



Department of Public Works
SANTA ROSA COUNTY, FLORIDA
Milton, Florida 32583

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6075 Old Bagdad Hwy.

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Director of Public Works
6075 Old Bagdad Hwy.
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MEMORANDUM

TO: Tony Gomillion, County Administrator
FROM: Stephen Furman, Public Works Director
DATE: August 10, 2016
SUBJECT: Stand By Generator for Clerk of the Court Facilities 

RECOMMENDATION

Discussion of award for the installation of a 22 KW natural gas, stand by generator for the Clerk of the Court facilities at the Court House to White Sands Electric, Inc., in the amount of \$18,885.00 based on comparison shopping. Funding for the contract will be from the Capital Fund.

BACKGROUND

The Clerk of the Court has requested that a stand by generator be provided for their facility at the Court House. Interruptions to the power supply cause the computers to shut down, thus causing unacceptable delays in the court proceedings. Prices were obtained through comparison shopping, with both bidders quoting Generac brand generators. The quoted prices do not include the estimated \$2,500 needed for the county to run the natural gas line to the site of the generator.

WHITE SANDS ELECTRIC, INC.

VOICE 850*433*6080

FAX 850*433*6610

FLORIDA CERTIFIED EC0003128

ALABAMA CERTIFIED 2889

2339 TRUMAN AVE.

PENSACOLA, FL. 32505

WHITESANDSELECTRIC.COM

GENERAC SERVICE PROVIDER

07/29/2016

SANTA ROSA COUNTY BLDG MAINT

ATTN: MIKE BROWN 850-393-8893

BuildingMaintenance@santarosa.fl.gov

DESCRIPTION: STAND BY GENERATOR

PROPOSAL

<p>PROVIDE AND INSTALL GENERAC MODEL RG02224ANAX 22KW LIQUID COOLED, NATURAL GAS, 1800 RPM ALUMINUM HOUSING STAND BY GENERATOR WITH MANUFACTURER 5 YEAR LIMITED WARRANTY AND OPTIONS FOR 5,7 AND 10 YEAR EXTENDED WARRANTY. THIS MODEL ALSO HAS "TRUE POWER" TECHNOLOGY WHICH DELIVERS BEST-IN CLASS POWER QUALITY WITH LESS THAN 5% TOTAL HARMONIC DISTORTION FOR CLEAN, SMOOTH OPERATION OF SENSITIVE BUSINESS ELECTRONICS.</p>
<p>PROVIDE AND INSTALL 100 AMP 120/240 SERVICE RATED AUTOMATIC TRANSFER SWITCH AND SURGE PROTECTOR.</p>
<p>PROVIDE AND INSTALL NEW 100 AMP CIRCUIT BREAKER PANEL IN BASEMENT AREA TO INCLUDE ALL CIRCUITS FOR SERVER ROOM INCLUDING AIR CONDITIONING UNIT(S)</p>
<p>TOTAL PRICE INCLUDES ALL MATERIALS, LABOR, PERMIT AND BATTERY FOR GENERATOR, BUT NOT TO INCLUDE NATURAL GAS INSTALLATION. ALL MATERIALS AND LABOR EXCLUDING GENERAC GENERATOR HAVE 1 YEAR WARRANTY BY WHITE SANDS ELECTRIC, INC.</p>

Total Price: \$ 18,885.00

Quote Expires: 30 DAYS

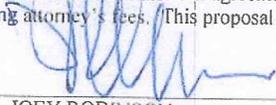
Thank you for your time, and please call with any questions.

All material is guaranteed to be as specified. All work to be completed in a professional manner according to standard practices.

Payment due upon completion of work unless otherwise noted.

Any alteration or deviation from above specification involving extra costs will be executed only upon written orders and will become an extra charge over and above the estimate. All agreements are contingent upon delays beyond our control. Purchaser agrees to pay all costs of collection, including attorney's fees. This proposal may be withdrawn by us if not accepted by the above due date.

AUTHORIZED
SIGNATURE


JOEY ROBINSON

DATE

8/3/16

ACCEPTANCE
SIGNATURE

DATE

Protector® QS Series

GENERAC®

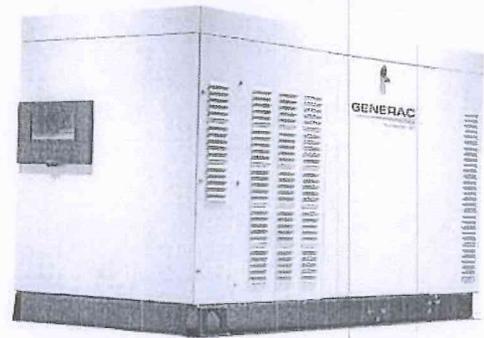
PROTECTOR® QS SERIES Standby Generators Liquid-Cooled Gaseous Engine

INCLUDES:

- Two Line LCD Multilingual Digital Evolution™ Controller (English/Spanish/French/Portuguese) with external viewing window for easy indication of generator status and breaker position.
- True Power™ Electrical Technology
- Isochronous Electronic Governor
- Sound Attenuated Enclosure
- Closed Coolant Recovery System
- Smart Battery Charger
- UV/Ozone Resistant Hoses
- ±1% Voltage Regulation
- Natural Gas or LP Operation
- 5 Year Limited Warranty
- UL 2200 Listed

Standby Power Rating

- Model RG022 (Aluminum - Gray) - 22 kW 60 Hz
- Model RG027 (Aluminum - Gray) - 27 kW 60 Hz
- Model RG032 (Aluminum - Gray) - 32 kW 60 Hz
- Model RG038 (Aluminum - Gray) - 38 kW 60 Hz
- Model RG048 (Aluminum - Gray) - 48 kW 60 Hz



QUIET-TEST

Meets EPA Emission Regulations
22 & 27 kW are CA/MA emissions compliant
32 & 38 kW not for sale in CA / MA

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
 - ◀ 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 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.

GENERAC®



22 • 27 • 32 • 38 • 48 kW

GENERATOR SPECIFICATIONS

Type	Synchronous
Rotor Insulation Class	H (22 & 27 kW) or F (32, 38 & 48 kW)
Stator Insulation Class	H
Telephone Interference Factor (TIF)	<50
Alternator Output Leads 1-Phase	4 wire
Alternator Output Leads 3-Phase	6 wire
Bearings	Sealed Ball
Coupling	Flexible Disc
Excitation System	Direct

VOLTAGE REGULATION

Type	Electronic
Sensing	Single Phase
Regulation	± 1%

GOVERNOR SPECIFICATIONS

Type	Electronic
Frequency Regulation	Isochronous
Steady State Regulation	± 0.25%

ELECTRICAL SYSTEM

Battery Charge Alternator	12 Volt 30 Amp
Static Battery Charger	2.5 Amp
Recommended Battery (battery not included)	Group 26 (22, 27, 32 & 38 kW) or Group 24F (48 kW), 525CCA
System Voltage	12 Volts

GENERATOR FEATURES

Revolving field heavy duty generator
 Directly connected to the engine
 Operating temperature rise 120 °C above a 40 °C ambient
 Class H insulation is NEMA rated
 Class F insulation is NEMA rated
 All models 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.
SAE	Sound attenuated enclosure ensures quiet operation.

