

# Standby Generators

## 70kW - Liquid Cooled Gas Engine

### Standby Power Rating

70 kW 60Hz

### Includes:

- Naturally Aspirated Gaseous Fueled 4.6L Engine
- Two line LCD tri-lingual digital Nexus™ controller
- Isochronous electronic governor
- Closed coolant recovery system
- Smart battery charger
- UV/Ozone resistant hoses
- ±1% voltage regulation
- Natural gas or LP operation
- 2 year limited warranty
- UL 2200 Listed
- Meets EPA emission regulations

### Catalog numbers:

- SGN070RGAL / SGN070RPAL / SGN070RGAL\* / SGN070RPALE\*  
120/240V, 1-phase
- SGN070CGAL / SGN070CPAL / SGN070CGAL\* / SGN070CPALE\*  
120/208V, 3-phase
- SGN070JGAL / SGN070JPAL / SGN070JGAL\* / SGN070JPALE\*  
120/240V, 3-phase
- SGN070IGAL / SGN070IPAL / SGN070IGAL\* / SGN070IPALE\*  
277/480V, 3-phase

Meets 2010 EPA emissions regulations.

\* Catalyst factory installed to meet CARB/EPA requirements for California and Massachusetts



### Features

- **Total commitment** to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards.
- **Test criteria:**
  - Prototype tested
  - NEMA MG1-22 evaluation
  - System torsional
  - Motor starting ability tested
- **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. An unequalled ±1% voltage regulation.

Data Sheet

[www.usa.siemens.com/generators](http://www.usa.siemens.com/generators)

**SIEMENS**

## Application & Engineering Data

Generator specifications	
Type	Synchronous
Rotor insulation	Class H
Stator insulation	Class H
Telephone interference factor (TIF)	<50
Alternator output leads 3 phase	6 / 4 wire
Bearings	Sealed Ball
Coupling	Flexible Disc
Load capacity (standby rating)	70 kW
Excitation system	Direct

Voltage regulation	
Type	Full Digital
Sensing	Three Phase
Regulation	± 1%

Generator features	
Revolving field heavy duty generator	
Directly connected to the engine	
Operating temperature rise 120 °C above a 40 °C ambient	
Insulation is Class F rated at 130 °C rise	
All models are fully prototyped tested	

Enclosure features	
Aluminum weather protective enclosure	Ensures protection against mother nature. 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.

### 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). (All ratings in accordance with BS5514, ISO3046, ISO8528, SAE J1349 and DIN6271).

Engine specifications	
Make	Generac
Model	V-type
Cylinders	10
Displacement	6.8 Liter
Bore	3.55
Stroke	4.17
Compression ratio	9:1
Intake air system	Naturally Aspirated
Valve seats	Hardened
Lifter type	Hydraulic

Governor specifications	
Type	Electronic
Frequency regulation	Isochronous
Steady state regulation	± 0.25%

Engine lubrication system	
Oil pump	Gear
Oil filter	Full flow spin-on cartridge
Crankcase capacity	6 Quarts

Engine cooling system	
Type	Closed
Water pump	Belt driven
Fan speed	2030
Fan diameter	22 inches
Fan mode	Pusher

Fuel system	
Fuel type	Natural gas, propane vapor
Carburetor	Down draft
Secondary fuel regulator	Standard
Fuel shut off solenoid	Standard
Operating fuel pressure	11" - 14" H <sub>2</sub> O

Electrical system	
Battery charge alternator	12V 30 Amp
Static battery charger	12V 2 Amp
Recommended battery	Group 24F, 12V, 525CCA
System voltage	12 Volts

Operating data						
KW rating (LP/NG)		70				
Engine size		6.8 Liter, V10				
Catalog numbers	Generator output voltage/kW - 60Hz	LP	Rated AMP	NG	Rated AMP	CB Size
SGN070RGAL / SGN070RPAL / SGN070RGALE* / SGN070RPALE*	120/240V, 1-phase, 1.0 pf	67	279	64	267	300
SGN070CGAL / SGN070CPAL / SGN070CGALE* / SGN070CPALE*	120/208V, 3-phase, 0.8 pf	70	243	67	232	250
SGN070JGAL / SGN070JPAL / SGN070JGALE* / SGN070JPALE*	120/240V, 3-phase, 0.8 pf	70	210	67	201	250
SGN070IGAL / SGN070IPAL / SGN070IGALE* / SGN070IPAILE*	277/480V, 3-phase, 0.8 pf	70	105	67	101	125

