20 kW

Synergy™
Variable Speed Residential Standby Generator
Air-Cooled Gas Engine

FEATURES

- INNOVATIVE ENGINE DESIGN & RIGOROUS TESTING are at the heart of Generac’s success in providing the most reliable generators possible. Generac’s G-Force engine lineup offers added peace of mind and reliability for when you need it the most. The G-Force series engines are purpose built and designed to handle the rigors of extended run times in high temperatures and extreme operating conditions.

- SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION: This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine. Digital voltage regulation at ±1%.

- SINGLE SOURCE SERVICE RESPONSE from Generac’s extensive dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component.

- GENERAC TRANSFER SWITCHES: Long life and reliability are synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems and controls for total system compatibility.

INCLUDES:

- G-Flex™ Variable Speed Technology
- Two Line LCD Multilingual Digital Evolution™ Controller (English/Spanish/French/Portuguese)
- 200 Amp Smart Switch with onboard load management
- Electronic Governor
- System Status & Maintenance Interval LED Indicators
- Sound Attenuated Enclosure
- Flexible Fuel Line Connector
- Direct-To-Dirt Composite Mounting Pad
- Natural Gas or LP Gas Operation
- 5 Year Limited Warranty
- Listed and Labeled by the Southwest Research Institute allowing installation as close as 18" (457 mm) to a structure.*

*Must be located away from doors, windows, and fresh air intakes and in accordance with local codes.


Standby Power Rating

Model G007040-0 (Aluminum - Bisque) - 20 kW 60 Hz - USA
Model G007041-0 (Aluminum - Bisque) - 20 kW 60 Hz - Canada
## 20 kW

### Engine
- Generac G-Force design
- Quiet-Test™
- “Spiny-lok” cast iron cylinder walls
- Electronic ignition/spark advance
- Full pressure lubrication system
- Low oil pressure shutdown system
- High temperature shutdown
- Optimized muffler and resonator

### Features
- Maximizes engine “breathing” for increased fuel efficiency. Plateau honed cylinder walls and plasma moly rings help the engine run cooler, reducing oil consumption resulting in longer engine life.
- Quiet-Test™ greatly reduces sound output and fuel consumption during bi-weekly exercise.
- Rigid construction and added durability provide long engine life.
- These features combine to assure smooth, quick starting every time.
- Pressurized lubrication to all vital bearings means better performance, less maintenance and longer engine life. Now featuring up to a 2 year/200 hour oil change interval.
- Shutdown protection prevents catastrophic engine damage due to low oil.
- Prevents damage due to overheating.
- Results in dramatically quieter operation during exercise and normal loads than constant speed systems.

### Generator
- Cylindrically wound rotor
- Skewed stator
- Variable speed, constant frequency AVR
- Automatic voltage regulation
- UL 2200 listed

### Features
- Allows for multi-phase excitation, enabling variable engine RPM resulting in fuel savings and sound reduction.
- Produces a smooth output waveform for compatibility with electronic equipment.
- Provides uncommonly clean power with less than 1.5% THD (Total Harmonic Distortion).
- Regulates the output voltage to ±1% prevents damaging voltage spikes.
- For your safety.

### Transfer Switch
- Fully automatic
- NEMA 3R
- DPM Technology

### Features
- Transfers your vital electrical loads to the energized source of power.
- Can be installed inside or outside for maximum flexibility.
- Digital Power Management Technology allows for the smart control of two air conditioners without any additional items.

### Evolution™ Controls
- Auto/Manual/Off illuminated buttons
- Sealed, raised buttons
- Utility voltage sensing
- Generator voltage sensing
- Utility interrupt delay
- Engine warm-up
- Engine cool-down
- Programmable exercise
- Smart battery charger
- Main line circuit breaker
- Electronic governor

### Features
- Selects the operating mode and provides easy, at-a-glance status indication in any condition.
- Smooth, weather-resistant user interface for programming and operations.
- Constantly monitors utility voltage, setpoints 65% dropout, 80% pick-up, of standard voltage.
- Frequently monitors generator voltage to ensure the cleanest power delivered to the home.
- Prevents nuisance start-ups of the engine, adjustable 2-1500 seconds from the factory default setting of 5 seconds by a qualified dealer.
- Ensures engine is ready to assume the load, setpoint approximately 5 seconds.
- Allows engine to cool prior to shutdown, setpoint approximately 1 minute.
- Operates engine to prevent oil seal drying and damage between power outages by running the generator for 5 minutes every other week. Also offers a selectable setting for weekly or monthly operation providing flexibility and potentially lower fuel costs to the owner.
- Delivers charge to the battery only when needed at varying rates depending on outdoor air temperature. Compatible with lead acid and AGM-style batteries.
- Protects generator from overload.
- Maintains constant 60 Hz frequency.

