

# Home Standby - 40

## Liquid Cooled Gas Engine Generator Sets

Continuous Standby Power Rating  
40kW 60 Hz LPV  
37kW 60 Hz NG

Model #05012

UL 2200 Listed



Power Matched

**GENERAC 3.9GN ENGINE**

Naturally Aspirated

Generac UL Listed  
Transfer Switch Options  
Available for model 05012



## FEATURES

- INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
- TEST CRITERIA:**
  - ✓ **PROTOTYPE TESTED**
  - ✓ **SYSTEM TORSIONAL TESTED**
  - ✓ **ELECTRO-MAGNETIC INTERFERENCE**
  - ✓ **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.
- SINGLE SOURCE SERVICE RESPONSE** from Generac's dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component. You are never on your own when you own a GENERAC POWER SYSTEM.
- 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.

**QUIETSOURCE™**

by Generac Power Systems, Inc.

## GENERATOR SPECIFICATIONS

TYPE .....	Four-pole, revolving field
ROTOR INSULATION .....	Class F
STATOR INSULATION .....	Class H
TOTAL HARMONIC DISTORTION (line to line) .....	<3%
TELEPHONE INTERFERENCE FACTOR (TIF) .....	<50
ALTERNATOR .....	Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED) .....	1
COUPLING .....	Direct, Flexible Disc
LOAD CAPACITY (STANDBY) .....	100%
LOAD CAPACITY (PRIME) .....	110%

**NOTE: Emergency loading in compliance with NFPA 99, NFPA 110, paragraph 5-13.2.6. Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046, and DIN6271 standards.**

### EXCITATION SYSTEM

DIRECT .....

DC excitation system	✓
Low-velocity brushes and slip rings	✓

VOLTAGE REGULATION .....

Solid-state	✓
±1% regulation	✓

## GENERATOR FEATURES

- Four pole, revolving field generator, directly connected to the engine shaft through a heavy-duty, flexible disc for permanent alignment.
- Generator meets temperature rise standards for class "F" insulation as defined by NEMA MG1-22.4 and NEMA MG 1-1.65.
- Rotor and stator and other insulation is impregnated twice with class "H" varnish.
- Unit tested for motor starting ability by measuring instantaneous voltage dip with an oscillograph.
- All models utilize an advanced wire harness design for reliable interconnection within the circuitry.
- Magnetic circuit, including amortisseur windings, tooth and skewed stator design, provides a minimal level of waveform distortion and an electromagnetic interference level which meets accepted requirements for standard AM radio, TV, and marine radio telephone applications.
- Voltage waveform deviation, total harmonic content of the AC waveform, and balanced T.I.F. (Telephone Influence Factor) have been evaluated to acceptable standards in accordance with NEMA MG1-22.
- Alternator is of drip-proof guarded construction.
- Fully life-tested protective systems, including "field circuit and thermal overload protection" and standard main line circuit breakers capable of handling full output capacity.
- System torsional acceptability confirmed during prototype testing.

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 wattage and current are subject to and limited by such factors as fuel Btu content, ambient temperature, altitude, engine power and condition, etc.

## ENGINE SPECIFICATIONS

MAKE .....	GENERAC
MODEL .....	3.9GN
CYLINDERS .....	V-6
DISPLACEMENT .....	3.9 Liter (238 cu. in.)
BORE .....	99.3 mm (3.91 in.)
STROKE .....	84 mm (3.31 in.)
COMPRESSION RATIO .....	9:1:1
INTAKE AIR .....	Naturally Aspirated
NUMBER OF MAIN BEARINGS .....	4
CONNECTING RODS .....	6-Drop forged steel
CYLINDER HEAD .....	Cast Iron
PISTONS .....	6-Notched Head, Aluminum Alloy
CRANKSHAFT .....	Nodular Steel

### VALVE TRAIN

LIFTER TYPE .....	Hydraulic Roller
INTAKE VALVE MATERIAL .....	Aluminized Steel Faced
EXHAUST VALVE MATERIAL .....	Stellite Faced
HARDENED VALVE SEATS .....	No

### ENGINE GOVERNOR

<input type="checkbox"/> ELECTRONIC.....	Standard
FREQUENCY REGULATION, NO-LOAD TO FULL LOAD .....	0.5%
STEADY STATE REGULATION .....	±0.25%

### LUBRICATION SYSTEM

TYPE OF OIL PUMP .....	Gear
OIL FILTER .....	Full flow, cartridge
CRANKCASE CAPACITY .....	4.25 Liters (4.5 qts.)

