

Standby Power Rating

100 kW, 125 kVA, 60 Hz

Prime Power Rating

90 kW, 113kVA, 60 Hz



*Assembled in the USA using domestic and foreign parts



Image used for illustration purposes only

Codes and Standards

Not all codes and standards apply to all configurations. Contact factory for details.



ULC 2200, ULC 6200, UL1236,
UL489, UL142



ULC S601



BS5514 and DIN 6271



SAE J1349



NFPA 37, 70, 99, 110



NEC700, 701, 702, 708



NEMA ICS10, MG1, 250, ICS6,
AB1



ANSI C62.41



IBC 2009, CBC 2010, IBC 2012,
ASCE 7-05, ASCE 7-10, ICC-ES
AC-156 (2012)



Powering Ahead

For over 60 years, Generac has provided innovative design and superior manufacturing.

Generac provides superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally for the most reliable engines to power our generators. We choose only engines that have already been proven in heavy-duty industrial applications under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

SD100 | 6.7 L | 100 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary - EPA Tier 4 Final

GENERAC[®] INDUSTRIAL
ENERGY

STANDARD FEATURES

ENGINE SYSTEM

- Oil Drain Extension
- Air Cleaner
- Air Intake Heater
- Fan and Belt Guards
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Engine Coolant Heater
- Air Filter Restriction Indication

FUEL SYSTEM

- Primary and Secondary Fuel Filter

COOLING SYSTEM

- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- 50/50 Ethylene Glycol Antifreeze
- Radiator Drain Extension

ELECTRICAL SYSTEM

- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

ALTERNATOR SYSTEM

- UL2200 GENprotect™
- 12 Leads (3-Phase, Non 600V)
- Class H Insulation Material
- Vented Rotor
- 2/3 Pitch
- Skewed Stator
- Auxiliary Voltage Regulator Power Winding
- Permanent Magnet Excitation
- Sealed Bearing
- Automated Manufacturing (Winding, Insertion, Lacing, Varnishing)
- Rotor Dynamically Spin Balanced
- Amortisseur Winding
- Full Load Capacity Alternator
- Protective Thermal Switch

GENERATOR SET

- Internal Genset Vibration Isolation
- Separation of Circuits - High/Low Voltage
- Separation of Circuits - Multiple Breakers
- Wrapped Exhaust Piping
- Standard Factory Testing
- 2 Year Limited Warranty (Standby Rated Units)

ENCLOSURE (IF SELECTED)

- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- Gasketed Doors
- Upward Facing Discharge Hood (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- RhinoCoat™ - Textured Polyester Powder Coat Paint

FUEL TANKS

- UL-142 / ULC-S601
- Double Wall
- Vents
- Factory Pressure Tested - 3 psi
- Rupture Basin Alarm
- Fuel Level Sender
- RhinoCoat™ - Textured Polyester Powder Coat Paint

CONTROL SYSTEM



DSE G8601 Controller

The G8601 is a genset controller with integral heater designed for multiple application environments.

Key Features

- Advanced PLC Functionality
- Multi-Purpose PIDs
- Virtual Inputs
- On-Screen Mimic (SLDs)
- Multi-Level Pin Protected Front Panel Editor
- Integral LCD Display Heater
- Enhanced High-Resolution 240 x 128 Pixel Display
- Integral Gasket (IP65 protection)

Standard Protections

- Low Coolant Level
- High/Low Coolant Temperature
- Oil Temperature
- Over/Under Speed
- Over/Under Voltage
- Over/Under Frequency
- Over/Under Current
- Over Load
- Battery Voltage
- Battery Charger Current
- Phase to Phase and Phase to Neutral Short Circuits (I²T Algorithm)
- Ground Fault

Control Panel

- Auto/Off/Manual
 - Indication Through Display Screen
- Audible Alarm and Silence
- Not in Auto Indication

Voltage Regulation

- Digital Control
- Three Phase Sensing
- Negative Power Limit
- Loss of Sensing Protection
- Fault Protection (I²T Function)
- High Voltage Limit
- Low Voltage Limit
- Maximum Power Limit

More Features

- Uses Engine ECU
- Digital AVR Support
- Multiple Language Support
- Three Phase Generator Sensing & Protection
- Three Phase Bus Sensing
- Generator Current, Protection & Power Monitoring
- Configurable Timers
- Integrated SNMP
- Data Logging
- PC Configuration
- DSENet® (Expansion Support)
- Flexible I/O (Inputs/Outputs)
- Automatic and Front Panel Breaker Control
- Power-Save Mode

CONFIGURABLE OPTIONS

ENGINE SYSTEM

- Radiator Stone Guard (open set only)
- Oil Heater
- Heavy Duty Air Cleaner

ELECTRICAL SYSTEM

- 10A UL Listed Battery Charger
- Battery Warmer

ALTERNATOR SYSTEM

- Alternator Upsizing
- Anti-Condensation Heater
- Tropical Coating
- Permanent Magnet Excitation

CIRCUIT BREAKER OPTIONS

- Main Line Circuit Breaker
- 2nd Main Line Circuit Breaker
- Shunt Trip and Auxiliary Contacts
- Electronic Trip Breakers