### Unit
- SAE weather protective enclosure
- Enclosed critical grade muffler
- Small, compact, attractive

### Features
- Sound attenuated enclosures ensure quiet operation and protection against mother nature, withstanding winds up to 150 mph. Hinged key locking roof panel for security. Lift-out front for easy access to all routine maintenance items. Electrostatically applied textured epoxy paint for added durability.
- Quiet, critical grade muffler is mounted inside the unit to prevent injuries.
- Makes for an easy, eye appealing installation, as close as 18" away from a building.

### Installation System
- 1 ft (305 mm) flexible fuel line connector
- Direct-to-dirt composite mounting pad
- Integral sediment trap

### Features
- Absorbs any generator vibration when connected to rigid pipe.
- Complex lattice design prevents settling or sinking of the generator system.
- Prevents particles and moisture from entering the fuel regulator and engine, prolonging engine life.
### Generator

**Model**

G007040-0/G007041-0

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Maximum Continuous Power Capacity (LP)</td>
<td>20,000 Watts*</td>
</tr>
<tr>
<td>Rated Maximum Continuous Power Capacity (NG)</td>
<td>18,000 Watts*</td>
</tr>
<tr>
<td>Rated Voltage</td>
<td>240</td>
</tr>
<tr>
<td>Total Harmonic Distortion</td>
<td>83.3/75</td>
</tr>
<tr>
<td>Main Line Circuit Breaker</td>
<td>100 Amp</td>
</tr>
<tr>
<td>Number of Rotor Poles</td>
<td>2</td>
</tr>
<tr>
<td>Rated AC Frequency</td>
<td>60 Hz</td>
</tr>
<tr>
<td>Battery Requirement (not included)</td>
<td>12 Volts, Group 26R 540 CCA Minimum or Group 35AGM 650 CCA Minimum</td>
</tr>
<tr>
<td>Unit Weight (lb/kg)</td>
<td>471/214</td>
</tr>
<tr>
<td>Dimensions (L x W x H) in/mm</td>
<td>48 x 25 x 29/1218 x 638 x 732</td>
</tr>
<tr>
<td>Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load**</td>
<td>63</td>
</tr>
<tr>
<td>Sound output in dB(A) at 23 ft (7 m) with generator in Quiet-Test™ low-speed exercise mode**</td>
<td>57</td>
</tr>
<tr>
<td>Exercise duration</td>
<td>5 min</td>
</tr>
</tbody>
</table>

### Engine

**Type of Engine**

GENERAC G-FORCE 1000 SERIES

**Number of Cylinders**

2

**Displacement**

999 cc

**Cylinder Block**

Aluminum w/ Cast Iron Sleeve

**Valve Arrangement**

Overhead Valve

**Governor System**

Solid-state w/ Magneto

**Compression Ratio**

9.5:1

**Starter**

12 Vdc

**Oil Capacity Including Filter**

Approx. 1.9 qt/1.8 L

**Operating rpm**

2,700-3,600

**Fuel Consumption**

- **Natural Gas**
  - Exercise
  - 43 (1.22)
  - 1/2 Load
  - 150 (4.25)
  - Full Load
  - 282 (7.99)

- **Liquid Propane**
  - Exercise
  - 5.55 (0.15) [0.58]
  - 1/2 Load
  - 65 (1.79) [6.76]
  - Full Load
  - 126 (3.46) [13.11]

**Note:** Fuel pipe must be sized for full load. Required fuel pressure to generator fuel inlet at all load ranges - 3.5-7" water column (7-13 mm mercury) for natural gas, 10-12" water column (19-22 mm mercury) for LP gas. For Btu content, multiply ft³/hr x 2500 (LP) or ft³/hr x 1000 (NG). For Megajoule content, multiply m³/hr x 93.15 (LP) or m³/hr x 37.26 (NG).

