

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

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
- Mobile Link™ Cellular Monitoring System*
- Sound Attenuated Enclosure
- Flexible Fuel Line Connector
- Direct-To-Dirt Composite Mounting Pad
- Natural Gas or LP Gas Operation
- 5 Year Limited Warranty
- Capability to be installed within 18" (457 mm) of a building**

Standby Power Rating

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





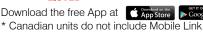


voltage regulation at $\pm 1\%$.





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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.
- G-Flex VARIABLE SPEED TECHNOLOGY: By utilizing patented variable speed technology, the generator is capable of running at various RPMs depending on the electrical demand, resulting in quieter operation, better fuel economy and produce power at <1.5% total harmonic distortion for quality power.
- **TEST CRITERIA:**
 - PROTOTYPE TESTED
 - SYSTEM TORSIONAL TESTED
- **NEMA MG1-22 EVALUATION** MOTOR STARTING ABILITY
- 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
- 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.



^{**}Only if located away from doors, windows and fresh air intakes, and unless otherwise directed by local codes.

2 of 5



20 kW

Engine

Generac G-Force design Maximizes engine "breathing" for increased fuel efficiency. Plateau honed cylinder walls and plasma moly rings helps 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.

"Spiny-lok" cast iron cylinder walls Rigid construction and added durability provide long engine life. Electronic ignition/spark advance These features combine to assure smooth, quick starting every time.

Full pressure lubrication system Pressurized lubrication to all vital bearings means better performance, less maintenance and longer engine life. Now featur-

ing up to a 2 year/200 hour oil change interval.

Low oil pressure shutdown system Shutdown protection prevents catastrophic engine damage due to low oil.

High temperature shutdown Prevents damage due to overheating.

Optimized muffler and resonator Results in dramatically quieter operation during exercise and normal loads than constant speed systems.

Generator

Cylindrically wound rotor Allows for multi-phase excitation, enabling variable engine RPM resulting in fuel savings and sound reduction.

Skewed stator Produces a smooth output waveform for compatibility with electronic equipment.

Variable speed, constant frequency AVR Provides uncommonly clean power with less than 1.5% THD (Total Harmonic Distortion).

Automatic voltage regulation Regulates the output voltage to $\pm 1\%$ prevents damaging voltage spikes.

UL 2200 listed For your safety.

Transfer Switch

Fully automatic Transfers your vital electrical loads to the energized source of power.

NEMA 3R Can be installed inside or outside for maximum flexibility.

DPM Technology Digital Power Management Technology allows for the smart control of two air conditioners without any additional items.

Evolution™ Controls

Auto/Manual/Off illuminated buttons Selects the operating mode and provides easy, at-a-glance status indication in any condition.

Sealed, raised buttons Smooth, weather-resistant user interface for programming and operations.

Utility voltage sensing Constantly monitors utility voltage, setpoints 65% dropout, 80% pick-up, of standard voltage.

Generator voltage sensing Constantly monitors generator voltage to ensure the cleanest power delivered to the home.

Utility interrupt delay Prevents nuisance start-ups of the engine, adjustable 2-1500 seconds from the factory default setting of 5 seconds by a

qualified dealer.

Engine warm-up Ensures engine is ready to assume the load, setpoint approximately 5 seconds.

Engine cool-down Allows engine to cool prior to shutdown, setpoint approximately 1 minute.

Programmable exercise 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. Smart battery charger

Compatible with lead acid and AGM-style batteries.

Protects generator from overload. Main line circuit breaker

Electronic governor Maintains constant 60 Hz frequency.

Unit

SAE weather protective enclosure 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. Electrostat-

ically applied textured epoxy paint for added durability.

Enclosed critical grade muffler 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. Small, compact, attractive

Installation System

 1 ft (305 mm) flexible fuel line connector Absorbs any generator vibration when connected to rigid pipe.

Direct-to-dirt composite mounting pad Complex lattice design prevents settling or sinking of the generator system.

Integral sediment trap Prevents particles and moisture from entering the fuel regulator and engine, prolonging engine life.



