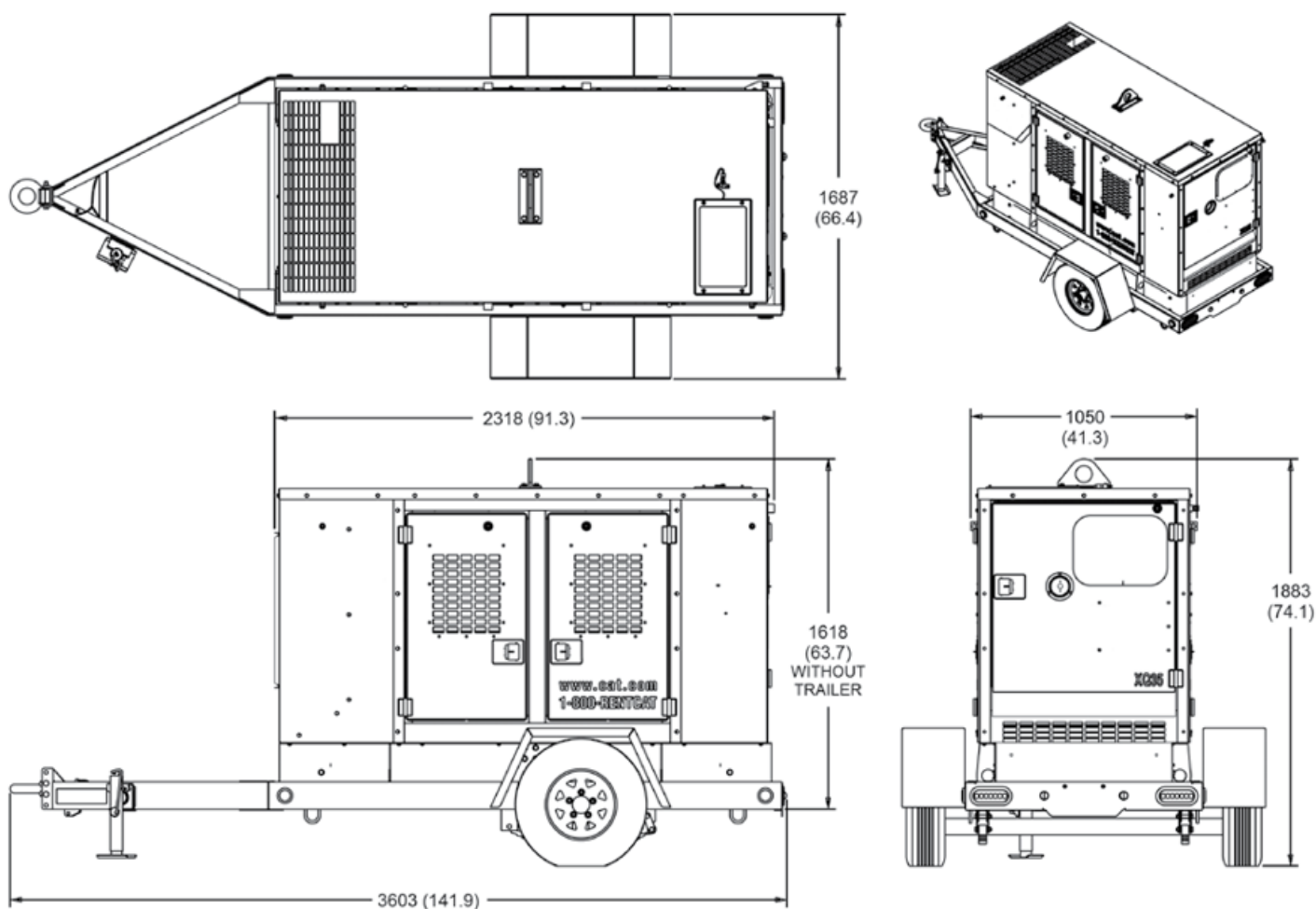
*Package fuel consumption and sound levels are for reference only.

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)
XQ35	2318 (91.3)	1050 (41.4)	1617 (63.7)	1003 (2215)	1178 (2600)
XQ35 with trailer (no brakes)	3454 (136.0)	1687 (66.4)	1883 (74.1)	1154 (2555)	1332 (2940)
XQ35 with trailer (electric brakes)	3454 (136.0)	1687 (66.4)	1883 (74.1)	1166 (2575)	1341 (2960)
XQ35 with trailer (hydraulic brakes)	3534 (139.1)	1687 (66.4)	1883 (74.1)	1171 (2585)	1345 (2970)

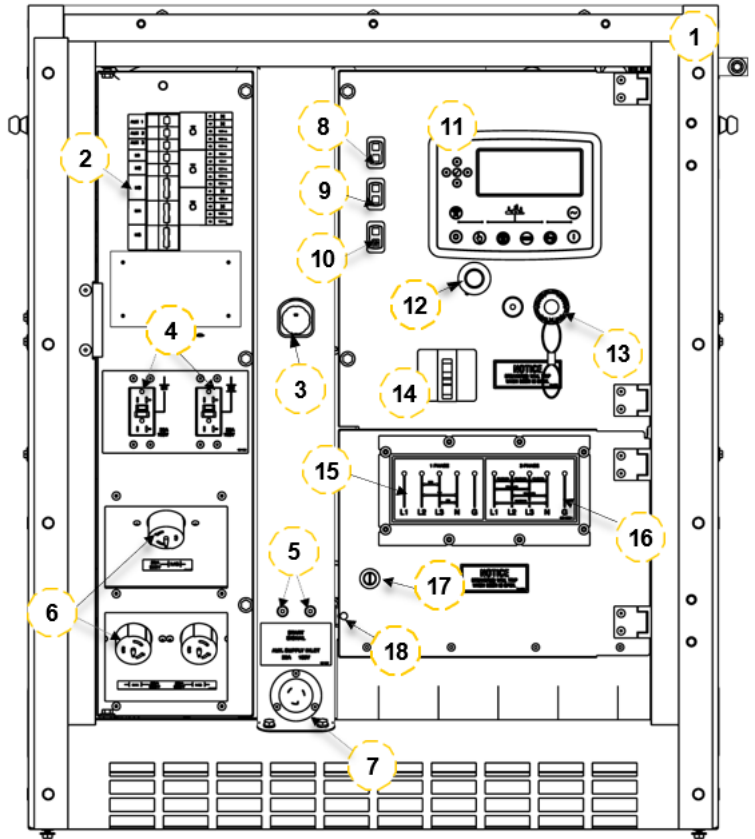
Dimensions and Weights

Dimensions in millimeters (inches).
Shown with optional trailer.



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	Glow plug lamp
9	DPF and Regen Active Lamp
10	Emission System Failure Lamp
11	XQCP digital generator set controller
12	Potentiometer for voltage adjustment
13	Cat ET service tool connector
14	Circuit breaker, 3-pole molded case, 125A
15	Main bus connection (bus bars attached to breaker) behind door and viewing window
16	Bus bar viewing window w/phase diagram film
17	Quarter-turn door lock
18	Breaker trip door switch



Ratings Definitions and Conditions

Standby – Applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. The generator on the generator set is peak prime rated (as defined in ISO8528 at 30°C (86°F)).

Prime – Applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation on the annual hours of operation and the generator can supply 10% overload power.

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