### COOLING SYSTEM

TYPE OF SYSTEM .....	Pressurized, closed recovery
WATER PUMP .....	Pre-lubed, self-sealing
TYPE OF FAN .....	Pusher
NUMBER OF FAN BLADES .....	10
DIAMETER OF FAN .....	559 mm (22 in.)

### FUEL SYSTEM

FUEL	
<input type="checkbox"/> Natural Gas or L.P. Vapor .....	Standard
CARBURETOR .....	Down draft
SECONDARY FUEL REGULATOR .....	Nat. Gas or L.P. Vapor Systems
AUTOMATIC FUEL LOCKOFF SOLENOID .....	Standard
OPERATING FUEL PRESSURE VAPOR SYSTEMS ..	Nat. Gas 5 to 14" H <sub>2</sub> O
	LP Vapor.....11" to 14" H <sub>2</sub> O

### ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR .....	20 Amps at 12 V
STARTER MOTOR .....	12 V
RECOMMENDED BATTERY .....	(1) - 12 V, 90 A.H., 27F
GROUND POLARITY .....	Negative

**OPERATING DATA**

		<b>STANDBY</b>			
		<b>Home Standby - 40</b>			
<b>GENERATOR OUTPUT VOLTAGE/KW - 60Hz</b> 120/240V, 1-phase, 1.0 pf		<b>LP</b>	<b>NG</b>	<b>Amps LP</b>	<b>Amps NG</b>
		40	37	333/166	308.3/154.2
<b>MOTOR STARTING KVA</b> Maximum at 35% instantaneous voltage dip		60	55		
Main Line Circuit Breaker		200 Amp			
<b>FUEL</b> Fuel consumption - 60 Hz--100% Load ft. <sup>3</sup> /hr.(gal./hr) m <sup>3</sup> /hr.		<b>LP</b>		<b>NG</b>	
		216 (5.9) 6.1		570 16.1	
<b>COOLING</b> Coolant capacity System lit.(US gal.) Coolant flow/min. 60 Hz lit.(US gal.) Heat rejection to coolant BTU/hr. Radiator air flow 60 Hz m <sup>3</sup> /min. (cfm) Max. operating air temperature onto radiator °F Max. operating ambient temperature °F		<b>LP</b>		<b>NG</b>	
		166,700		21.2 (5.6) 80.6 (21.3) 161,500	
		272 (9600)		140 120	
<b>COMBUSTION AIR REQUIREMENTS</b> Flow at rated power 60 Hz m <sup>3</sup> /min. (cfm)		<b>LP</b>		<b>NG</b>	
		3.5 (123)		3.3 (115)	
<b>EXHAUST</b> Exhaust flow at rated output 60 Hz m <sup>3</sup> /min. (cfm) Max. recommended back pressure Kpa (Hg) Exhaust temp. at rated output °C (°F)		<b>LP</b>		<b>NG</b>	
		12.3 (435) 5.0 (1.5") 732 (1350)		11.5 (405) 5.0 (1.5") 718 (1325)	
<b>ENGINE</b> Rated at RPM 60 Hz HP at rated KW 60 Hz Piston speed 60 Hz m/sec. (ft./min.) BMEP 60 Hz		<b>LP</b>		<b>NG</b>	
		64.6 3.31 (993) 119.4		1800 60.1 3.31 (993) 111.1	
<b>POWER ADJUSTMENT FOR AMBIENT CONDITIONS</b> Temperature Altitude				77 600	
-1.65% for every 10°F above - °F -3.0% for every 1000 ft. above - ft.					
<b>SOUND OUTPUT</b> In dB(A) at 23 feet with generator operating at full load				75	
<b>TRANSFER SWITCH SPECIFICATIONS</b> <i>(Transfer switch is not included with this model)</i>					