GENERAC®

application & engineering data

ENGINE SPECIFICATIONS 22, 27, 32 & 38 kW

Make	Generac
Model	In-line
Cylinders	4
Displacement (Liters)	2.4
Bore (in/mm)	3.41/86.5
Stroke (in/mm)	3.94/100
Compression Ratio	9.5:1
Intake Air System	Naturally Aspirated (22 & 27 kW) or Turbocharged/Aftercooled (32 & 38 kW)
Lifter Type	Hydraulic

ENGINE SPECIFICATIONS: 48 kW

Make	Generac
Model	V-Type
Cylinders	8
Displacement (Liters)	5.4
Bore (in/mm)	3.55/90.2
Stroke (in/mm)	4.17/105.9
Compression Ratio	9:1
Intake Air System	Naturally Aspirated
Lifter Type	Hydraulic

ENGINE LUBRICATION SYSTEM

Oil Pump Type	Gear
Oil Filter Type	Full flow spin-on cartridge
Crankcase Capacity (qt/l)	4/3.8 (22, 27, 32 & 38 kW) or 6/5.7 (48 kW)

ENGINE COOLING SYSTEM

Type	Closed
Water Pump	Belt driven
Fan Speed (rpm)	1980 - 22 & 27 kW 1500 - 32 & 38 kW 1954 - 48 kW
Fan Diameter (in/mm)	18.1/459.7 (22 & 27 kW) or 22/558.8 (32, 38 & 48 kW)
Fan Mode	Pusher (22 & 27 kW) or Puller (32, 38 & 48 kW)

FUEL SYSTEM

Fuel Type	Natural gas, propane vapor
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard
Operating Fuel Pressure	5-14" water column/9-26 mm HG

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

22 • 27 • 32 • 38 • 48 kW

GENERATOR OUTPUT VOLTAGE/kW - 60 Hz

		kW LPG	Amp LPG	kW Nat. Gas	Amp Nat. Gas	CB Size (Both)
RG022	120/240 V, 1Ø, 1.0 pf	22	92	22	92	100
	120/208 V, 3Ø, 0.8 pf	22	76	22	76	80
	120/240 V, 3Ø, 0.8 pf	22	66	22	66	80
RG027	120/240 V, 1Ø, 1.0 pf	27	113	25	104	125
	120/208 V, 3Ø, 0.8 pf	27	94	25	87	100
	120/240 V, 3Ø, 0.8 pf	27	81	25	75	90
RG032	120/240 V, 1Ø, 1.0 pf	32	133	32	133	150
	120/208 V, 3Ø, 0.8 pf	32	111	32	111	125
	120/240 V, 3Ø, 0.8 pf	32	96	32	96	100
	277/480 V, 3Ø, 0.8 pf	32	48	32	48	60
RG038	120/240 V, 1Ø, 1.0 pf	38	158	38	158	175
	120/208 V, 3Ø, 0.8 pf	38	132	38	132	150
	120/240 V, 3Ø, 0.8 pf	38	114	38	114	125
	277/480 V, 3Ø, 0.8 pf	38	57	38	57	60
RG048	120/240 V, 1Ø, 1.0 pf	48	200	48	200	200
	120/208 V, 3Ø, 0.8 pf	48	167	48	167	175
	120/240 V, 3Ø, 0.8 pf	48	144	48	144	150
	277/480 V, 3Ø, 0.8 pf	48	72	48	72	80

SURGE CAPACITY IN AMPS

		Voltage Dip @ < .4 pf	
		15%	30%
RG022	120/240 V, 1Ø	55	135
	120/208 V, 3Ø	40	92
	120/240 V, 3Ø	35	80
RG027	120/240 V, 1Ø	62	170
	120/208 V, 3Ø	70	120
	120/240 V, 3Ø	61	103
RG032	120/240 V, 1Ø	75	180
	120/208 V, 3Ø	87	210
	120/240 V, 3Ø	75	182
	277/480 V, 3Ø	36	87
RG038	120/240 V, 1Ø	75	180
	120/208 V, 3Ø	87	210
	120/240 V, 3Ø	75	182
RG048	277/480 V, 3Ø	36	87
	120/240 V, 1Ø	85	195
	120/208 V, 3Ø	90	218
	120/240 V, 3Ø	78	189
	277/480 V, 3Ø	36	87

ENGINE FUEL CONSUMPTION

		Natural Gas		Propane		
		(ft ³ /hr)	(m ³ /hr)	(gal/hr)	(l/hr)	(ft ³ /hr)
RG022	Exercise cycle	34	1.0	0.4	1.4	13
	25% of rated load	142	4.0	1.4	8.2	52.5
	50% of rated load	207	5.9	2.1	7.8	78.6
	75% of rated load	274.6	7.8	2.9	10.9	104
	100% of rated load	342	9.7	3.6	13.7	129.7
RG027	Exercise cycle	40	1.1	0.4	1.7	15
	25% of rated load	155	4.4	1.6	6.2	58.7
	50% of rated load	233	6.6	2.6	9.5	90.4
	75% of rated load	314	8.9	3.3	12.7	121
	100% of rated load	396	11.2	4.1	15.7	149
RG032	Exercise cycle	44	1.3	0.5	2	19
	25% of rated load	138.8	3.9	1.5	5.7	53
	50% of rated load	218.8	6.2	2.6	10.2	94.9
	75% of rated load	301	8.5	3.7	14.2	132
	100% of rated load	380.6	10.8	4.6	17.6	166
RG038	Exercise cycle	44	1.3	0.5	2	19
	25% of rated load	156	4.4	1.7	6.4	60
	50% of rated load	260	7.4	3	11.4	107.8
	75% of rated load	361.7	10.2	4.2	16.2	153
	100% of rated load	444	12.6	5.4	20.4	192
RG048	Exercise cycle	63	2.0	0.9	3.3	31
	25% of rated load	270.6	7.7	3.1	11.7	110.9
	50% of rated load	425	12.0	5.0	19	151
	75% of rated load	557.7	15.8	6.8	25.8	244.5
	100% of rated load	638	18.5	8.7	33	312

Note: Fuel pipe must be sized for full load.

For Btu content, multiply ft³/hr x 2520 (LPG) or ft³/hr x 1000 (NG)

For megajoule content, multiply m³/hr x 93.15 (LPG) or m³/hr x 37.26 (NG)

Refer to "Emissions Data Sheets" for maximum fuel flow for EPA and SCAQMD permitting purposes.

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.



22 • 27 • 32 • 38 • 48 kW

GENERAC®

operating data



ENGINE COOLING

	22 kW	27 kW	32 & 38 kW	48 kW
Air flow (inlet air including alternator and combustion air in cfm/cmm)	2400/68	2400/68	2200/62.3	4350/123.2
System coolant capacity (gal/liters)	2.5/9.5	2.5/9.5	2.5/9.5	3/11.4
Heat rejection to coolant (BTU per hr/MJ per hr)	99,000/104.5	105,000/110.8	145,000/153	186,000/196.2
Maximum operation air temperature on radiator (°C/°F)	60/150			
Maximum ambient temperature (°C/°F)	50/140			

COMBUSTION REQUIREMENTS

Flow at rated power (cfm/cmm)	22 kW	27 kW	32 & 38 kW	48 kW
	68/1.9	68/1.9	106/3	163/4.6

SOUND EMISSIONS

Sound output in dB(A) at 23 ft (7 m) with generator in exercise mode*	22 kW	27 kW	32 & 38 kW	48 kW
	61	61	58	63
Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load*	22 kW	27 kW	32 & 38 kW	48 kW
	70	70	64	68

* 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.

EXHAUST

Exhaust flow at rated output (cfm/cmm)	22 kW	27 kW	32 & 38 kW	48 kW
	165/4.7	180/5.1	300/8.5	414/11.7
Exhaust temperature at muffler outlet (°C/°F)	22 kW	27 kW	32 & 38 kW	48 kW
	482/900	538/1000	579/1075	552/1025

ENGINE PARAMETERS

Rated Synchronous rpm	22 kW	27 kW	32 & 38 kW	48 kW
	1800			

POWER ADJUSTMENT FOR AMBIENT CONDITIONS

Temperature Deration	3% for every 10 °C above 25 °C or 1.65% for every 10 °F above 77 °F
Altitude Deration (22, 27 & 48 kW)	1% for every 100 m above 183 m or 3% for every 1000 ft above 600 ft
Altitude Deration (32 & 38 kW)	1% for every 100 m above 915 m or 3% for every 1000 ft above 3000 ft

CONTROLLER FEATURES

2-Line Plain Text LCD Display	Simple user interface for ease of operation.
Mode Switch: Auto	Automatic Start on Utility failure. 7 day exerciser
Off	Stops unit. Power is removed. Control and charger still operate.
Manual	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 sec
Engine Cool-Down	1 min
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, 72 Hz
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



22 • 27 • 32 • 38 • 48 kW

GENERAC®

available accessories

Protector® QS Series
5 of 11

Model #	Product	Description
G006463-3	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 with any smart device. You will even be notified when a change in the generator's status occurs via e-mail or text message. Note: Harness Adapter Kit required. Available in the U.S. only.
G006478-0	Harness Adapter Kit	The Harness Adapter Kit is required to make liquid-cooled units compatible with Mobile Link™.
G005630-1 - 22, 27, 32 & 38 kW G005632-1- 48 kW	Cold Weather Kit	If the temperature regularly falls below 32 °F (0 °C), install a cold weather kit to maintain optimal battery temperature. Kit consists of battery warmer with thermostat built into the wrap.
G005616-0 - 22, 27, 32 & 38 kW G007088-0 - 48 kW	Extreme Cold Weather Kit	Recommended where the temperature regularly falls below 32 °F (0 °C) for extended periods of time. For liquid cooled units only.
G005651-0	Base Plug Kit	Add base plugs to the base of the generator to keep out debris.
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.
G005656-0 - 22 & 27 kW G005984-0 - 32 & 38 kW G006205-0 - 48 kW	Scheduled Maintenance Kit	The Liquid-Cooled Scheduled Maintenance Kits offer all the hardware necessary to perform complete maintenance on Generac liquid-cooled generators.
G006664-0	Local Wireless Monitor	Completely wireless and battery powered, Generac's wireless remote monitor provides you with instant status information without ever leaving the house.
G006665-0	Wireless Remote Extension Harness	Recommended for use with the Wireless Remote on units up to 60 kW, required for use on units 70 kW or greater.
G006873-0	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.
G006510-0	E-Stop	E-stop allows for immediate fuel shutoff and generator shutdown in the event of an emergency.

