

**SG035 | 4.5L | 35 kW**  
**INDUSTRIAL SPARK-IGNITED GENERATOR SET**

EPA Certified Stationary

**DEMAND RESPONSE READY**

**Standby Power Rating**

35 kW, 44 kVA, 60 Hz

**Demand Response Rating**

35 kW, 44 kVA, 60 Hz

**Prime Power Rating**

32 kW, 39 kVA, 60 Hz

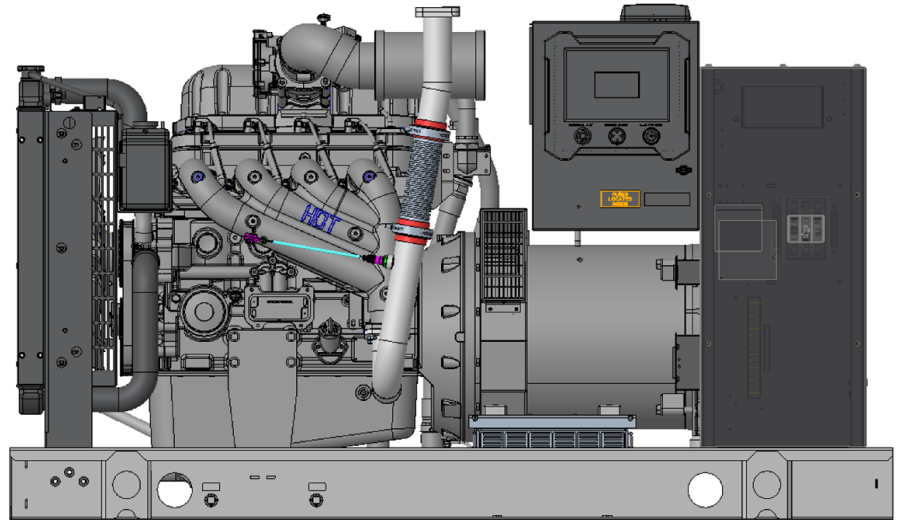


Image used for illustration purposes only



**Codes and Standards**

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

-   UL2200, UL6200, UL1236, UL489
-  CSA C22.2
-   BS5514 and DIN 6271
-  SAE J1349
-  NFPA 37, 70, 99, 110
-  NEC700, 701, 702, 708
-  ISO 3046, 7637, 8528, 9001
-  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**

Generac ensures superior quality by designing and manufacturing most of its generator components, such as alternators, enclosures, control systems and communications software. Generac also makes its own spark-ignited engines, and you'll find them on every Generac gaseous-fueled generator. We engineer and manufacture them from the block up — all at our facilities throughout Wisconsin. Applying natural gas and LP-fueled engines to generators requires advanced engineering expertise to ensure reliability, durability and necessary performance. By designing specifically for these dry, hotter-burning fuels, the engines last longer and require less maintenance. Building our own engines also means we control every step of the supply chain and delivery process, so you benefit from single-source responsibility.

Plus, Generac Industrial Power's distribution network provides all parts and service so you don't have to deal with third-party suppliers. It all leads to a positive owner experience and higher confidence level. Generac spark-ignited engines give you more options in commercial and industrial generator applications as well as extended run time from utility-supplied natural gas.

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## INDUSTRIAL SPARK-IGNITED GENERATOR SET

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### STANDARD FEATURES

### DEMAND RESPONSE READY

#### ENGINE SYSTEM

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Critical Silencer
- Oil Temperature Sender with Alarm
- Air Filter Restriction Indicator

#### Fuel System

- Fuel Line - NPT Connection
- 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

#### 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

#### 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)
- 1 Year Limited Warranty (Prime Rated Units)

#### ENCLOSURE (If Selected)

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

#### CONTROL SYSTEM

##### Power Zone 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
- Remote Communication via Modbus® 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
- Wi-Fi, Bluetooth, BMS, and Remote Telemetry
- 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)

#### 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 Pressure
- Engine Oil Temperature
- Battery Voltage
- Hourmeter
- Warning and Alarm Indication
- Diagnostics
- Maintenance Events/Information