20 kW

		GENERAC
20 kW		specifications
Generator		0007040 0/0007044 0
Model Potod Movimum Continuous Dower Cond	1. (1.0)	G007040-0/G007041-0
Rated Maximum Continuous Power Capa		20,000 Watts*
Rated Maximum Continuous Power Capa	acity (NG)	18,000 Watts*
Rated Voltage	. 040 1/-1/- // D/MO)	240
Rated Maximum Continuous Load Curre	nt – 240 Volts (LP/NG)	83.3/75
Total Harmonic Distortion		Less than 1.5%
Main Line Circuit Breaker		100 Amp
Phase		1
Number of Rotor Poles		2
Rated AC Frequency		60 Hz
Power Factor		1.0
Battery Requirement (not included)		12 Volts, Group 26R 540 CCA Minimum or Group 35AGM 650 CCA Minimum
Jnit Weight (Ib/kg)		471/214
Dimensions (L x W x H) in/mm		48 x 25 x 29/1218 x 638 x 732
Sound output in dB(A) at 23 ft (7 m) with	h generator operating at normal load**	63
Sound output in dB(A) at 23 ft (7 m) with	n generator in Quiet-Test™ low-speed exercise mode**	57
Exercise duration		5 min
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
Ignition System		Solid-state w/ Magneto
Governor System		Electronic
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	10 B (0 B)	
Natural Gas	ft³/hr (m³/hr) Exercise	43 (1.22)
	Exercise 1/2 Load	193 (5.47)
	Full Load	312 (8.83)
Liquid Propane	ft ³ /hr (gal/hr) [l/hr]	· ·
2.quid	Exercise	5.55 (.15) [.58]
	1/2 Load	69 (1.9) [7.2]
	Full Load	116 (3.19) [12.07]
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)
	hr x 2500 (LP) or ft ³ /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 Displ	ay	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 2-15	00 seconds	Standard (programmable by dealer only)
Jtility Voltage Loss/Return to Utility Adju		From 140-171 V/190-216 V
Future Set Capable Exerciser/Exercise S	· · · · · · · · · · · · · · · · · · ·	Standard
Run/Alarm/Maintenance Logs	Et Elloi Walling	50 Events Each
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	10 11 0 12 1 12 12	Standard
ow Battery/Battery Problem Protection		Standard
Automatic Voltage Regulation with Over		Standard
Jnder-Frequency/Overload/Stepper Ove	rcurrent Protection	Standard
Safety Fused/Fuse Problem Protection		Standard
Automatic Low Oil Pressure/High Oil Ter	mperature Shutdown	Standard
Overcrank/Overspeed (@ 72 Hz)/rpm So	ense Loss Shutdown	Standard
ligh Engine Temperature Shutdown		Standard
nternal Fault/Incorrect Wiring Protection		Standard
Common External Fault Canability		Standard

^{**}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 6 °C (10 °F) above 16 °C (60 °F).

Standard

Standard

Common External Fault Capability

Field Upgradable Firmware

20 kW



switch options

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 connec-
- 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. **Note: PMM starter kit is required prior to using the modules.

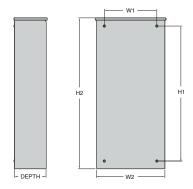
Note: Any single load larger than 10 kW or 2.4 kVar must be connected to the load management control

Dimensions

	200 Amps 120/240, 1ø Open Transition Service Rated				
	Height		Width		Donth
	H1	H2	W1	W2	Depth
in	26.75	30.1	10.5	13.5	6.91
mm	679.4	764.3	266.7	343.0	175.4

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

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



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 hard-
- 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 connec-
- 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. **Note: PMM starter kit is required prior to using the modules.

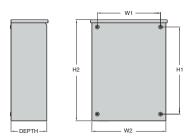
Note: Any single load larger than 10 kW or 2.4 kVar must be connected to the load management control

Dimensions

	200 Amps 120/240, 1ø Open Transition Service Rated				
	Height		Width		Danth
	H1	H2	W1	W2	Depth
in	17.24	20	12.5	14.6	7.09
mm	437.9	508	317.5	370.8	180.0

Model	G007041-0 (Canada)
No. of Poles	2
Current Rating (Amps)	200
Voltage Rating (VAC)	120/240, 1Ø
Utility Voltage Monitor (Fixed)* -Pick-up -Dropout	80% 65%
Return to Utility*	approx. 13 sec
Exercises bi-weekly for 5 minutes*	Standard
UL Listed	Standard
Enclosure Type	NEMA/UL 3R
Circuit Breaker Protected	22,000
Lug Range	250 MCM - #6

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



GENERAC available accessories

20 kW

Model #	Product	Description
G005819-0	26R Wet Cell Battery	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®).
G007005-0	Wi-Fi LP Fuel Level Monitor	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.
G007101-0	Battery Pad Warmer	The pad warmer rests under the battery. Recommended for use if the temperature regularly falls below $0^{\circ}F$. (Not necessary for use with AGM-style batteries).
G007102-0	Oil Warmer	Oil warmer slips directly over the oil filter. Recommended for use if the temperature regularly falls below $0^{\circ}F$.
G005621-0	Auxiliary Transfer Switch Contact Kit	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.
G005704-0	Paint Kit	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.
G006829-0	Scheduled Maintenance Kit	Generac's scheduled maintenance kits provide all the hardware necessary to perform complete routine maintenance on a Generac automatic standby generator.
G006186-0	Power Management Module (50 Amps)	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.
G006199-0	PMM Starter Kit	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.

dimensions & UPCs

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