22 & 27 kW

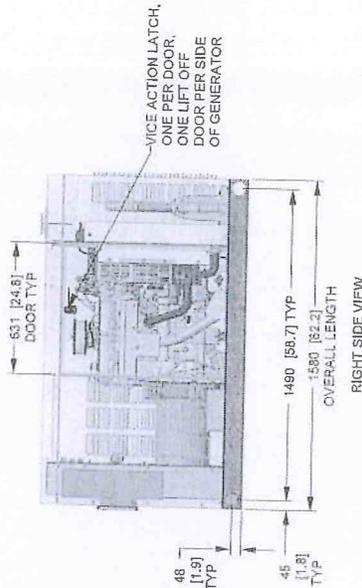
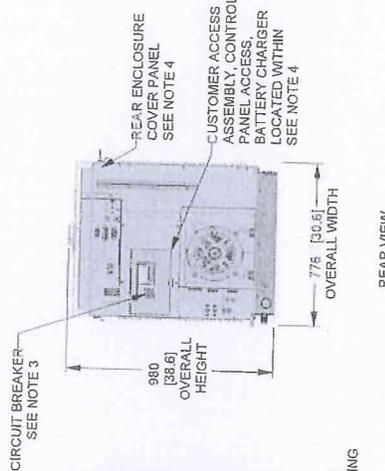
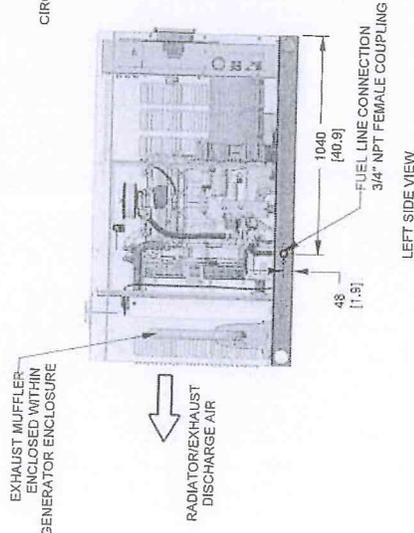
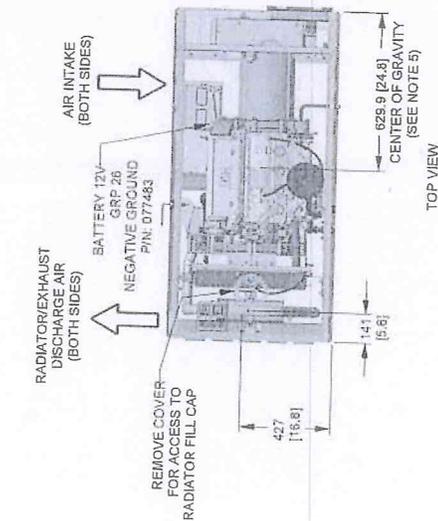
Drawing #0K8624-A (1 of 2)

GENERAC® installation layout

- NOTES:**
1. MINIMUM RECOMMENDED CONCRETE PAD SIZE: 1092 (43") WIDE X 1885 (74.2") LONG. REFERENCE INSTALLATION GUIDE SUPPLIED WITH UNIT FOR CONCRETE PAD GUIDELINES.
 2. ALLOW SUFFICIENT ROOM ON ALL SIDES OF THE GENERATOR FOR MAINTENANCE AND SERVICING. THIS UNIT MUST BE INSTALLED IN ACCORDANCE WITH CURRENT APPLICABLE NFPA 37 AND NFPA 70 STANDARDS AS WELL AS ANY OTHER FEDERAL, STATE, AND LOCAL CODES.
 3. CONTROL PANEL / CIRCUIT BREAKER INFORMATION
- SEE SPECIFICATION SHEET OR OWNERS MANUAL
- ACCESSIBLE THROUGH CUSTOMER ACCESS ASSEMBLY DOOR ON REAR OF GENERATOR. THE STUR-UP AREAS AS FOLLOWS:
- HIGH VOLTAGE CONNECTION INCLUDING AC LOAD LEAD CONNECTION
- NEUTRAL CONNECTION, BATTERY CHARGER 120 VOLT AC (0.5 AMP MAX) CONNECTION.
- LOW VOLTAGE CONNECTION INCLUDING TRANSFER SWITCH CONTROL WIRES.
 5. CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.
 6. BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND RECIRCULATION OF DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
 7. REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.
 8. MOUNTING BOLTS TO STUDS TO MOUNTING SURFACE SHALL BE 5/8-11 GRADE 5 (USE STANDARD SAE TO ADOBE SPECS)
 9. MUST ALLOW FREE FLOW TO SPEC SHEET FOR MINIMUM AIR FLOW AND MAXIMUM RESTRICTION REQUIREMENTS.
 10. GENERATOR MUST BE INSTALLED SUCH THAT FRESH COOLING AIR IS AVAILABLE AND THAT DISCHARGE AIR FROM RADIATOR IS NOT RECIRCULATED.
 11. EXHAUST MUFFLER AND FAN BELT ENCLOSED WITHIN GENERATOR ENCLOSURE. REMOVE FRONT PANEL TO ACCESS.

SERVICE ITEM	2-4L
OIL FILL CAP	ETHER SIDE
OIL DIP STICK	RIGHT SIDE
OIL FILTER	RIGHT SIDE
OIL DRAIN HOSE	LEFT SIDE
RADIATOR DRAIN	LEFT SIDE
COOLANT RECOVERY BOTTLE	LEFT SIDE
RADIATOR FILL CAP	ROOF TOP
AIR CLEANER ELEMENT	LEFT SIDE
SPARK PLUGS	LEFT SIDE
MUFFLER	SEE NOTE 11
DRIVE BELT	ETHER SIDE
FAN BELT	SEE NOTE 11
BATTERY	LEFT SIDE

REFERENCE OWNERS MANUAL FOR PERIODIC REPLACEMENT PART LISTINGS.



DIMENSIONS: MM (INCH)

ENGINE/KW	ENCLOSURE MATERIAL	WEIGHT DATA	
		NET WEIGHT KG (LBS)	SHIPPING WEIGHT KG (LBS)
2-4L 22KW	AL	410.5 (905)	440 (971)
2-4L 27KW	AL	452 (994)	452 (1005)

