#### SG060 4.5 L 60 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency

# Standby Power Rating 60 kW, 75 kVA, 60 Hz



GENERAC

Image used for illustration purposes only

INDUST

# Codes and Standards

Generac products are designed to the following standards:



ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012)

# **Powering a Smarter World**

For over 65 years, Generac has been at the forefront of power generation innovation, setting the benchmark for manufacturing excellence. Our dedication to quality is evident in our approach to designing and manufacturing the essential components of our generators-alternators, enclosures, base tanks, control systems, and cutting-edge communications software. Unique to Generac, our spark-ignited engines are developed and manufactured from the ground up in our United States facilities, highlighting our unwavering commitment to quality and innovation.

Generac's gaseous-fueled generators stand out for their adaptability and reliability. By engineering engines specifically for natural gas and LP fuels, we ensure unparalleled durability and performance. These engines, optimized for the unique properties of these fuels, demonstrate extended life and reduced maintenance, underscoring our expertise in creating solutions that meet the specific needs of our customers. Our integrated manufacturing process, from design through delivery, affirms our single-source responsibility, ensuring a seamless experience for our clients.

Beyond the initial purchase, Generac's commitment to our customers extends to comprehensive service support, ensuring reliability and peace of mind. Our extensive distribution network provides all necessary parts and service, eliminating the hassle of dealing with third-party suppliers. This, combined with the extended run times offered by our gaseous-fueled generators and the versatility for commercial and industrial applications, reiterates Generac's dedication to delivering state-of-the-art power solutions and enduring customer satisfaction through continuous support and service excellence.

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# **STANDARD FEATURES**

# **ENGINE SYSTEM**

- Oil Drain Extension
- · Heavy Duty Air Cleaner
- · Level 1 Fan and Belt Guards (Open Set Only)
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Critical Silencer
- Oil Temperature Sender with Alarm
- Air Filter Restriction Indicator

#### **FUEL SYSTEM**

- NPT Fuel Connection on Frame
- · Primary and Secondary Fuel Shutoff

# **COOLING SYSTEM**

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

# **CONTROL SYSTEM**



# Power Zone<sup>®</sup> Pro Controller

- NFPA 110 Level 1 Compliant
- Engine Protective Functions
- Alternator Protective Functions
- Digital Engine Governor Control
- Digital Voltage Regulator
- Multiple Programmable Inputs and Outputs
- Remote Display Capability

# **ELECTRICAL SYSTEM**

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

# **ALTERNATOR SYSTEM**

- UL2200 GENprotect™
- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Brushless Excitation
- Sealed Bearing
- Full Load Capacity Alternator

#### • Remote Communication via Modbus<sup>®</sup> RTU, Modbus TCP/IP, and Ethernet 10/100

- Alarm and Event Logging with Real Time Stamping
- · Expandable Analog and Digital Inputs and Outputs
- Remote Wireless Software Update Capable
- Built-In Programmable Logic Eliminates the Need for External Controllers Under Most Conditions
- Programmable I/O Channel Properties
- Built-In Diagnostics

# **Alarms and Warnings**

- High/Low Oil Pressure
- High/Low Coolant Level
- High/Low Coolant Temperature
- Sender/Sensor Failure
- High/Low Oil Temperature
- Over Total kW
- Over/Under Speed
- Over/Under Voltage
- Over/Under Frequency
- Over Current
- High/Low Battery Voltage
- Battery Charger Current
- Phase to Phase and Phase to Neutral Short Circuits (I<sup>2</sup>T Algorithm)

# **GENERATOR SET**

GENERAC

- 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 and Demand Response Rated Units)

INDUSTRIAL

# **ENCLOSURE (IF SELECTED)**

- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuated Enclosures)
- Gasketed Doors
- Upward Facing Discharge Hoods (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- RhinoCoat<sup>™</sup> Textured Polyester Powder Coat Paint

# 4.3 Inch Color Touch Screen Display

- Resistive Color Touch Screen
- Easily Identifiable Icons
- Multi-Lingual
- On Screen Editable Parameters

#### **Key Function Monitoring**

- Three Phase Voltage, Amperage, kW, kVA, and kVAr
- Selectable Line to Line or Line to Neutral Measurements
- Frequency
- Engine Speed
- Engine Coolant Temperature
  - Engine Oil Temperature
- · Battery Voltage
- Hourmeter
- Warning and Alarm Indication
  - Diagnostics
- Maintenance Events/Information

# **CONFIGURABLE OPTIONS**

# **ENGINE SYSTEM**

- o Heater with Shutoff Valves
- Engine Coolant Heater
- o Oil Heater
- Level 1 Fan and Belt Guards (Enclosed Units Only)
- Radiator Duct Adapter (Open Set Only)
- Heavy Duty Air Cleaner
- Two-Stage Heavy Duty Air Cleaner
- Critical Grade Silencer
- Baseframe Cover/Rodent Guard