GENERATOR SET

- Extended Factory Testing
- 8 Position Load Center
- Spring or Pad Vibration Isolators

ENCLOSURE

- Open Set Generator
- Level 0 Weather Protected Enclosure
- Level 2 Sound Attenuated
- Level 2 Sound Attenuated Enclosure (with Motorized Dampers)
- Steel Enclosure
- Aluminum Enclosure
- Up to 150 MPH Wind Load Rating (Contact Factory for Availability)
- AC/DC Enclosure Lighting Kit
- Enclosure Heater

CONTROL SYSTEM

- NFPA 110 Compliant 21-Light Remote Annunciator
- Remote Relay Assembly (8 or 16)
- Remote E-Stop (Break Glass-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Flush Mount)
- 100 dB Alarm Horn
- Ground Fault Annunciator
- 120V GCFI Outlets
- Flush Mount Annunciator Kit
- Generac Link Connectivity Gateway

WARRANTY (STANDBY GENSETS ONLY)

- 2 Year Extended Limited Warranty
- 5 Year Extended Limited Warranty
- 7 Year Extended Limited Warranty
- 10 Year Extended Limited Warranty

SD100 | 6.7 L | 100 kW
INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary - EPA Tier 4 Final



APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	FPT
EPA Emissions Compliance	Tier 4 Final
EPA Emissions Reference	See Emission Data Sheet
Cylinder #	6
After Treatment	DOC + SCRoF + CUC
Type	In-Line
Displacement: in³ (L)	408 (6.7)
Bore - in (mm)	4.09 (104)
Stroke - in (mm)	5.19 (132)
Compression Ratio	17: 1
Intake Method	Turbocharged/Aftercooled
Cylinder Head Type	4-Valve
Crankshaft Type	Cast Iron

Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	±0.75%

Lubrication System

Oil Pump	Gear
Oil Filter Type	Full Flow
Crankcase Cap - qt (L)	15.53 (14.7)

Cooling System

Cooling System Type	Water Cooled
Water Pump Type	Belt Driven
Fan Type	Pusher
Fan Speed - RPM	2,520
Fan Diameter - in (mm)	23 (599)

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel #2
Fuel Specifications	ASTM
Fuel Filtering (Microns)	30
Fuel Pump Type	Engine Driven Gear
Injector Type	Electronic Common Rail Bosch CRIN2-16
Fuel Supply Line - in (mm)	0.39 (10) NPT
Fuel Return Line - in (mm)	0.39 (10) NPT

Engine Electrical System

System Voltage	24 VDC
Battery Charger Alternator	90A
Battery Size	See Battery Index 0161970SBY
Battery Voltage	24 VDC
Ground Polarity	Negative (-)

ALTERNATOR SPECIFICATIONS

Standard Model	K0100124Y21
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5%
Telephone Interference Factor (TIF)	<50

Standard Excitation	Permanent Magnet
Bearings	Single Sealed Cartridge
Coupling	Direct Drive
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	3
Regulation Accuracy (Steady State)	±0.5%

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GENERAC INDUSTRIAL
ENERGY

OPERATING DATA

POWER RATINGS

Standby		
Single-Phase 120/240 VAC @1.0pf	100 kW/100 kVA	Amps: 417
Three-Phase 120/208 VAC @0.8pf	100 kW/125 kVA	Amps: 347
Three-Phase 120/240 VAC @0.8pf	100 kW/125 kVA	Amps: 301
Three-Phase 277/480 VAC @0.8pf	100 kW/125 kVA	Amps: 150
Three-Phase 346/600 VAC @0.8pf	100 kW/125 kVA	Amps: 120

MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip			
277/480 VAC	30%	208/240 VAC 3Ø	30%
K0100124Y21	227	K0100124Y21	171
K0130124Y21	327	K0130124Y21	244
K0150124Y21	326	K0150124Y21	327
K0200124Y21	478	K0200124Y21	361

FUEL CONSUMPTION RATES*

Fuel Pump Lift - ft (m)	Diesel gph (Lph)			DEF - gph (Lph)		
	Percent Load	Standby	Prime	Percent Load	Standby	Prime
3 (1)	25%	2.11 (7.99)	—	25%	0.20 (0.76)	—
	50%	4.22 (15.97)	—	50%	0.40 (1.51)	—
Total Fuel Pump Flow - gph (Lph)	75%	6.33 (23.96)	—	75%	0.60 (2.27)	—
	100%	8.44 (31.95)	—	100%	0.80 (3.03)	—

*Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

Standby		
Coolant Flow	gpm (Lpm)	50.2 (190.0)
Coolant System Capacity	gal (L)	7.1 (26.9)
Heat Rejection to Coolant	BTU/hr (kW)	323,417.5 (94.7)
Air Flow (Fan Air Flow Across Radiator)	cfm (m³/min)	8203.0 (232.3)
Maximum Operating Ambient Temperature	°F (°C)	120.0 (48.9)
Maximum Operating Ambient Temperature (Before Derate)	See Bulletin No. 0199280SSD	
Maximum Additional Radiator Backpressure	in H ₂ O (kPa)	0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

Standby	
Flow at Rated Power - cfm (m³/min)	580.0 (16.4)

ENGINE

Standby		
Rated Engine Speed	RPM	1,800
Horsepower at Rated kW**	hp	308.0
Piston Speed	ft/min (m/min)	1,559 (475)
BMEP	psi (kPa)	345.2 (2380.2)

**Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

EXHAUST

Standby		
Exhaust Flow (Rated Output)	cfm (m³/min)	705.0 (20.0)
Maximum Allowable Backpressure	inHg (kPa)	7.4 (25.0)
Exhaust Temperature (Rated Output)	°F (°C)	1022.0 (550.0)

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.