\*Catalyst Factory Installed

Engine fuel consumption (Natural Gas) (Propane)	Natural Gas (ft <sup>3</sup> /hr.)	Propane (gal/hr.)	Propane cu ft/hr
Exercise cycle	110	1.20	44.2
25% of rated load	260	2.85	104.9
50% of rated load	500	5.46	200.9
75% of rated load	696	7.62	280.4
100% of rated load	1020	11.17	411

For Btu content, multiply ft<sup>3</sup>/hr x 2520 (LP) or ft<sup>3</sup>/hr x 1000 (NG)

Engine cooling		
Air flow (inlet air including alternator and combustion air)	ft <sup>3</sup> /min.	5200
System coolant capacity	US gal.	4.5
Heat rejection to coolant	BTU/hr.	287,000
Max. operating air temp. on radiator	°C (°F)	60 (150)
Max. ambient temperature	°C (°F)	50 (140)

Combustion air requirements		
Flow at rated power 60 Hz	cfm	205

Sound emissions in DBA		
Exercising at 7 meters		61
Normal operation at 7 meters		65

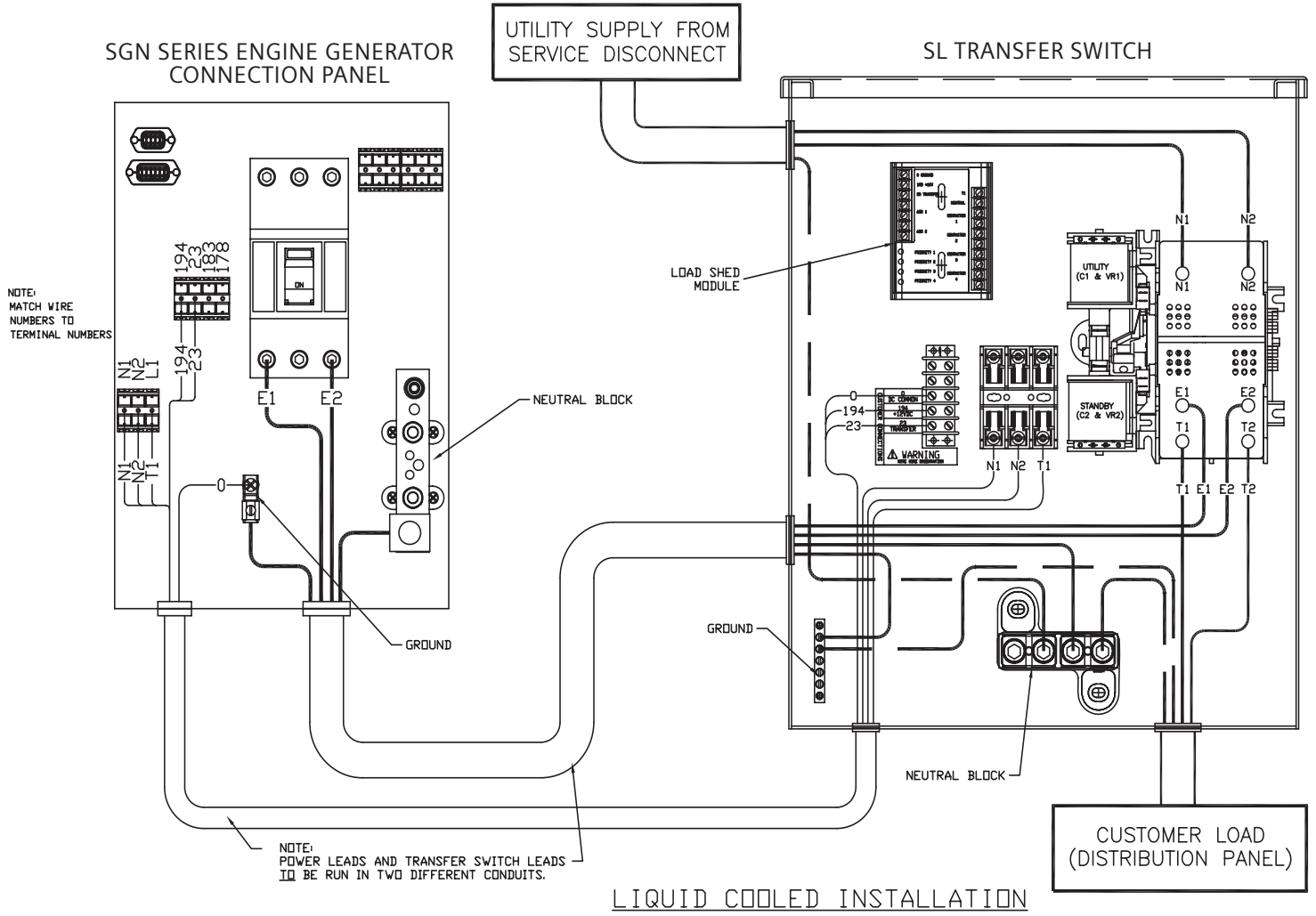
Exhaust		
Exhaust flow at rated output 60 Hz	cfm	557
Exhaust temp. at muffler outlet	°C (°F)	477 (890)