# **FUEL SYSTEM**

o NPT Flexible Fuel Line

# **ELECTRICAL SYSTEM**

- 10A UL Battery Charger
- Battery Warmer

# **ALTERNATOR SYSTEM**

- Alternator Upsizing
- $\circ~$  Anti-Condensation Heater
- Tropical Coating

# **CIRCUIT BREAKER OPTIONS**

- o Main Line Circuit Breaker
- o 2<sup>nd</sup> Main Line Circuit Breaker
- o 3<sup>rd</sup> Main Line Circuit Breaker
- Shunt Trip and Auxiliary Contact
- Electronic Trip Breakers

# ENGINEERED OPTIONS

# **CONTROL SYSTEM**

- $\circ$  Spare Inputs (x4) / Outputs (x4)
- Battery Disconnect Switch

# **GENERATOR SET**

- Extended Factory Testing (3-Phase Only)
- 8 Position Load Center

# **ENCLOSURE**

- Level 0 Sound Attenuated
- Level 1 Sound Attenuated
- Level 2 Sound Attenuated
- Level 2 Sound Attenuated with Motorized Dampers
- Steel Enclosure
- Aluminum Enclosure
- Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- o AC/DC Enclosure Lighting Kit
- Enclosure Heaters (with Motorized Dampers Only)
- Door Alarm Switch

# **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)
- 10A Engine Run Relay
- Ground Fault Annunciator
- o 120V GFCI and 240V Outlets
- 100 dB Alarm Horn
- Damper Alarm Contacts (with Motorized Dampers Only)

# WARRANTY (STANDBY GENSETS ONLY)

- o 2 Year Extended Limited Warranty
- $\circ~$  5 Year Extended Limited Warranty
- 7 Year Extended Limited Warranty
- $\circ~$  10 Year Extended Limited Warranty

# **GENERATOR SET**

- Special Testing
- Battery Box

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# **APPLICATION AND ENGINEERING DATA**

# **ENGINE SPECIFICATIONS**

#### General

Make	Generac
Cylinder #	4
Туре	In-Line
Displacement - in <sup>3</sup> (L)	275.0 (4.5)
Bore: in (mm)	4.5 (114.3)
Stroke: in (mm)	4.25 (107.95)
Compression Ratio	9.1:1
Intake Air Method	Turbocharged
Number of Main Bearings	5
Connecting Rods	Forged Steel, Fractured Split, Bushingless
Cylinder Head	Cast Iron
Cylinder Liners	Cast Iron
Ignition	Coil Near Plug Solid State Inductive
Piston Type	Cast Aluminum Flat Top
Crankshaft Type	Forged Steel
Lifter Type	Hydraulic Roller
Intake Valve Material	Stainless Steel
Exhaust Valve Material	Stainless Steel
Hardened Valve Seats	High Steel Iron Alloy

# **Engine Governing**

Governor	Electronic
Frequency Regulation (Steady State)	±0.25

# Lubrication System

Oil Pump	Gear Driven
Oil Filter Type	Full Flow Spin-On Cartridge
Engine Oil Capacity: qt (L)	21 (20)

# **ALTERNATOR SPECIFICATIONS**

Standard Model	K0060124Y21
Poles	4
Field Type	Revolving
Insulation Class - Rotor	Н
Insulation Class - Stator	Н
Total Harmonic Distortion (THD)	<5%
Telephone Interference Factor (TIF)	<50

# Cooling System

Cooling System Type	Pressurized Closed
Fan Type	Pusher
Fan Speed (rpm)	2,100
Fan Diameter - in (mm)	22 (533)

#### **Fuel System**

Fuel Type	Natural Gas, Propane
Fuel Injection	Electronic
Fuel Shutoff	Generac
Operating Fuel Pressure (NG) - in H <sub>2</sub> O (kPa)	5 - 14 (1.2 - 3.5)
Operating Fuel Pressure (LP) -	7 - 14 (1.7 - 3.5)
in H <sub>2</sub> O (kPa)	

NOTE:: When designing the external fuel system, assume a 20% safety factor to the upper and lower limit of the specified fuel pressure range to account for site variation and measurement at the generator test port. Refer to Generac document 10000046207, Latest rev., for proper gas supply design guidelines. (Contact factory for details)

#### **Engine Electrical System**

System Voltage	12 VDC
Battery Charger Alternator	Standard
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative (-)

Standard Excitation	Synchronous Brushless
Bearings	Sealed Ball
Coupling	Direct via Flexible Disc
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Full Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	$\pm 0.25\%$