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### CONFIGURABLE OPTIONS

### DEMAND RESPONSE READY

#### ENGINE SYSTEM

- Heater with Shutoff Valves
- Fluid Containment Pan
- Engine Coolant Heater
- Oil Heater
- Level 1 Fan and Belt Guards (Enclosed Units Only)
- Radiator Duct Adapter (Open Set Only)

#### ELECTRICAL SYSTEM

- 10A UL Listed Battery Charger
- Battery Warmer

#### ALTERNATOR SYSTEM

- Alternator Upsizing
- Anti-Condensation Heater
- Tropical Coating

#### CIRCUIT BREAKER OPTIONS

- Main Line Circuit Breaker
- 2nd Main Line Circuit Breaker
- 3rd Main Line Circuit Breaker
- Shunt Trip and Auxiliary Contact
- Electronic Trip Breakers

### ENGINEERED OPTIONS

#### CONTROL SYSTEM

- Spare Inputs (x4) / Outputs (x4)
- Battery Disconnect Switch

#### GENERATOR SET

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

#### ENCLOSURE

- Weather Protected Enclosure
- 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)
- AC/DC Enclosure Lighting Kit
- Enclosure Heaters

#### GENERATOR SET

- Special Testing
- Battery Box

#### 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 Indication and Protection Functions
- 120V GFCI and 240V Outlets
- 100 dB Alarm Horn

#### WARRANTY (Standby Gensets Only)

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

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### APPLICATION AND ENGINEERING DATA

**DEMAND RESPONSE READY**

#### ENGINE SPECIFICATIONS

##### General

Make	Generac
Cylinder #	4
Type	In-Line
Displacement - in <sup>3</sup> (L)	275.0 (4.5)
Bore - in (mm)	4.5 (114.0)
Stroke - in (mm)	4.25 (107.95)
Compression Ratio	9.94:1
Intake Air Method	Naturally Aspirated
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
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 Type	Gear Driving
Oil Filter Type	Full-Flow Spin-On Cartridge
Crankcase Capacity - qt (L)	21 (20)

##### Cooling System

Cooling System Type	Pressurized Closed
Fan Type	Pusher
Fan Speed - RPM	2,100
Fan Diameter - in (mm)	20 (508)

##### Fuel System

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

##### Engine Electrical System

System Voltage	12 VDC
Battery Charger Alternator	35 A
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

#### ALTERNATOR SPECIFICATIONS

Standard Model	K0035124Y21
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5% (3-Phase)
Telephone Interference Factor (TIF)	<50

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)	±0.25%

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### OPERATING DATA

**DEMAND RESPONSE READY**

### POWER RATINGS

	Standby	
Single-Phase 120/240 VAC @1.0pf	35 kW/35 kVA	Amps: 146
Three-Phase 120/208 VAC @0.8pf	35 kW/44 kVA	Amps: 122
Three-Phase 120/240 VAC @0.8pf	35 kW/44 kVA	Amps: 105
Three-Phase 277/480 VAC @0.8pf	35 kW/44 kVA	Amps: 53

### MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip			
277/480 VAC	30%	208/240 VAC	30%
K0035124Y21	61	K0035124Y21	46
K0040124Y21	76	K0040124Y21	58

### FUEL CONSUMPTION RATES\*

Natural Gas – scfh (m <sup>3</sup> /hr)		LP Vapor – scfh (m <sup>3</sup> /hr)	
Percent Load	Standby	Percent Load	Standby
25%	239 (6.8)	25%	79.7 (2.3)
50%	409 (11.6)	50%	136.6 (3.9)
75%	553 (15.7)	75%	184.4 (5.2)
100%	682 (19.3)	100%	227.7 (6.4)

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

### COOLING

	Standby	
Air Flow (Fan Air Flow Across Radiator)	scfm (m <sup>3</sup> /min)	2,460 (69.7)
Coolant Flow	gpm (Lpm)	37.7 (142.7)
Coolant System Capacity	gal (L)	3 (11.4)
Max. Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Operating Ambient Temperature (Before Derate)	See Bulletin No. 0199270SSD	
Maximum Radiator Backpressure	in H <sub>2</sub> O (kPa)	0.5 (0.12)

### COMBUSTION AIR REQUIREMENTS

	Standby
Flow at Rated Power scfm (m <sup>3</sup> /min)	87 (2.5)

### ENGINE

		Standby
Rated Engine Speed	RPM	1,800
Horsepower at Rated kW**	hp	54
Piston Speed	ft/min (m/min)	1,275 (389)
BMEP	psi (kPa)	72 (496)

### EXHAUST

		Standby
Exhaust Flow (Rated Output)	scfm (m <sup>3</sup> /min)	219 (6.2)
Maximum Exhaust Backpressure	inHg (kPa)	0.75 (2.54)
Exhaust Temp (Rated Output - Post Silencer)	°F (°C)	900 (482.2)

\*\* 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 ISO3046, BS5514, ISO8528, and DIN6271 standards.