### Controls

- **2-Line Plain Text Multilingual LCD Display**
  - Simple user interface for ease of operation.
- **Mode Buttons/Auto**
  - Automatic Start on Utility failure. 7 day exerciser.
- **Manual**
  - Start with starter control, unit stays on. If utility fails, transfer to load takes place.
- **Off**
  - Stops unit. Power is removed. Control and charger still operate.
- **Ready to Run/Maintenance Messages**
  - Standard
- **Engine Run Hours Indication**
  - Standard
- **Programmable start delay between 2-1500 seconds**
  - 5-second standard (programmable by dealer only)
- **Utility Voltage Loss/Return to Utility Adjustable (Brownout Setting)**
  - Standard
- **Future Set Capable Exerciser/Exercise Set Error Warning**
  - From 140-171 V/190-216 V
- **Engine Start Sequence**
  - Cyclic cranking. Engine cranks a maximum of five times at factory set intervals and durations.
- **Starter Lock-out**
  - Starter cannot re-engage until 5 sec after engine has stopped.
- **Smart Battery Charger**
  - Standard
- **Charger Fault/Missing AC Warning**
  - Standard
- **Low Battery/Battery Problem Protection and Battery Condition Indication**
  - Standard
- **Automatic Voltage Regulation with Over and Under Voltage Protection**
  - Standard
- **Under-Frequency/Overload/Stepper Overcurrent Protection**
  - Standard
- **Safety Fused/Fuse Problem Protection**
  - Standard
- **Automatic Low Oil Pressure/High Oil Temperature Shutdown**
  - Standard
- **Overspeed (@ 72 Hz)/rpm Sense Loss Shutdown**
  - Standard
- **High Engine Temperature Shutdown**
  - Standard
- **Internal Fault/Incorrect Wiring Protection**
  - Standard
- **Common External Fault Capability**
  - Standard
- **Field Upgradable Firmware**
  - Standard

**Note:** Sound levels are taken from the front of the generator. Sound levels taken from other sides of the generator may be higher depending on installation parameters. Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). * Maximum kilovolt amps and current are subject to and limited by such factors as fuel Btu/megajoule content, ambient temperature, altitude, engine power and condition, etc. Maximum power decreases about 3.5 percent for each 1,000 feet (304.8 meters) above sea level, and also will decrease about 1 percent for each °C (10 °F) above 16 °C (60 °F).
**Service Rated Smart Switch Features (USA)**

- Includes Digital Power Management Technology specifically designed for variable speed operation standard (DPM).
- Intelligently manages two air conditioner loads with no additional hardware.
- Up to four more large (120/240 VAC) loads can be managed when used in conjunction with 50 amp Power Management Modules (PMM**).
- Electrically operated, mechanically-held contacts for fast, clean connections.
- Rated for all classes of load, 100% equipment rated, both inductive and resistive.
- 2-pole, 250 VAC contactors.
- Service rated, dual coil design.
- Rated for both aluminum and copper conductors.
- NEMA/UL 3R aluminum outdoor enclosure allows for indoor or outdoor mounting flexibility.
- Main contacts are silver plated or silver alloy to resist welding and sticking.

**Non-service Rated Smart Switch Features (Canada)**

- Includes Digital Power Management Technology specifically designed for variable speed operation standard (DPM).
- Intelligently manages two air conditioner loads with no additional hardware.
- Up to four more large (120/240 VAC) loads can be managed when used in conjunction with 50 amp Power Management Modules (PMM**).
- Electrically operated, mechanically-held contacts for fast, clean connections.
- Rated for all classes of load, 100% equipment rated, both inductive and resistive.
- 2-pole, 250 VAC contactors.
- Dual coil design.
- Rated for both aluminum and copper conductors.
- NEMA/UL 3R aluminum outdoor enclosure allows for indoor or outdoor mounting flexibility.
- Main contacts are silver plated or silver alloy to resist welding and sticking.

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**Dimensions**

<table>
<thead>
<tr>
<th>200 Amps 120/240, 1ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Transition Service Rated</td>
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<td>Open Transition Service Rated</td>
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<thead>
<tr>
<th>Model</th>
<th>G007040-0 (USA)</th>
</tr>
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<tbody>
<tr>
<td>No. of Poles</td>
<td>2</td>
</tr>
<tr>
<td>Current Rating (Amps)</td>
<td>200</td>
</tr>
<tr>
<td>Voltage Rating (VAC)</td>
<td>120/240, 1ø</td>
</tr>
<tr>
<td>Utility Voltage Monitor (Fixed)*</td>
<td></td>
</tr>
<tr>
<td>-Pick-up</td>
<td>80%</td>
</tr>
<tr>
<td>-Dropout</td>
<td>65%</td>
</tr>
<tr>
<td>Return to Utility*</td>
<td>approx. 13 sec</td>
</tr>
<tr>
<td>Exercises bi-weekly for 5 minutes*</td>
<td>Standard</td>
</tr>
<tr>
<td>UL Listed</td>
<td>Standard</td>
</tr>
<tr>
<td>Enclosure Type</td>
<td>NEMA 3R</td>
</tr>
<tr>
<td>Withstand Rating (Amps)</td>
<td>22,000</td>
</tr>
<tr>
<td>Lug Range</td>
<td>250 MCM - #6</td>
</tr>
</tbody>
</table>