22 & 27 kW

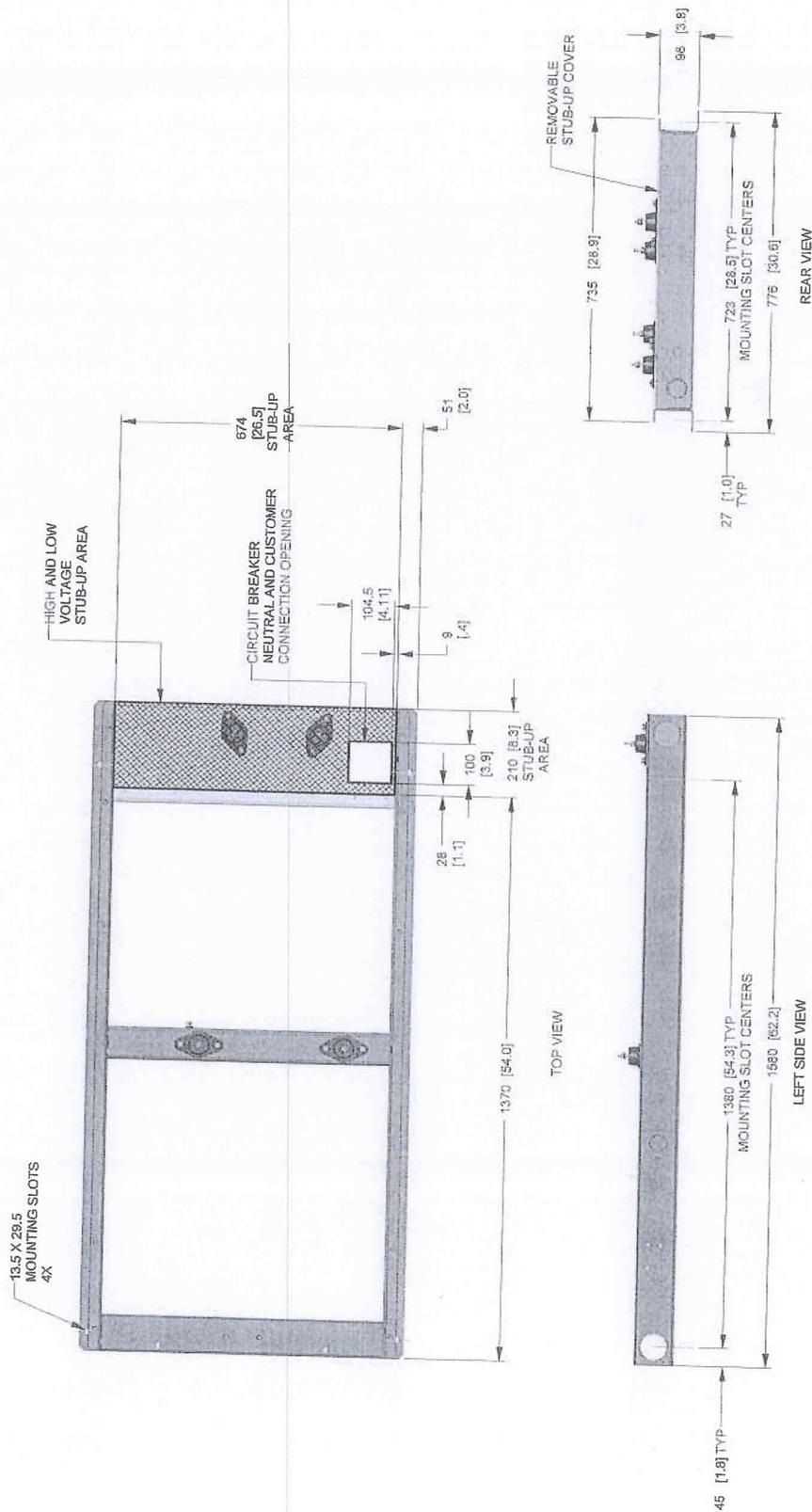
GENERAC

installation layout

Drawing #0K8624-A (2 of 2)

Protector® QS Series

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PROPOSAL

B2W Electric
P.O. Box 5538
NAUVAH, FL
32566

PROPOSAL NO.
SHEET NO.
DATE 8/2/16

PROPOSAL SUBMITTED TO:

NAME
ADDRESS
PHONE NO.

WORK TO BE PERFORMED AT:

ADDRESS Santa Rosa County
DATE OF PLANS
ARCHITECT

We hereby propose to furnish materials and perform the labor necessary for the completion of _____

Supply and install 1-22 Kw Natural Gas Generator with Automatic Transfer Switch. Price includes Permit Fees. Price does not include Natural Gas supply piping. The generator is manufactured by Generac. All materials and labor supplied by B2W is warranted for 1-year.

All material is guaranteed to be as specified, and the above work to be performed in accordance with the drawings and specifications submitted for above work, and completed in a substantial workmanlike manner for the sum of _____

Dollars (\$ 19,112.00)

with payments to be made as follows:

Any alteration or deviation from above specifications involving extra costs will be executed only upon written order, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents, or delays beyond our control.

Respectfully submitted: *[Signature]*
Per _____

Note—this proposal may be withdrawn by us if not accepted within _____ days.

The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payments will be made as outlined above.

Signature _____

Date _____

Signature _____

Generac Power Systems 5 Year (5M) Limited Warranty for Standby Generators

For the period of warranty noted below, and upon the successful start-up and/or on-line activation of the unit, Generac Power Systems, Inc. "Generac" warrants that its Generator and/or transfer switch system will be free from defects in material and workmanship for the items and period set forth below. Generac will, at its discretion, repair or replace any part(s) which, upon evaluation, inspection and testing by Generac or an Authorized Generac Service Dealer, is found to be defective. Any equipment that the purchaser/owner claims to be defective must be evaluated by the nearest Authorized Generac Service Dealer. Emissions components are excluded from coverage under this extended warranty. Emissions warranty coverage is detailed in a separate emissions warranty.

Warranty Coverage: Warranty coverage period is for Five (5) years or two-thousand (2,000) hours, whichever occurs first.

Warranty Coverage Year(s)	1-2	3	4-5
USA, USA Territories, Canada	Parts, Labor and Limited Travel	Parts Only	Major Parts Component Only
International ¹	Parts, Labor and Limited Travel	Parts Only	None

¹Units sold for international use are limited to 1,000 hours of use.

Guidelines:

1. Warranty begins upon the successful start-up and/or on-line activation of the unit.
2. Unit must be registered and proof of purchase available
3. Any and all warranty repairs and/or concerns must be performed and/or addressed by an Authorized/Certified Generac Service Dealer, or branch thereof. Repairs or diagnostics performed by individuals other than Authorized/Certified Generac Service Dealers not authorized in writing by Generac will not be covered.
4. This Warranty is transferable between ownership of original install site.
5. Generac supplied engine coolant heaters (block-heaters), heater controls and circulating pumps are only covered during the first year of the warranty provision.
6. Generac may choose to repair, replace or refund a piece of equipment in its sole discretion.
7. Enclosures are warranted against rust for the first year of ownership only. Damage caused after receipt of generator is the responsibility of the owner and is not covered by this warranty. Nicks, scrapes, dents or scratches to the painted enclosure should be repaired promptly by the owner.
8. Warranty only applies to permanently wired and mounted units.
9. Damage to any covered components or consequential damages caused by the use of a non-OEM part will not be covered by the warranty.
10. Proof of performance of all required maintenance must be available.
11. Travel allowance is limited to 100 miles maximum and seven and half (3) hours maximum (per occurrence, whichever is less) round trip from the nearest Authorized Generac Dealer. Any additional travel required will not be covered.

The following will NOT be covered by this warranty:

1. Costs of normal maintenance (i.e. tune-ups, associated part(s), adjustments, loose/leaking clamps, installation and start-up).
2. Damage/failures to the generator and/or transfer switch system caused by accidents, shipping, handling, or improper storage.
3. Damage/failures caused by operation with improper fuels, speeds, loads or installations other than what's recommended or specified by Generac Power Systems.
4. Damage to the generator and/or transfer switch due to the use of non-Generac parts and/or equipment, contaminated fuels, oils, coolants/antifreeze or lack of proper fuels, oil or coolants/antifreeze.
5. Failures due to normal wear and tear, accident, misuse, abuse, neglect, improper installation, improper sizing, or rodent and/or insect infestation.
6. Rental equipment used while warranty repairs are being performed and/or any extraordinary equipment used for removal and/or reinstallation of generator (i.e. cranes, hoists, lifts, et. al.).
7. Planes, ferries, railroad, buses, helicopters, snowmobiles, snowcats, off-road vehicles or any other mode of transport deemed not standard by Generac.
8. Products that are modified or altered in a manner not authorized by Generac in writing.
9. Starting batteries, fuses, light bulbs, engine fluids and any related labor.
10. Steel enclosures that rust as a result of improper installation, location in a harsh or salt water environment, or are scratched where the integrity of applied paint is compromised.
11. Units sold, rated or used for "Prime Power", "Trailer Mounted" or "Rental Unit" applications as defined by Generac. Contact an Authorized Generac Service Dealer for definitions.
12. Shipping costs associated with expedited shipping.
13. Additional costs for overtime, holiday or emergency labor costs for repairs outside of normal business hours.
14. Any incidental, consequential or indirect damages caused by defects in materials or workmanship, or any delay in repair or replacement of the defective part(s).
15. Failures caused by any act of God or external cause including without limitation, fire, theft, freezing, war, lightning, earthquake, windstorm, hail, water, tornado, hurricane, or any other matters which are reasonably beyond the manufacturer's control.