Engine parameters		
Rated synchronous RPM	60 Hz	1800

Power adjustments for ambient conditions		
Temperature deration		
3% for every 10 °C above - °C		25
1.65% for every 10 °F above - °F		77
Altitude deration		
1% for every 100 m above - m		183
3% for every 1000 ft. above - ft.		600

RATING: All three phases units are rated at 0.8 power factor. All single phase units are rated at 1.0 power factor. STANDBY RATING: Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046-1. Design and specifications are subject to change without notice.  
kW rating is based on LPG Fuel and may derate with natural gas.

Interconnections



Circuit breaker wire and conduit size

kW	Volts	CB Amps	Lug size
70	240 1 Ø	300	(1) 600 mcm to #4 or (2) 1/0 to 250 mcm to 1/0
70	240 3 Ø	250	(1) 600 mcm to #4 or (2) 1/0 to 250 mcm to 1/0
70	208 3 Ø	300	(1) 600 mcm to #4 or (2) 1/0 to 250 mcm to 1/0
70	480 3 Ø	125	#6 to 300 mcm

## Nexus control features

2-line plain text LCD display	Simple user interface for ease of operation
Mode Switch	Automatic start on utility failure. 7 day exerciser
-Auto	Automatic start on utility failure. 7 day exerciser
-Off	Stops unit. Power is removed. Control and charger still operate.
-Manual/Test (start)	Start with starter control, unit stays on. If utility fails, transfer to load takes place.
Programmable start delay between 10-30 seconds	Standard
Engine start sequence	Cyclic cranking: 16 sec. on, 7 rest (90 sec. maximum duration)
Engine warm-up	5 seconds
Engine cool-down	1 minute
Starter lock-out	Starter cannot re-engage until 5 sec. after engine has stopped.
Smart battery charger	Standard
Automatic voltage regulation with over and under voltage protection	Standard
Automatic low oil pressure shutdown	Standard
Overspeed shutdown	Standard, 72Hz
High temperature shutdown	Standard
Overcrank protection	Standard
Safety fused	Standard
Failure to transfer protection	Standard
Low battery protection	Standard
50 event run log	Standard
Future set capable exerciser	Standard
Incorrect wiring protection	Standard
Internal fault protection	Standard
Common external fault capability	Standard
Governor failure protection	Standard