*Function of Evolution Controller
Exercise can be set to weekly or monthly

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<tr>
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<td>No. of Poles</td>
<td>2</td>
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<tr>
<td>Current Rating (Amps)</td>
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<td>Enclosure Type</td>
<td>NEMA/UL 3R</td>
</tr>
<tr>
<td>Circuit Breaker Protected</td>
<td>22,000</td>
</tr>
<tr>
<td>Lug Range</td>
<td>250 MCM - #6</td>
</tr>
</tbody>
</table>

*Function of Evolution Controller
Exercise can be set to weekly or monthly

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**20 kW switch options**

**20 kW**
<table>
<thead>
<tr>
<th>Model #</th>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>G005819-0</td>
<td>26R Wet Cell Battery</td>
<td>Every standby generator requires a battery to start the system. Generac offers the recommended 26R wet cell battery for use with all air-cooled standby product (excluding PowerPact®).</td>
</tr>
<tr>
<td>G007005-0</td>
<td>Wi-Fi LP Fuel Level Monitor</td>
<td>The Wi-Fi enabled LP fuel level monitor provides constant monitoring of the connected LP fuel tank. Monitoring the LP tank’s fuel level is an important step in making sure your generator is ready to run during an unexpected power failure. Status alerts are available through a free application to notify when your LP tank is in need of a refill.</td>
</tr>
<tr>
<td>G006463-4</td>
<td>Mobile Link™</td>
<td>Generac’s Mobile Link allows you to check the status of your generator from anywhere that you have access to an Internet connection from a PC or with a smart device. You will even be notified via e-mail or text message when a change in the generator’s status occurs. Available in the U.S. only.</td>
</tr>
<tr>
<td>G007101-0</td>
<td>Battery Pad Warmer</td>
<td>The pad warmer rests under the battery. Recommended for use if the temperature regularly falls below 0°F. (Not necessary for use with AGM-style batteries).</td>
</tr>
<tr>
<td>G007102-0</td>
<td>Oil Warmer</td>
<td>Oil warmer slips directly over the oil filter. Recommended for use if the temperature regularly falls below 0°F.</td>
</tr>
<tr>
<td>G007103-1</td>
<td>Breather Warmer</td>
<td>The breather warmer is for use in extreme cold weather applications. For use with Evolution controllers only in climates where heavy icing occurs.</td>
</tr>
<tr>
<td>G005621-0</td>
<td>Auxiliary Transfer Switch Contact Kit</td>
<td>The auxiliary transfer switch contact kit allows the transfer switch to lock out a single large electrical load you may not need. Not compatible with 50 amp pre-wired switches.</td>
</tr>
<tr>
<td>G005704-0</td>
<td>Paint Kit</td>
<td>If the generator enclosure is scratched or damaged, it is important to touch-up the paint to protect from future corrosion. The paint kit includes the necessary paint to properly maintain or touch-up a generator enclosure.</td>
</tr>
<tr>
<td>G006829-0</td>
<td>Scheduled Maintenance Kit</td>
<td>Generac’s scheduled maintenance kits provide all the hardware necessary to perform complete routine maintenance on a Generac automatic standby generator.</td>
</tr>
<tr>
<td>G006186-0</td>
<td>Power Management Module (50 Amps)</td>
<td>Power Management Modules are used in conjunction with the Smart Switch to increase its power management capabilities. It gives the Smart Switch additional power management flexibility not found in any other transfer switch.</td>
</tr>
<tr>
<td>G006199-0</td>
<td>PMM Starter Kit</td>
<td>The PMM Starter Kit consists of a 24 VAC, field installed transformer that enables the use of the 24 VAC Power Management Modules (PMMs) and one PMM. The standard controller (without starter kit) can control two HVAC loads with no additional hardware. This kit is required if installing this unit in a home with a digital HVAC controls vs. the standard 24 VAC system.</td>
</tr>
</tbody>
</table>

**Dimensions & UPCs**

Dimensions shown are approximate. Refer to installation manual for exact dimensions. DO NOT USE THESE DIMENSIONS FOR INSTALLATION PURPOSES.

<table>
<thead>
<tr>
<th>Model</th>
<th>UPC</th>
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<tbody>
<tr>
<td>G007040-0</td>
<td>696471070408</td>
</tr>
<tr>
<td>G007041-0</td>
<td>696471070415</td>
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