Standby - See Bulletin 0187500SSB

Demand Response - See Bulletin 10000018250

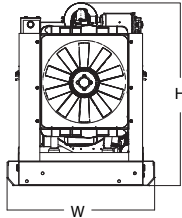
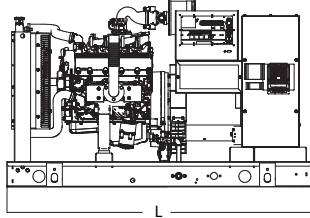
Prime - See Bulletin 0187510SSB

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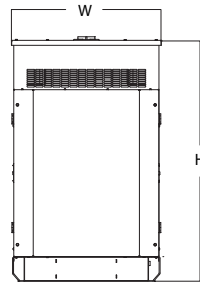
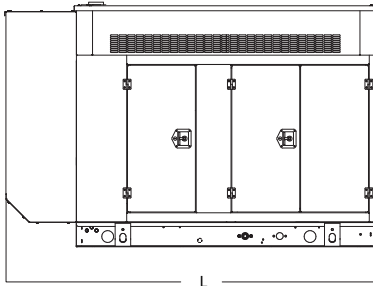
**DIMENSIONS AND WEIGHTS\***

**DEMAND RESPONSE READY**



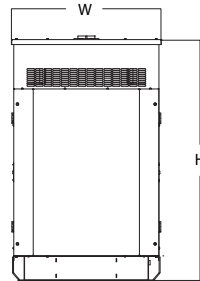
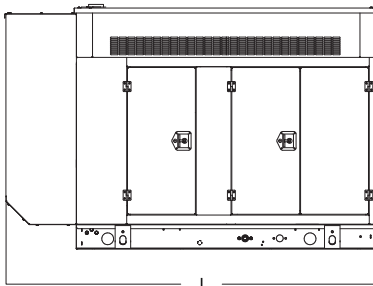
**OPEN SET (Includes Exhaust Flex)**

L x W x H - in (mm)	76.0 (1,930) x 37.4 (950) x 46.3 (1,176)
Weight - lbs (kg)	2,199 (997)



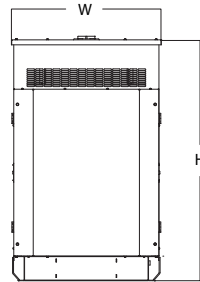
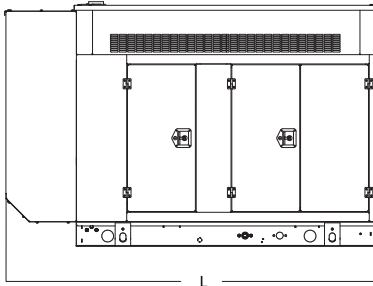
**WEATHER PROTECTED ENCLOSURE**

L x W x H - in (mm)	94.8 (2,407) x 37.4 (950) x 69.1 (1,755)
Weight - lbs (kg)	Steel: 2,639 (1,197) Aluminum: 2,417 (1,096)



**LEVEL 1 SOUND ATTENUATED ENCLOSURE**

L x W x H - in (mm)	94.8 (2,407) x 37.4 (950) x 69.1 (1,755)
Weight - lbs (kg)	Steel: 2,719 (1,233) Aluminum: 2,451 (1,112)



**LEVEL 2 SOUND ATTENUATED ENCLOSURE**

L x W x H - in (mm)	94.8 (2,407) x 37.4 (950) x 69.1 (1,755)
Weight - lbs (kg)	Steel: 2,871 (1,302) Aluminum: 2,517 (1,142)

\* All measurements are approximate and for estimation purposes only.

<b>YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER</b>

Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.