

# SIEMENS

## Optimus Residential Standby Generators

16, 20, 22 kW Air-cooled gas engine

Data Sheet

### Catalog numbers:

ASGM016RBA - 16kW 60Hz

ASGM020RBA - 20kW 60Hz

ASGM022RBA - 22kW 60Hz

### Includes::

- True Power™ Electrical Technology
- Two Line LCD Multi-Lingual Digital Evolution™ Controller (English/Spanish/French /Portuguese)
- Two Transfer Switch Options Available: 100 Amp, 16 Circuit Switch or 200 Amp Service Rated Smart Switch. See Page 4 for Details.
- 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
- Capability to be installed within 18" (457 mm) of a building\*

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

### Features

**Innovative design & prototype testing** are key components of Siemens 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 Siemens Power Systems with the confidence that these systems will provide superior performance.

**True Power™ electrical technology** Superior harmonics and sine wave form produce less than 5% Total Harmonic Distortion for utility quality power. This allows confident operation of sensitive electronic equipment and micro-chip based appliances, such as variable speed HVAC systems.

### Test criteria

- Prototype tested
- System torsional tested
- NEMA MG1-22 evaluation
- Motor starting ability



Note: CUL certification only applies to unbundled units and units packaged with limited circuit switches. Units packaged with the Smart Switch are UL certified in the USA only.

### Solid-state, frequency compensated voltage regulation.

This state-of-the-art power maximizing regulation system is standard on all Siemens 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  $\pm 1\%$ .

**Single source service response** from Siemens' extensive dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component.

**Siemens transfer switches** Long life and reliability are synonymous with Siemens' standby power portfolio. One reason for confidence is this product line includes its own transfer systems and controls for total system compatibility.

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## 16/20/22 kW Features and Benefits

Engine	
Generac (OHVI) 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 featuring 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.
Generator	
Revolving field	Allows for a smaller, light weight unit that operates 25% more efficiently than a revolving armature generator.
Skewed stator	Produces a smooth output waveform for compatibility with electronic equipment.
Displaced phase excitation	Maximizes motor starting capability.
Automatic voltage regulation	Regulates the output voltage to ±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.
Remote mounting	Mounts near your existing distribution panel for simple, low-cost installation.
NEMA 3R	Can be installed inside or outside for maximum flexibility.
Evolution™ Controls	
Auto/Manual/Off illuminated buttons	Selects the operating mode and provides easy, at-a-glance status indication in any condition.
Two-line LCD multilingual display	Provides homeowners easily visible logs of history, maintenance and events up to 50 occurrences.
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 exerciser	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.
Smart battery charger	Delivers charge to the battery only when needed at varying rates depending on outdoor air temperature. Compatible with lead acid and AGM-style batteries.
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. Electrostatically applied textured epoxy paint for added durability.
Enclosed critical grade muffler	Quiet, critical grade muffler is mounted inside the unit to prevent injuries.
Small, compact, attractive	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	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 drip leg	Prevents particles and moisture from entering the fuel regulator and engine, prolonging engine life.

## 16/20/22 kW Specifications

Generator Model	ASGM016RBA (16 kW)	ASGM020RBA (20 kW)	ASGM022RBA (22 kW)
Rated Maximum Continuous Power Capacity (LP)	16,000 Watts*	20,000 Watts*	22,000 Watts*
Rated Maximum Continuous Power Capacity (NG)	16,000 Watts*	18,000 Watts*	19,500 Watts*
Rated Voltage	240	240	240
Rated Maximum Continuous Load Current – 240 Volts (LP/NG)	66.6/66.6	83.3/75	91.6/81.3
Total Harmonic Distortion	Less than 5%	Less than 5%	Less than 5%
Main Line Circuit Breaker	70 Amp	100 Amp	100 Amp
Phase	1	1	1
Number of Rotor Poles	2	2	2
Rated AC Frequency	60 Hz	60 Hz	60 Hz
Power Factor	1.0	1.0	1.0
Battery Requirement (not included)	Group 26R, 12 Volts and 540 CCA Minimum		
Unit Weight (Pounds/Kilos)	409/186	448/203	466/211
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 generator operating at normal load**	66	66	67
Sound output in dB(A) at 23 ft (7 m) with generator in Quiet-Test™ low-speed exercise mode**	58	58	58
Exercise duration	5 min	5 min	5 min