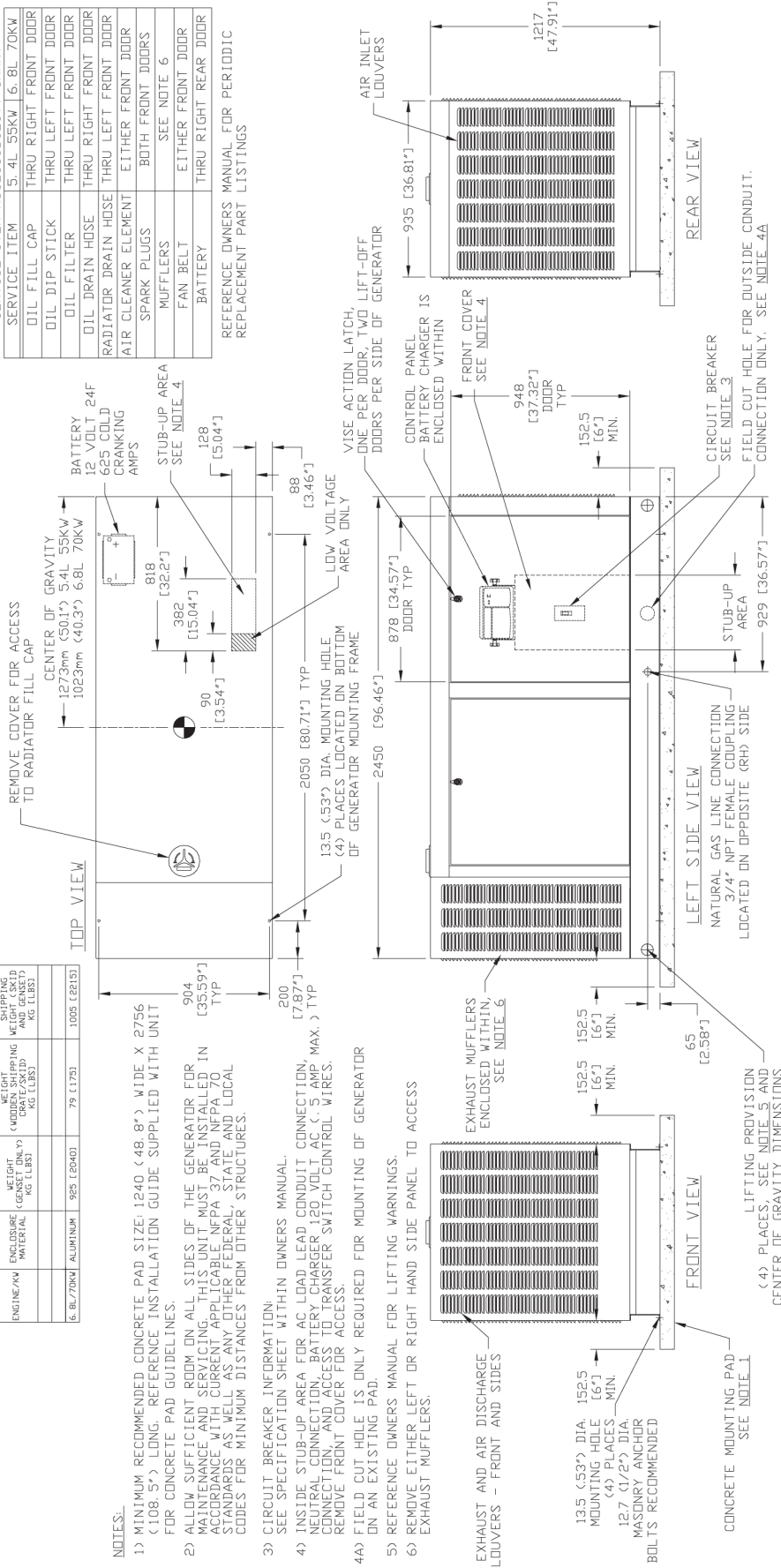
\*Single and three phase connections may vary, refer to the owner's manual for specific connection information.

# Installation layout - Liquid Cooled Standby Generator 70kW

WEIGHT DATA			
ENGINE/KW	ENCLOSURE MATERIAL	WEIGHT (GENSET ONLY) KG (LBS)	SHIPPING WEIGHT (GENSET AND CRATE) KG (LBS)
6.8L/70kW ALUMINUM	985 (2140)	79 (175)	1005 (2215)

SERVICE ITEM ACCESSIBILITY CHART			
SERVICE ITEM	5.4L 55KW	6.8L 70KW	
OIL FILL CAP	THRU RIGHT FRONT DOOR		
OIL DIP STICK	THRU LEFT FRONT DOOR		
OIL FILTER	THRU LEFT FRONT DOOR		
OIL DRAIN HOSE	THRU RIGHT FRONT DOOR		
RADIATOR DRAIN HOSE	THRU LEFT FRONT DOOR		
AIR CLEANER ELEMENT	EITHER FRONT DOOR		
SPARK PLUGS	BOTH FRONT DOORS		
MUFFLERS	SEE NOTE 6		
FAN BELT	EITHER FRONT DOOR		
BATTERY	THRU RIGHT REAR DOOR		

REFERENCE OWNERS MANUAL FOR PERIODIC REPLACEMENT PART LISTINGS



**Warning: Installation drawing for reference only. Liquid cooled units should be installed by an Authorized Siemens Standby Generator Contractor.**

Siemens Industry Inc.  
 Building Technologies Division  
 Standby Power Systems  
 Catalog Numbers: SGN070RGAL, SGN070RPAL, SGN070CGAL, SGN070CPAL, SGN070CGALE, SGN070CPALE, SGN070JGAL, SGN070JPAL, SGN070JGALE, SGN070JPAL, SGN070JGALE, SGN070IPAL, SGN070IPALE

**Notes:**

Siemens Industry, Inc.  
Building Technologies Division  
5400 Triangle Parkway  
Norcross, GA 30092

1-800-241-4453  
info.us@siemens.com

[www.usa.siemens.com/generators](http://www.usa.siemens.com/generators)

Subject to change without prior notice  
Order No.: RPFL-QT080-1210  
Printed in USA  
© 2010 Siemens Industry, Inc.

The information provided in this flyer contains merely general descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

All product designations may be trademarks or product names of Siemens AG or supplier companies whose use by third parties for their own purposes could violate the rights of the owners.