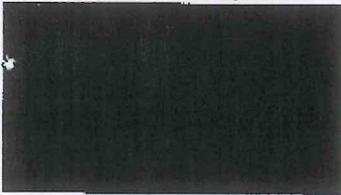
THIS WARRANTY SUPERSEDES ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. SPECIFICALLY, GENERAC MAKES NO OTHER WARRANTIES AS TO THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ANY IMPLIED WARRANTIES WHICH ARE ALLOWED BY LAW, SHALL BE LIMITED IN DURATION TO THE TERMS OF THE EXPRESS WARRANTY PROVIDED HEREIN. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. GENERAC'S ONLY LIABILITY SHALL BE THE REPAIR OR REPLACEMENT OF PART(S) AS STATED ABOVE. IN NO EVENT SHALL GENERAC BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, EVEN IF SUCH DAMAGES ARE A DIRECT RESULT OF GENERAC'S NEGLIGENCE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU ALSO HAVE OTHER RIGHTS FROM STATE TO STATE.

FOR AUSTRALIA ONLY: Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. For Service or other product inquiries in Australia, please contact Allpower by phone at 1800-333-428 or visit Allpower's website at www.allpower.com.au.

FOR NEW ZEALAND ONLY: Nothing in this warranty statement excludes, restricts or modifies any condition, warranty right or remedy which pursuant to the New Zealand Legislation (Commonwealth or State) including the Fair Trading Practices Act of 1988 or the Consumer Guarantees Act 1993 ("CGA") applies to this limited warranty and may not be so excluded, restricted or modified. Nothing in this statement is intended to have the effect of contracting out of the provisions of the CGA, except to the extent permitted by that Act, and these terms are to be modified to the extent necessary to give effect to that intention. If you acquire goods from Generac Power Systems or any of its authorized resellers and distributors for the purposes of a business, then pursuant to section 43(2) of the CGA, it is agreed that the provisions of the CGA do not apply. For Service or other product inquiries in New Zealand, please contact Allpower by phone at 09-269-1160 or visit Allpower's website at www.allpower.com.nz.

GENERAC POWER SYSTEMS, INC. • P.O. BOX 8 • WAUKESHA, WI, USA 53187
Ph: (888) GENERAC (436-3722) • Fax: (262) 844-4851

To locate the nearest Authorized Dealer and to download schematics, exploded views and parts lists
visit our website: www.generac.com



Protector® QS Series



ATTN: Mike Brown

* This unit will not interfere with UPS systems

GENERAC®

PROTECTOR® QS SERIES Standby Generators Liquid-Cooled Gas Engine

Protector® QS Series

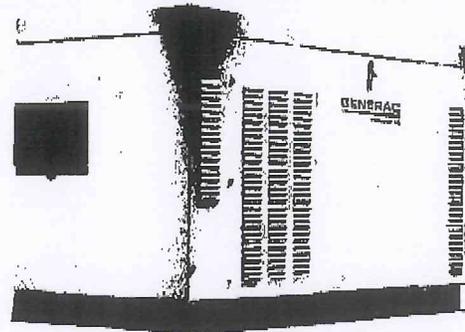
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INCLUDES:

- Two Line LCD Multilingual Digital Evolution™ Controller (English/Spanish/French/Portuguese) with external viewing window for easy indication of generator status and breaker position.
- True Power™ Electrical Technology
- Isochronous Electronic Governor
- Sound Attenuated Enclosure
- Closed Coolant Recovery System
- Smart Battery Charger
- UV/Ozone Resistant Hoses
- ±1% Voltage Regulation
- Natural Gas or LP Operation
- 5 Year Limited Warranty
- UL 2200 Listed

Standby Power Rating

- Model RG022 (Aluminum - Gray) - 22 kW 60 Hz
- Model RG027 (Aluminum - Gray) - 27 kW 60 Hz
- Model RG032 (Aluminum - Gray) - 32 kW 60 Hz
- Model RG038 (Aluminum - Gray) - 38 kW 60 Hz
- Model RG048 (Aluminum - Gray) - 48 kW 60 Hz



QUIET TEST:

Meets EPA Emission Regulations
 22 & 27 kW are CA/MA emissions compliant
 48 kW meets CA/MA emissions requirements with optional catalyst
 32 & 38 kW not for sale in CA/MA

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.
- **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%.
- **TEST CRITERIA:**
 - ✓ PROTOTYPE TESTED
 - ✓ SYSTEM TORSIONAL TESTED
 - ✓ NEMA MG1-22 EVALUATION
 - ✓ MOTOR STARTING ABILITY
- **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.



22 • 27 • 32 • 38 • 48 kW

GENERAC

application & engineering data

GENERATOR SPECIFICATIONS

Type	Synchronous
Rotor Insulation Class	H (22 & 27 kW) or F (32, 38 & 48 kW)
Stator Insulation Class	H
Telephone Interference Factor (TIF)	<50
Alternator Output Leads 1-Phase	4 wire
Alternator Output Leads 3-Phase	6 wire
Bearings	Sealed Ball
Coupling	Flexible Disc
Excitation System	Direct

VOLTAGE REGULATION

Type	Electronic
Sensing	Single Phase
Regulation	± 1%

GOVERNOR SPECIFICATIONS

Type	Electronic
Frequency Regulation	Isochronous
Steady State Regulation	± 0.25%

ELECTRICAL SYSTEM

Battery Charge Alternator	12 Volt 30 Amp
Static Battery Charger	2.5 Amp
Recommended Battery	Group 26 (22, 27, 32 & 38 kW) or Group 24F (48 kW), 525CCA
System Voltage	12 Volts

GENERATOR FEATURES

<p>Revolving field heavy duty generator Directly connected to the engine Operating temperature rise 120 °C above a 40 °C ambient Class H insulation is rated at 150 °C rise at 25 °C ambient Class F insulation is rated at 145 °C rise at 25 °C ambient All models fully prototyped tested</p>

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.
SAE	Sound attenuated enclosure ensures quiet operation.

ENGINE SPECIFICATIONS (22, 27, 32 & 38 kW)

Make	Generac
Model	In-line
Cylinders	4
Displacement (Liters)	2.4
Bore (in/mm)	3.41/86.5
Stroke (in/mm)	3.94/100
Compression Ratio	9.5:1
Intake Air System	Naturally Aspirated (22 & 27 kW) or Turbocharged/Aftercooled (32 & 38 kW)
Lifter Type	Hydraulic

ENGINE SPECIFICATIONS: 48 kW

Make	Generac
Model	V-Type
Cylinders	8
Displacement (Liters)	5.4
Bore (in/mm)	3.55/90.2
Stroke (in/mm)	4.17/105.9
Compression Ratio	9:1
Intake Air System	Naturally Aspirated
Lifter Type	Hydraulic

ENGINE LUBRICATION SYSTEM

Oil Pump Type	Gear
Oil Filter Type	Full flow spin-on cartridge
Crankcase Capacity (qt/l)	4/3.8 (22, 27, 32 & 38 kW) or 6/5.7 (48 kW)

ENGINE COOLING SYSTEM

Type	Closed
Water Pump	Belt driven
Fan Speed (rpm)	1980 - 22 & 27 kW 1500 - 32 & 38 kW 1954 - 48 kW
Fan Diameter (in/mm)	18.1/459.7 (22 & 27 kW) or 22/558.8 (32, 38 & 48 kW)
Fan Mode	Pusher (22 & 27 kW) or Puller (32, 38 & 48 kW)

FUEL SYSTEM

Fuel Type	Natural gas, propane vapor
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard
Operating Fuel Pressure	5-14" water column/9-26 mm HG

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

GENERAC®

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operating data

Protector® QS Series
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GENERATOR OUTPUT VOLTAGE/kW - 60 Hz

		KW LPG	Amp LPG	KW Nat. Gas	Amp Nat. Gas	CB Size (Both)
RG022	120/240 V, 1Ø, 1.0 pf	22	92	22	92	100
	120/208 V, 3Ø, 0.8 pf	22	76	22	76	80
	120/240 V, 3Ø, 0.8 pf	22	66	22	66	80
RG027	120/240 V, 1Ø, 1.0 pf	27	113	25	104	125
	120/208 V, 3Ø, 0.8 pf	27	94	25	87	100
	120/240 V, 3Ø, 0.8 pf	27	81	25	75	90
RG032	120/240 V, 1Ø, 1.0 pf	32	133	32	133	150
	120/208 V, 3Ø, 0.8 pf	32	111	32	111	125
	120/240 V, 3Ø, 0.8 pf	32	96	32	96	100
	277/480 V, 3Ø, 0.8 pf	32	48	32	48	60
RG038	120/240 V, 1Ø, 1.0 pf	38	158	38	158	175
	120/208 V, 3Ø, 0.8 pf	38	132	38	132	150
	120/240 V, 3Ø, 0.8 pf	38	114	38	114	125
	277/480 V, 3Ø, 0.8 pf	38	57	38	57	60
RG048	120/240 V, 1Ø, 1.0 pf	48	200	48	200	200
	120/208 V, 3Ø, 0.8 pf	48	167	48	167	175
	120/240 V, 3Ø, 0.8 pf	48	144	48	144	150
	277/480 V, 3Ø, 0.8 pf	48	72	48	72	80