Please contact a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with BS5514 and DIN6271 standards.

Standby - See Bulletin 10000018933

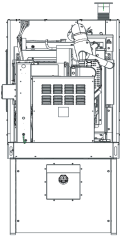
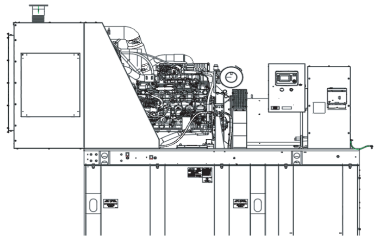
Prime - See Bulletin 10000018926

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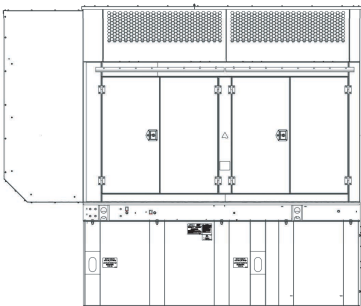


DIMENSIONS AND WEIGHTS*



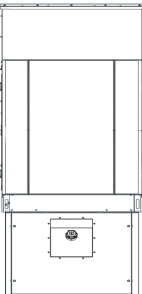
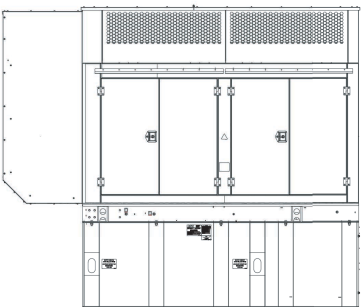
OPEN SET

Run Time - Hours	Usable Capacity - gal (L)	L x W x H - in (mm)	Weight - lbs (kg)
No Tank	—	148.7 (3,776.98) x 49.2 (1,249.68) x 103 (2,616.2)	3,905 (1,771)
44	375 (1419.5)	148.7 (3,776.98) x 49.2 (1,249.68) x 103 (2,616.2)	5,205 (2,360)
44	375 (1419.5)	168 (4,267.2) x 49.2 (1,249.68) x 103 (2,616.2)	5,555 (2,519)



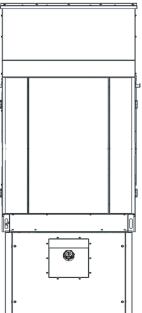
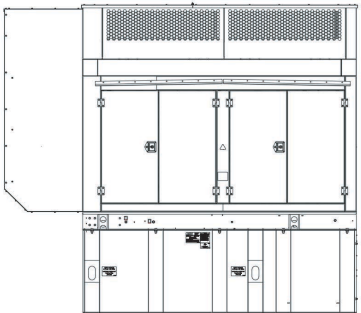
LEVEL 0 WEATHER PROTECTED ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	—	149.8 (3,804.9) x 50.4 (1,280.2) x 91.7 (2,329.2)	4,934 (2,237)	4,627 (2,098)
44	375 (1419.5)	149.8 (3,804.9) x 49.2 (1,249.68) x 127.7 (3,243.58)	6,234 (2,827)	5,927 (2,688)
44	375 (1419.5)	168 (4,267.2) x 49.2 (1,249.68) x 127.7 (3,243.58)	6,584 (2,986)	6,277 (2,847)



LEVEL 2 ACOUSTIC ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	—	149.8 (3,804.9) x 50.4 (1,280.2) x 91.7 (2,329.2)	4,984 (2,260)	4,677 (2,121)
44	375 (1419.5)	149.8 (3,804.9) x 49.2 (1,249.68) x 127.7 (3,243.58)	6,284 (2,850)	5,977 (2,711)
44	375 (1419.5)	168 (4,267.2) x 49.2 (1,249.68) x 127.7 (3,243.58)	6,634 (3,009)	6,327 (2,869)



LEVEL 2 ACOUSTIC ENCLOSURE WITH MOTORIZED DAMPERS

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	—	149.8 (3,804.9) x 50.4 (1,280.2) x 97.9 (2,486.66)	5,154 (2,337)	4,797 (2,175)
44	375 (1419.5)	149.8 (3,804.9) x 49.2 (1,249.68) x 133.9 (3,401.06)	6,454 (2,927)	6,097 (2,765)
	375 (1419.5)	168 (4,267.2) x 49.2 (1,249.68) x 133.9 (3,401.06)	6,804 (3,086)	6,447 (2,924)
44				

* All measurements are approximate and for estimation purposes only. Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings. Extended and not extended tank offerings vary. Contact dealer for options.