# **OPERATING DATA**

#### **POWER RATINGS NATURAL GAS/PROPANE VAPOR**

	Stand	dby
Single-Phase 120/240 VAC @1.0pf	60 kW/60 kVA	Amps: 250
Three-Phase 120/208 VAC @0.8pf	60 kW/75 kVA	Amps: 208
Three-Phase 120/240 VAC @0.8pf	60 kW/75 kVA	Amps: 181
Three-Phase 277/480 VAC @0.8pf	60 kW/75 kVA	Amps: 90
Three-Phase 346/600 VAC @0.8pf	60 kW/75 kVA	Amps: 72

#### **STARTING CAPABILITIES (SKVA)**

sKVA vs. Voltage Dip					
120/240 VAC 1Ø	30%	277/480 VAC 3Ø	30%	208/240 VAC 3Ø	30%
A0060044N21	40	K0060124Y21	124	K0060124Y21	95
A0100044N21	67	K0100124Y21	227	K0100124Y21	171

# **FUEL CONSUMPTION RATES\***

Natural Gas – s	scfh (m³/hr)	Propane Vapor -	– scfh (m³/hr)	Propane Liquio	d – gph (Lph)
Percent Load	Standby	Percent Load	Standby	Percent Load	Standby
25%	231 (6.5)	25%	64 (1.8)	25%	2.2 (8.3)
50%	413 (11.7)	50%	152 (4.3)	50%	4.4 (16.6)
75%	601 (17.0)	75%	232 (6.6)	75%	6.6 (24.9)
100%	795(22.5)	100%	306 (8.7)	100%	8.8 (33.2)
	*1.5X maximum site rated fuel consumption should be used for gas supply design practices. Refer to Generac				

10000046207, latest rev., for more information. (Contact factory for details)

# COOLING

		Standby
Air Flow (Fan Air Flow Across Radiator) - Open Set	scfm (m <sup>3</sup> /min)	4,343 (123)
Coolant Flow	gpm (Lpm)	24 (90)
Coolant System Capacity	gal (L)	9 (34)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Operating Ambient Temperature (Before De	rate)	See Bulletin No. 0199270SSD
Maximum Additional Radiator Backpressure	in H <sub>2</sub> O (kPa)	0.5 (0.12)

# **COMBUSTION AIR REQUIREMENTS**

Flow at Rated Power cfm (m<sup>3</sup>/min)

136 (3.9)

Exhaust Flow (Rated Output)

Maximum Exhaust Back pressure

Exhaust Temp (Rated Output - Post

**EXHAUST** 

Silencer)

Standby

#### ENGINE

		Standby
Rated Engine Speed: RPM	rpm	1,800
Horsepower at Rated kW**	hp	98
Piston Speed	ft/min (m/min)	1,275 (389)
BMEP	psi (kPa)	162 (1,119)

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

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.

Demand Response - See Bulletin 10000018250

# SPEC SHEET

Standby

331 (9.0)

0.75 (2.54)

1,338 (726)

scfm (m3/min)

inHg (Kpa)

°F (°C)

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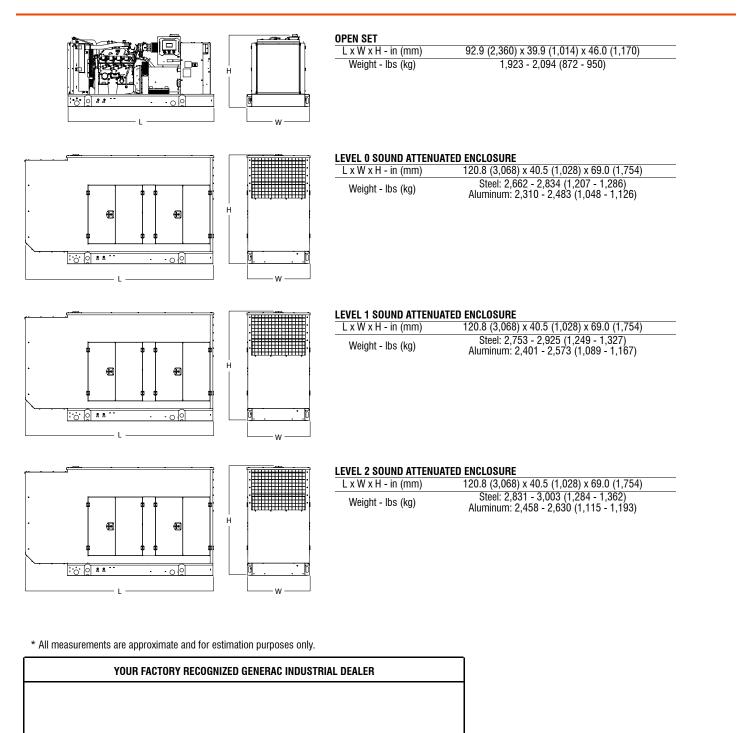


# SG060 | 4.5 L | 60 kW INDUSTRIAL SPARK-IGNITED GENERATOR SET



EPA Certified Stationary Emergency

# **DIMENSIONS AND WEIGHTS\***



Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings

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