SURGE CAPACITY IN AMPS

		Voltage Dip @ < .4 pf	
		15%	30%
RG022	120/240 V, 1Ø	55	135
	120/208 V, 3Ø	40	92
	120/240 V, 3Ø	35	80
RG027	120/240 V, 1Ø	62	170
	120/208 V, 3Ø	70	120
	120/240 V, 3Ø	61	103
RG032	120/240 V, 1Ø	75	180
	120/208 V, 3Ø	87	210
	120/240 V, 3Ø	75	182
	277/480 V, 3Ø	36	87
RG038	120/240 V, 1Ø	75	180
	120/208 V, 3Ø	87	210
	120/240 V, 3Ø	75	182
RG048	120/240 V, 1Ø	85	195
	120/208 V, 3Ø	90	218
	120/240 V, 3Ø	78	189
	277/480 V, 3Ø	36	87

ENGINE FUEL CONSUMPTION

		Natural Gas		Propane		
		(ft³/hr)	(m³/hr)	(gal/hr)	(l/hr)	(ft³/hr)
RG022	Exercise cycle	42	1.2	0.44	1.7	16
	25% of rated load	100	2.8	1.1	4.2	40
	50% of rated load	190	5.4	2.1	7.8	75
	75% of rated load	255	7.2	2.8	10.5	101
	100% of rated load	316	9	3.4	13	125
RG027	Exercise cycle	42	1.2	0.44	1.7	16
	25% of rated load	108	3.1	1.2	4.5	43
	50% of rated load	197	5.6	2.1	8.1	78
	75% of rated load	287	8.2	3.1	11.8	114
	100% of rated load	359	10.2	3.9	14.8	143
RG032	Exercise cycle	53	1.5	0.5	2	18
	25% of rated load	138	3.9	1.5	5.7	55
	50% of rated load	251	7.1	2.8	10.6	102
	75% of rated load	350	9.9	3.8	14.4	138
	100% of rated load	448	12.7	4.9	18.5	178
RG038	Exercise cycle	53	1.5	0.5	2	18
	25% of rated load	162	4.6	1.8	6.8	65
	50% of rated load	297	8.4	3.3	12.5	120
	75% of rated load	413	11.7	4.5	17	164
	100% of rated load	533	15.1	5.8	22	211
RG048	Exercise cycle	95	2.7	1	3.9	38
	25% of rated load	204	5.8	2.16	8.5	82
	50% of rated load	392	11.1	4.14	15.7	151
	75% of rated load	547	15.5	5.8	22.8	220
	100% of rated load	756	21.5	7.96	31.3	302

Note: Fuel pipe must be sized for full load.

For Btu content, multiply ft³/hr x 2520 (LP) or m³/hr x 1000 (NG)

For megajoule content, multiply m³/hr x 93.15 (LP) or m³/hr x 37.26 (NG)

Refer to "Emissions Data Sheets" for maximum fuel flow for EPA and SCAQMD permitting purposes.

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.

GENERAC®

22 • 27 • 32 • 38 • 48 kW

operating data

ENGINE COOLING

	22 kW	27 kW	32 & 38 kW	48 kW
Air flow (inlet air including alternator and combustion air in cfm/cmm)	2400/68	2400/68	2200/62.3	4350/123.2
System coolant capacity (gal/liters)	2.5/9.5	2.5/9.5	2.5/9.5	3/11.4
Heat rejection to coolant (BTU per hr/MJ per hr)	99,000/104.5	105,000/110.8	145,000/153	186,000/196.2
Maximum operation air temperature on radiator (°C/°F)	60/150			
Maximum ambient temperature (°C/°F)	50/140			

COMBUSTION REQUIREMENTS

Flow at rated power (cfm/cmm)	22 kW	27 kW	32 & 38 kW	48 kW
	68/1.9	68/1.9	106/3	163/4.6

SOUND EMISSIONS

Sound output in dB(A) at 23 ft (7 m) with generator in exercise mode*	22 kW	27 kW	32 & 38 kW	48 kW
	61	61	58	63
Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load*	22 kW	27 kW	32 & 38 kW	48 kW
	70	70	64	68

*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.

EXHAUST

Exhaust flow at rated output (cfm/cmm)	22 kW	27 kW	32 & 38 kW	48 kW
	165/4.7	180/5.1	300/8.5	414/11.7
Exhaust temperature at muffler outlet (°C/°F)	22 kW	27 kW	32 & 38 kW	48 kW
	482/900	538/1000	579/1075	552/1025

ENGINE PARAMETERS

Rated Synchronous rpm	1800
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POWER ADJUSTMENT FOR AMBIENT CONDITIONS

Temperature Deration	3% for every 10 °C above 25 °C or 1.65% for every 10 °F above 77 °F
Altitude Deration (22, 27 & 48 kW)	1% for every 100 m above 183 m or 3% for every 1000 ft above 600 ft
Altitude Deration (32 & 38 kW)	1% for every 100 m above 915 m or 3% for every 1000 ft above 3000 ft

CONTROLLER FEATURES

2-Line Plain Text LCD Display	Simple user interface for ease of operation.
Mode Switch: Auto	Automatic Start on Utility failure. 7 day exerciser
Off	Stops unit. Power is removed. Control and charger still operate.
Manual	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 sec
Engine Cool-Down	1 min
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, 72 Hz
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

GENERAC®**22 • 27 • 32 • 38 • 48 kW****available accessories**

Model #	Product	Description
006463-3	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 with any smart device. You will even be notified when a change in the generator's status occurs via e-mail or text message. Note: Harness Adapter Kit required.
006478-0	Harness Adapter Kit	The Harness Adapter Kit is required to make liquid-cooled units compatible with Mobile Link™.
005630-1 - 22, 27, 32 & 38 kW 005632-1 - 48 kW	Cold Weather Kit	If the temperature regularly falls below 32 °F (0 °C), install a cold weather kit to maintain optimal battery temperature. Kit consists of battery warmer with thermostat built into the wrap.
005616-0 - 22, 27, 32 & 38 kW 006204-0 - 48 kW	Extreme Cold Weather Kit	Recommended where the temperature regularly falls below 32 °F (0 °C) for extended periods of time. For liquid cooled units only.
005651-0	Base Plug Kit	Add base plugs to the base of the generator to keep out debris.
005704-0	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.
005656-0 - 22 & 27 kW 005984-0 - 32 & 38 kW 006205-0 - 48 kW	Scheduled Maintenance Kit	The Liquid-Cooled Scheduled Maintenance Kits offer all the hardware necessary to perform complete maintenance on Generac liquid-cooled generators.
006664-0	Wireless Remote	Completely wireless and battery powered, Generac's wireless remote monitor provides you with instant status information without ever leaving the house.
006665-0	Wireless Remote Extension Harness	Recommended for use with the Wireless Remote on units up to 60 kW, required for use on units 70 kW or greater.
006873-0	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.
006510-0	E-Stop	E-stop allows for immediate fuel shutoff and generator shutdown in the event of an emergency.