# STANDARD ENGINE & SAFETY FEATURES

## Home Standby - 40

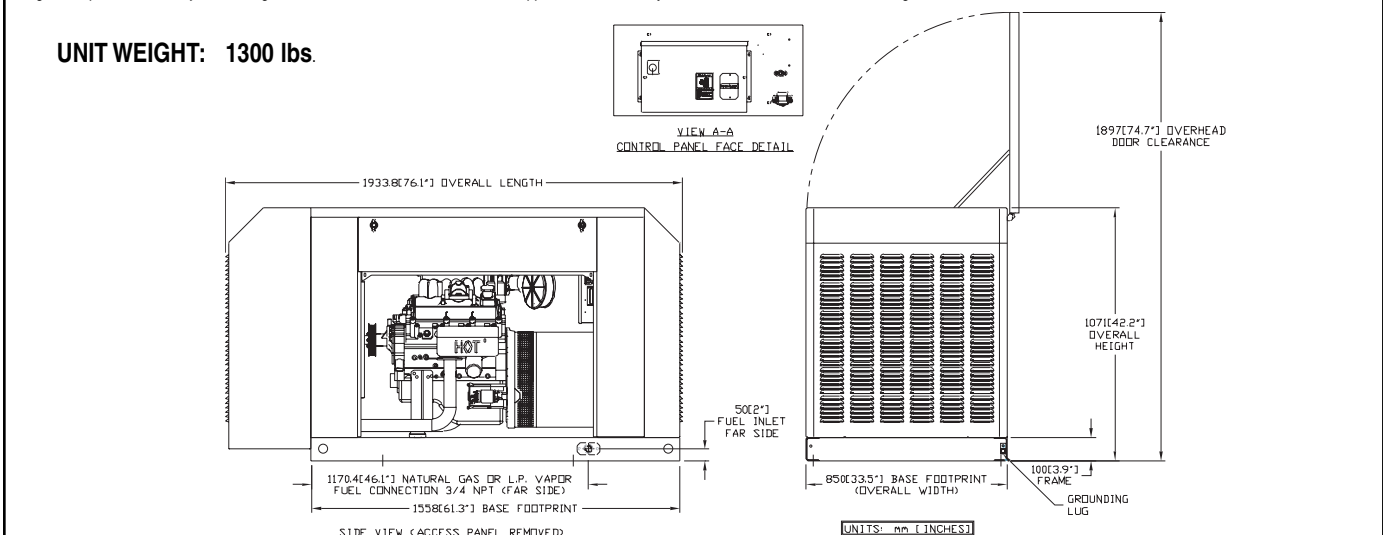


- High Coolant Temperature Automatic Shutdown
- Low Coolant Level Automatic Shutdown
- Low Oil Pressure Automatic Shutdown
- Overspeed Automatic Shutdown (Solid-state)
- Crank Limiter (Solid-state)
- Oil Drain Extension
- Radiator Drain Extension
- Factory-Installed Cool Flow Radiator
- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Rubber-Booted Engine Electrical Connections
- Fuel Lockoff Solenoid
- Isochronous Governor
- Secondary Fuel Regulator (N.G. and L.P.)
- Battery Charge Alternator
- Battery Cables
- Battery Tray
- Vibration Isolation of Unit to Mounting Base
- 12 Volt, Solenoid-Activated Starter Motor
- Air Cleaner
- Fan Guard
- Control Console
- Stainless Steel Flexible Exhaust Connection
- Main Line Circuit Breaker
- Critical Exhaust Silencer
- Battery Trickle Charger
- All Aluminum Weather Protective Enclosure (Locking Type)

## Home Standby Control Features:

<p><b>Home Standby Control Console</b></p> <p>Manual/Auto/Off switch Six light LED indicator for generator status and fault status Fuses (panel overload) Set exercise time switch</p>	<p><b>Home Standby Microprocessor Controls</b></p> <p>Automatic voltage regulation Utility voltage sensing Utility interrupt delay (10-second setpoint) Engine warm-up (10-second setpoint) Engine cool-down (1-minute setpoint) Seven-day exerciser</p>	<p><b>Distributed by:</b></p>
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Design and specifications subject to change without notice. Dimensions shown are approximate. Contact your Guardian dealer for certified drawings. DO NOT USE THESE DIMENSIONS FOR INSTALLATION PURPOSES.



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