Engine			
Type of Engine	GENERAC OHVI V-TWIN		GENERAC OHVI V-TWIN
Number of Cylinders	2		2
Displacement	999 cc		999 cc
Cylinder Block	Aluminum w/ Cast Iron Sleeve		
Valve Arrangement	Overhead Valve		Overhead Valve
Ignition System	Solid-state w/ Magneto		Solid-state w/ Magneto
Governor System	Electronic		Electronic
Compression Ratio	9.5:1		9.5:1
Starter	12 Vdc		12 Vdc
Oil Capacity Including Filter	Approx. 1.9 qt/1.8 L		Approx. 1.9 qt/1.8 L
Operating RPM	3,600		3,600
Fuel Consumption			
Natural Gas	ft <sup>3</sup> /hr (m <sup>3</sup> /hr)		
	1/2 Load	193 (5.47)	205 (5.8)
	Full Load	312 (8.83)	308 (8.72)
Liquid Propane	ft <sup>3</sup> /hr (gal/hr) [l/hr]		
	1/2 Load	69 (1.9) [7.2]	81 (2.23) [8.45]
	Full Load	116 (3.19) [12.07]	140 (3.85) [14.57]
			78 (2.16) [8.16]
			134 (3.68) [13.94]

**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 ft<sup>3</sup>/hr x 2500 (LP) or ft<sup>3</sup>/hr x 1000 (NG). For Megajoule content, multiply m<sup>3</sup>/hr x 93.15 (LP) or m<sup>3</sup>/hr x 37.26 (NG)

\* Maximum wattage 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).

\*\*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).

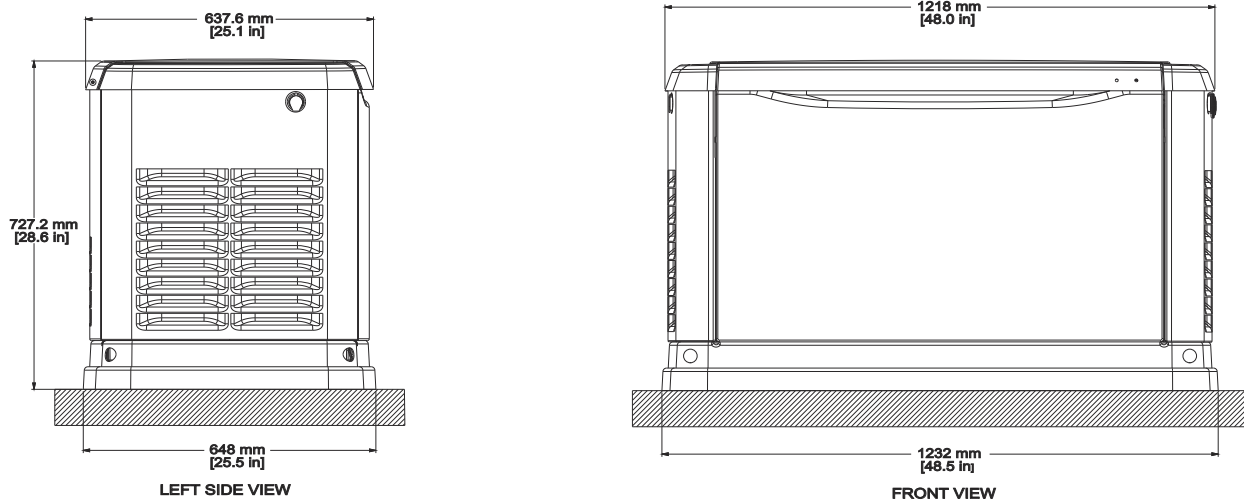
## 16/20/22 kW Specifications

Controls	
2-Line Plain Text Multi-Lingual 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	Standard (programmable by dealer only)
Utility Voltage Loss/Return to Utility Adjustable (Brownout Setting)	From 140-171 V/190-216 V
Future Set Capable Exerciser/Exercise Set Error Warning	Standard
Run/Alarm/Maintenance Logs	50 Events Each
Engine Start Sequence	Cyclic cranking: 16 sec. on, 7 rest (90 sec. maximum duration).
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
Overcrank/Overspeed (@ 72Hz)/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

## 16/20/22 kW Accessories

Catalog no.	Product	Description
6463	Mobile Link™	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 any 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.
6212	Cold Weather Kit	If the temperature regularly falls below 32 °F (0 °C), a cold weather kit is required to maintain optimal battery and oil temperatures. Kit consists of a battery warmer and oil filter heater with built-in thermostats.
5621	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.
7027 - Bisque	Fascia Base Wrap Kit (Standard on 22 kW)	The fascia base wrap snaps together around the bottom of the new air cooled generators. This offers a sleek, contoured appearance as well as offering protection from rodents and insects by covering the lifting holes located in the base.
5703- Bisque	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.
GENMKIT22 - 16, 20 & 22 kW	Scheduled Maintenance Kit	Generac's scheduled maintenance kits provide all the hardware necessary to perform complete routine maintenance on a Generac automatic standby generator.
68730	Smart Management Module (50 Amps)	Smart Management Modules are used in conjunction with the Automatic Transfer Switch to increase its power management capabilities. It provides additional power management flexibility not found in any other power management system.

## Dimensions



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

**Notes:**

Notes:

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