22 & 27 kW

Drawing #0K8624-A (1 of 2)

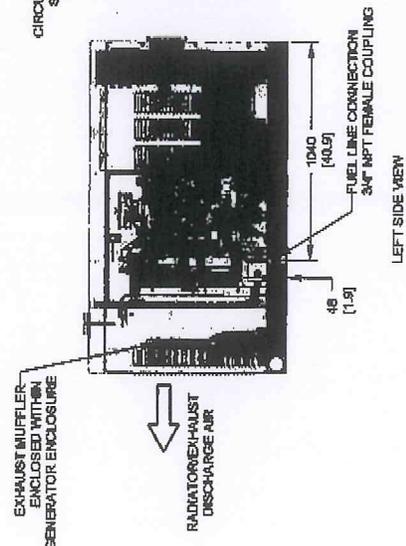
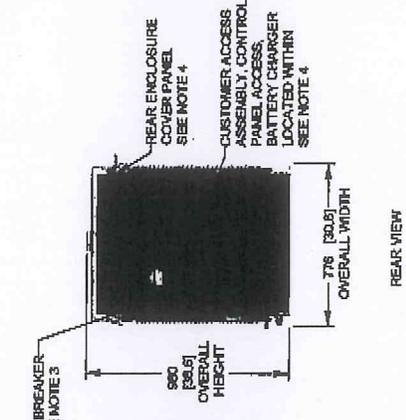
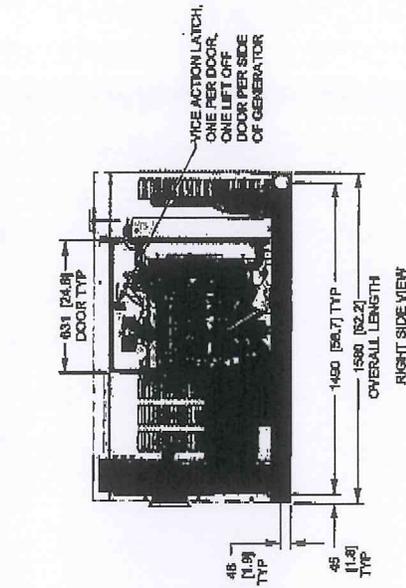
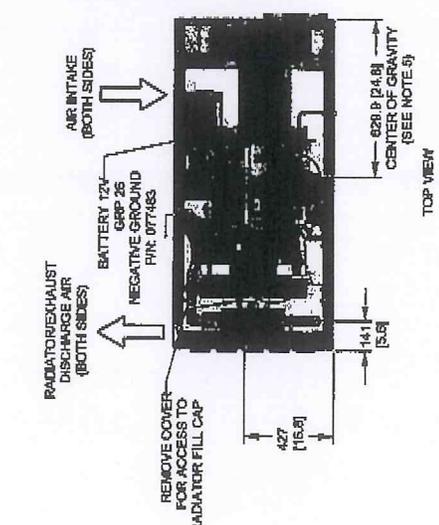
GENERAC® installation layout

NOTES:

1. MINIMUM RECOMMENDED CONCRETE PAD SIZE: 1082 (457) WIDE X 1885 (74.27) LONG. REFERENCE INSTALLATION GUIDE SUPPLIED WITH UNIT FOR CONCRETE PAD GUIDELINES.
2. ALLOW SUFFICIENT ROOM ON ALL SIDES OF THE GENERATOR FOR MAINTENANCE AND SERVICING. THIS UNIT MUST BE INSTALLED IN ACCORDANCE WITH CURRENT APPLICABLE NFPA 37 AND NFPA 70 STANDARDS AS WELL AS ANY OTHER FEDERAL, STATE, AND LOCAL CODES.
3. CONTROL PANEL / CIRCUIT BREAKER INFORMATION:
 - SEE SPECIFICATION SHEET OR OWNERS MANUAL
 - ACCESSIBLE THROUGH CUSTOMER ACCESS ASSEMBLY DOOR ON REAR OF GENERATOR.
4. REMOVE THE REAR ENCLOSURE COVER PANEL TO ACCESS THE STUB-UP AREAS AS FOLLOWS:
 - HIGH VOLTAGE CONNECTION (INCLUDING AC LOAD LEAD CONDUIT CONNECTION NEUTRAL CONNECTION, BATTERY CHARGER 120-VOLT AC (1.5 AMP MAX) CONNECTION, CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.)
 - LOW VOLTAGE CONNECTION INCLUDING TRANSFER SWITCH CONTROL WIRES.
 - BATTERY CHARGER AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.
5. BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND RECIRCULATION OF DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
6. REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.
7. MOUNTING BOLTS OR STUDS TO MOUNTING SURFACE SHALL BE 98-11 GRADE 5 (USE STANDARD SIZE TORQUE SPECS).
8. BEST PRACTICE FLOW OF INTAKE AIR, DISCHARGE AIR AND EXHAUST. SEE SPEC SHEET FOR AIR FLOW RESTRICTIONS AND RESTRICTION REQUIREMENTS.
9. GENERATOR MUST BE INSTALLED ON A FRESH COOLING AIR IS AVAILABLE AND THAT DISCHARGE AIR FROM RADIATOR IS AVAILABLE.
10. EXHAUST MUFFLER AND FAN BELT ENCLOSED WITHIN GENERATOR ENCLOSURE, REMOVE FRONT PANEL TO ACCESS.

SERVICE ITEM	Z-A
OIL FILL CAP	EITHER SIDE
OIL DIP STICK	RIGHT SIDE
OIL FILTER	FRONT SIDE
OIL DRAIN HOSE	LEFT SIDE
RADIATOR DRAIN	LEFT SIDE
COOLANT RECOVERY BOTTLE	LEFT SIDE
RADIATOR FILL CAP	ROOF TOP
AIR CLEANSER ELEMENT	LEFT SIDE
SPARK PLUGS	LEFT SIDE
MUFFLER	SEE NOTE 11
DRIVE BELT	EITHER SIDE
FAN BELT	SEE NOTE 11
BATTERY	LEFT SIDE

REFERENCE OWNERS MANUAL FOR PERIODIC REPLACEMENT PART LISTINGS.



DIMENSIONS: MM (INCH)

ENCLOSURE MATERIAL	WEIGHT GENSET ONLY (KG [LBS])	WEIGHT SHIPPING BKD (KG [LBS])	SHIPPING WEIGHT (KG [LBS])
2-A, 22/27kW	4115 [9082]	30 [66]	440 [971]
2-A, 27/30kW	4285 [9454]	30 [66]	450 [1000]

22 & 27 kW

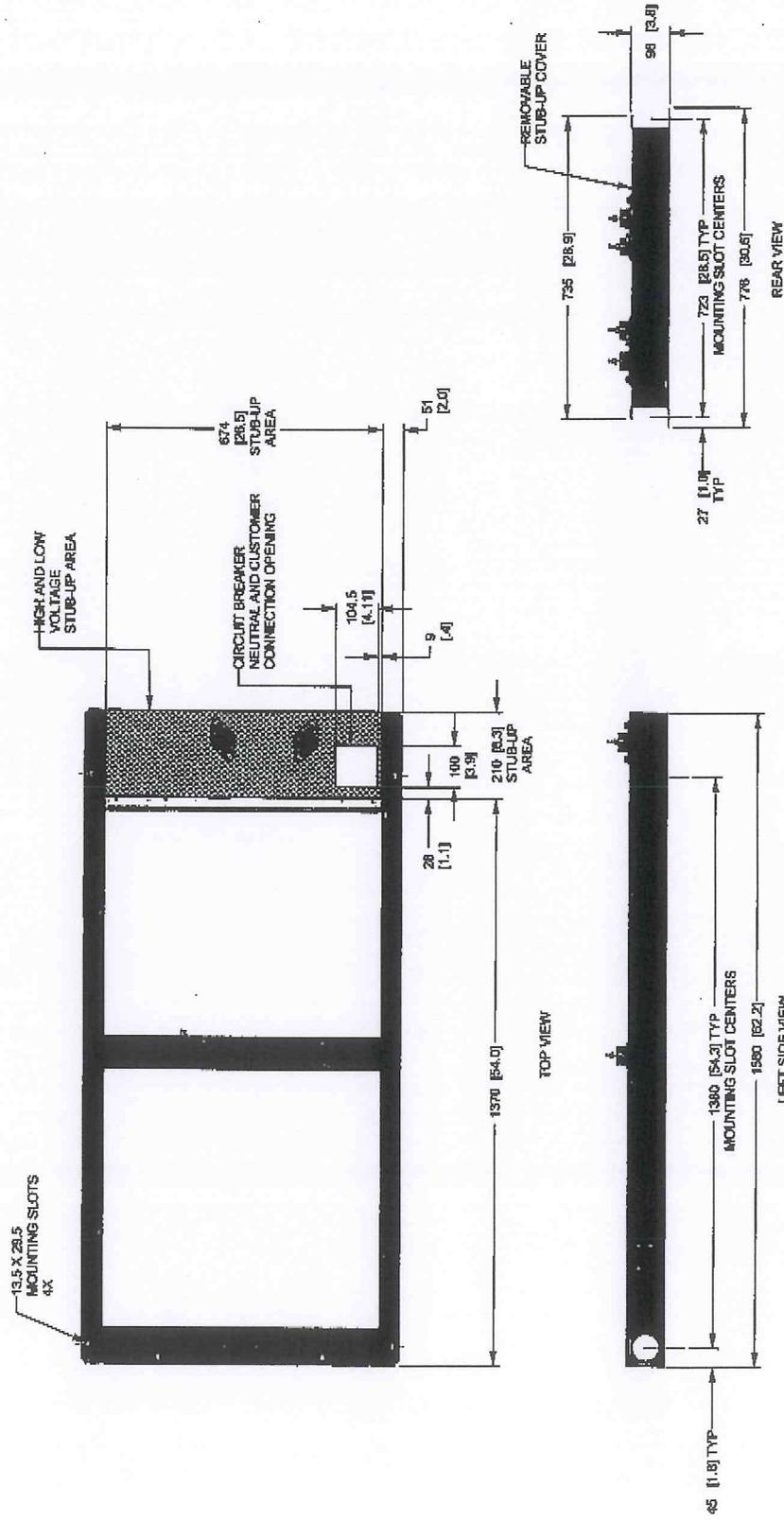
GENERAC

installation layout

Drawing #OK8624-A (2 of 2)

