

**Standby Power Rating**  
 40 kW, 50 kVA, 60 Hz

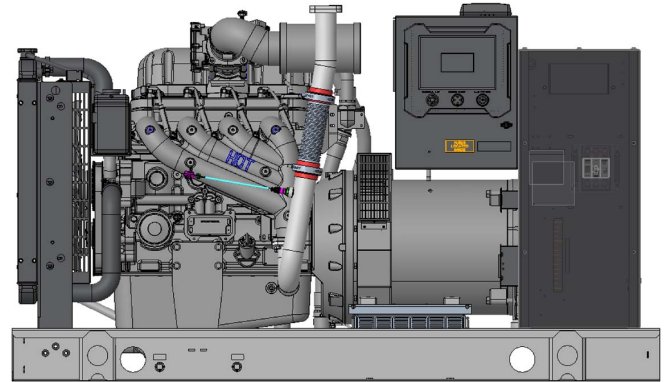




Image used for illustration purposes only

## Codes and Standards


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


 UL2200, UL6200, UL1236, UL489, UL142


 CSA C22.2, 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 a Smarter World

For over 65 years, Generac has been at the forefront of power generation, pioneering innovative solutions and unparalleled manufacturing excellence. At the heart of our reputation for superior quality lies our commitment to meticulously designing and manufacturing key components of our generators—ranging from alternators and enclosures to base tanks, control systems, and cutting-edge communications software.

Generac's gensets stand out for their unparalleled versatility and reliability. Engineered to offer a wide range of options and configurations, they are tailored to meet the unique demands of virtually any application, seamlessly adapting to its complexity. Our commitment to reliability drives us to globally source only the most dependable engines, selected through stringent criteria for optimal performance under the toughest industrial conditions.

Beyond the sale, Generac's dedication to our customers extends to comprehensive service support, for peace of mind and reliability long after your purchase. Our commitment is to not only provide state-of-the-art power solutions but also enduring success and satisfaction of our customers through ongoing support and service excellence.

## STANDARD FEATURES

### ENGINE SYSTEM

- Oil Drain Extension
- Air Cleaner
- Level 1 Fan and Belt Guarding (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

### 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
- 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

### Power Zone® Pro Controller Continued

- 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
- 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

### Alarms and Warnings Continued

- 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 kVA<sub>r</sub>
- 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**

- 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)

**FUEL SYSTEM**

- NPT Flexible Fuel Line
- Dual Fuel NG/LPV
- Dual Fuel NG/LPL
- \

**ELECTRICAL SYSTEM**

- 10A UL Battery Charger
- Battery Warmer

**ALTERNATOR SYSTEM**

- Alternator Upsizing
- Anti-Condensation Heater
- Tropical Coating

**CIRCUIT BREAKER OPTIONS**

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

**GENERATOR SET**

- 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 (with Motorized Dampers Only)
- Door Open Alarm Horn

**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
- 120 V GFCI and 240 V Outlets
- 100 dB Alarm Horn
- Damper Alarm Contacts (with Motorized Dampers Only)

**WARRANTY (Standby Gensets Only)**

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

**ENGINEERED OPTIONS**

---

**CONTROL SYSTEM**

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

**GENERATOR SET**

- Special Testing
- Battery Box

EPA Certified Stationary

**APPLICATION AND ENGINEERING DATA**

**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 (114.3)                                |
| 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                   | Gear Driven                 |
| 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  | Dual                 |
| Operating Fuel Pressure (NG) - in H <sub>2</sub> O (kPa) | 5 - 14 (1.2 - 3.5)   |
| Operating Fuel Pressure (LP) - in H <sub>2</sub> O (kPa) | 7 - 14 (1.7 - 3.5)   |

\*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, or 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 (-)                 |

**ALTERNATOR SPECIFICATIONS**

|                                     |                    |
|-------------------------------------|--------------------|
| Standard Model                      | K0040124Y21        |
| Poles                               | 4                  |
| Field Type                          | Revolving          |
| Insulation Class - Rotor            | H                  |
| Insulation Class - Stator           | H                  |
| Total Harmonic Distortion (THD)     | <5% (3-Phase Only) |
| 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%                  |

EPA Certified Stationary

**OPERATING DATA**

**POWER RATINGS NATURAL GAS**

|                                 |              | Standby   |
|---------------------------------|--------------|-----------|
| Single-Phase 120/240 VAC @1.0pf | 40 kW/40 kVA | Amps: 167 |
| Three-Phase 120/208 VAC @0.8pf  | 40 kW/50 kVA | Amps: 139 |
| Three-Phase 120/240 VAC @0.8pf  | 40 kW/50 kVA | Amps: 120 |
| Three-Phase 277/480 VAC @0.8pf  | 40 kW/50 kVA | Amps: 60  |
| Three-Phase 346/600 VAC @0.8pf  | 40 kW/50 kVA | Amps: 48  |

**STARTING CAPABILITIES (skVA)**

| skVA vs. Voltage Dip |     |             |     |
|----------------------|-----|-------------|-----|
| 277/480 VAC          | 30% | 208/240 VAC | 30% |
| K0040124Y21          | 76  | K0040124Y21 | 58  |
| K0060124Y21          | 124 | K0060124Y21 | 95  |

**FUEL CONSUMPTION RATES\***

| Natural Gas – scfh (m³/hr) |            | Propane – scfh (m³/hr) |           |
|----------------------------|------------|------------------------|-----------|
| Percent Load               | Standby    | Percent Load           | Standby   |
| 25%                        | 195 (5.5)  | 25%                    | 102 (2.9) |
| 50%                        | 298 (8.4)  | 50%                    | 138 (3.9) |
| 75%                        | 394 (11.2) | 75%                    | 172 (4.9) |
| 100%                       | 495 (14.0) | 100%                   | 209 (5.9) |

\*1.5X maximum site rated fuel consumption should be used for gas supply design practices. Refer to Generac 10000046207, latest rev., for more information or contact factory for details.

**COOLING**

|   |                           | Standby                     |
|---|---------------------------|-----------------------------|
| Air Flow (Fan Air Flow Across Radiator) - Open Set    | cfm (m³/min)              | 3,511 (99.4)                |
| Coolant Flow  | gpm (Lpm)                 | 37.7 (142.7)                |
| Coolant System Capacity                               | gal (L)                   | 3 (11.4)                    |
| Maximum Operating Ambient Temperature                 | °F (°C)                   | 122 (50)                    |
| Maximum Operating Ambient Temperature (Before Derate) |                           | See Bulletin No. 0199270SSD |
| Maximum Additional Radiator Backpressure              | in H <sub>2</sub> O (kPa) | 0.5 (0.12)                  |

**COMBUSTION AIR REQUIREMENTS**

|                                    | Standby    |
|------------------------------------|------------|
| Flow at Rated Power - cfm (m³/min) | 81.2 (2.3) |

**ENGINE**

|                          |                | Standby     |
|--------------------------|----------------|-------------|
| Rated Engine Speed       | RPM            | 1,800       |
| Horsepower at Rated kW** | hp             | 61          |
| Piston Speed             | ft/min (m/min) | 1,275 (389) |
| BMEP                     | psi (kPa)      | 83 (572)    |

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

**EXHAUST**

|   |              | Standby     |
|---|--------------|-------------|
| Exhaust Flow (Rated Output)                   | cfm (m³/min) | 234.2 (6.6) |
| Maximum Exhaust Back Pressure (Post Silencer) | inHg (Kpa)   | 0.75 (2.54) |
| Exhaust Temp (Rated Output)                   | °F (°C)      | 1,354 (734) |

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.

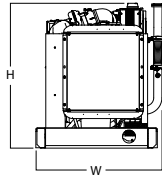
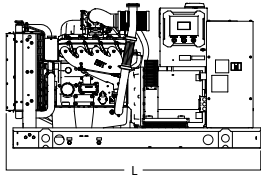
Standby - See Bulletin 0187500SSB

# SG040 | 4.5 L | 40 kW

## INDUSTRIAL SPARK-IGNITED GENERATOR SET

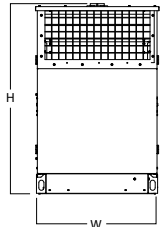
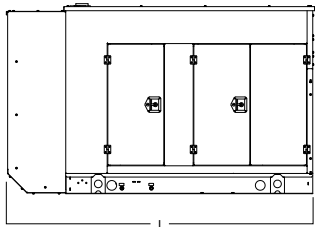
EPA Certified Stationary

### DIMENSIONS AND WEIGHTS\*



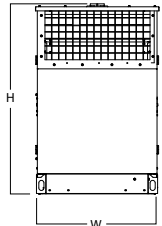
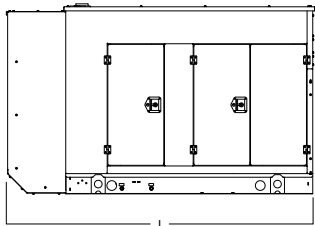
#### OPEN SET

|                     |  |
|---------------------|--|
| L x W x H - in (mm) | 78.1 (1,984) x 37.3 (947) x 44.4 (1,128) |
| Weight - lbs (kg)   | 1,675 - 1,748 (760 - 793)                |



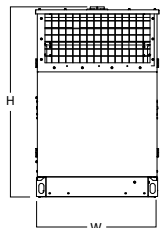
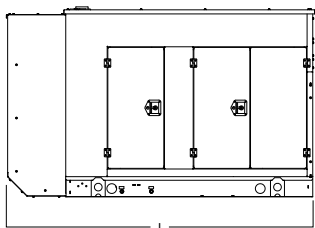
#### WEATHER PROTECTED ENCLOSURE

|                     |   |
|---------------------|---|
| L x W x H - in (mm) | 94.8 (2,408) x 38.0 (965) x 57.5 (1,461)                                  |
| Weight - lbs (kg)   | Steel: 2,160 - 2,233 (980 - 1,013)<br>Aluminum: 1,894 - 1,965 (859 - 891) |



#### LEVEL 1 SOUND ATTENUATED ENCLOSURE

|                     |   |
|---------------------|---|
| L x W x H - in (mm) | 94.8 (2,408) x 38.0 (965) x 57.5 (1,461)                                    |
| Weight - lbs (kg)   | Steel: 2,258 - 2,329 (1,024 - 1,056)<br>Aluminum: 1,987 - 2,061 (901 - 935) |



#### LEVEL 2 SOUND ATTENUATED ENCLOSURE

|                     |   |
|---------------------|---|
| L x W x H - in (mm) | 94.8 (2,408) x 38.0 (965) x 57.5 (1,461)                                    |
| Weight - lbs (kg)   | Steel: 2,341 - 2,414 (1,062 - 1,095)<br>Aluminum: 2,071 - 2,144 (939 - 972) |

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

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

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.