Protector[®] QS Series

7/0/11



DIMENSIONS: MM [INCH]

Automatic Transfer Switches

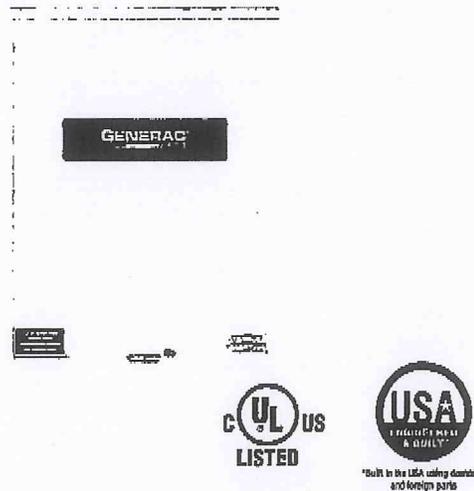
GENERAC®

Service and non-Service rated Automatic Smart Transfer Switches

Automatic Transfer Switches

1 of 2

100 - 400 Amps, Single Phase



*UL only applies to non-service rated switches

Description

Generac Automatic Transfer Switches are designed for use with single phase generators that utilize an Evolution™ or Nexus™ Controller. The 100, 200, and 400 amp open transition switches are available in single phase in both service equipment rated and non-service equipment rated configurations. The 150 and 300 amp open transition switches are only available in a service rated equipment configuration.

Standard Features

Service rated (RTSW) Generac Automatic Transfer Switches are housed in an aluminum NEMA/UL Type 3R enclosure*, with electrostatically applied and baked powder paint. The Heavy Duty Generac Contactor is a UL recognized device, designed for years of service. The controller at the generator handles all the timing, sensing, exercising functions, and transfer commands. All switches are covered by a 5 year limited warranty.

* Non-service rated (RTSC) switches are housed in a steel enclosure.

DPM Technology

Through the use of digital power technology (DPM), these switches have the capability to manage up to 4 individual HVAC (24 VAC controlled) loads with no additional hardware. When used in tandem with Smart Management Modules, up to 8 more loads can be managed as well, providing the most installation efficient power management options available.



GENERAC®

100-400 Amps, Single Phase

Automatic Smart Transfer Switches

Functions

All timing and sensing functions originate in the generator controller

Utility voltage drop-out.....	< 60%
Timer to generator start.....	10 second factory set, adjustable between 2-1500 seconds by a qualified dealer*
Engine warm up delay.....	5 seconds
Standby voltage sensor.....	60% for 5 seconds
Utility voltage pickup.....	> 80%
Re-transfer time delay.....	15 seconds
Engine cool-down timer.....	60 seconds
Exerciser.....	12 minutes every 7 days

The transfer switch can be operated manually without power applied.

*When used in conjunction with units utilizing Evolution™ controls

Specifications

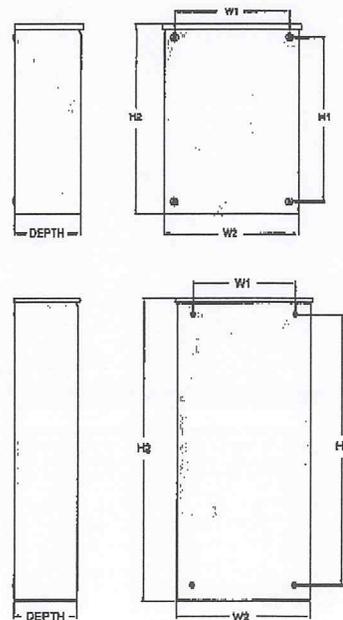


Model	RTSC100A3	RTSW100A3	RTSW150A3	RTSC200A3	RTSW200A3	RTSW300A3	RTSC400A3	RTSW400A3
Amps	100	100	150	200	200	300	400	400
Voltage	120/240, 1Ø	120/240, 1Ø	120/240, 1Ø	120/240, 1Ø	120/240, 1Ø	120/240, 1Ø	120/240, 1Ø	120/240, 1Ø
Load Transition Type (Automatic)	Open Transition	Open Transition Service Rated	Open Transition Service Rated	Open Transition	Open Transition Service Rated	Open Transition Service Rated	Open Transition	Open Transition Service Rated
Enclosure Type	NEMA/UL 3R	NEMA/UL 3R	NEMA/UL 3R	NEMA/UL 3R	NEMA/UL 3R	NEMA/UL 3R	NEMA/UL 3R	NEMA/UL 3R
UL Rating	UL/CUL	UL	UL	UL/CUL	UL	UL	UL/CUL	UL
Withstand Rating (Amps)	10,000	10,000	22,000	10,000	22,000	22,000	22,000	22,000
Lug Range	1/0 - #14		250 MCM - #6			600 MCM - #4 or 1/0 - 250 MCM		

Dimensions



Model	RTSC100A3	RTSW100A3	RTSW150A3	RTSC200A3	RTSW200A3	RTSW300A3	RTSC400A3	RTSW400A3	
Height (in./mm)	H1	17.24/437.9	17.24/437.9	26.75/679.4	17.24/437.9	26.75/679.4	42.91/1089.9	31.25/793.8	42.91/1089.9
	H2	20/508	20/508	30/762	20/508	30/762	48/1219.2	38/914.4	48/1219.2
Width (in./mm)	W1	12.5/317.5	12.5/317.5	10.5/266.7	12.5/317.5	10.5/266.7	18.69/473.9	19.18/487.2	16.69/423.9
	W2	14.6/370.8	14.6/370.8	13.5/342.9	14.6/370.8	13.5/342.9	21.82/554.2	24/609.6	21.82/554.2
Depth (in./mm)	7.09/180.1	7.09/180.1	6.3/160.1	7.09/180.1	6.3/160.1	10.06/255.5	10.06/255.5	10.06/255.5	
Weight (lbs./kilos)	20/9.07	22.5/10.21	39/17.69	20/9.07	39/17.69	140/63.5	133/60.33	140/63.5	



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Generac Power Systems 5 Year (5M) Limited Warranty for Standby Generators

For the period of warranty noted below, and upon the successful start-up and/or on-line activation of the unit, Generac Power Systems, Inc. "Generac" warrants that its Generator and/or transfer switch system will be free from defects in material and workmanship for the items and period set forth below. Generac will, at its discretion, repair or replace any part(s) which, upon evaluation, inspection and testing by Generac or an Authorized Generac Service Dealer, is found to be defective. Any equipment that the purchaser/owner claims to be defective must be evaluated by the nearest Authorized Generac Service Dealer. Emissions components are excluded from coverage under this extended warranty. Emissions warranty coverage is detailed in a separate emissions warranty.

Warranty Coverage: Warranty coverage period is for Five (5) years or two-thousand (2,000) hours, whichever occurs first.

Warranty Coverage Year(s)	1-2	3	4-5
USA, USA Territories, Canada	Parts, Labor and Limited Travel	Parts Only	Major Parts Component Only
International ¹	Parts, Labor and Limited Travel	Parts Only	None

¹Units sold for international use are limited to 1,000 hours of use.

Guidelines:

1. Warranty begins upon the successful start-up and/or on-line activation of the unit.
2. Unit must be registered and proof of purchase available.
3. Any and all warranty repairs and/or concerns must be performed and/or addressed by an Authorized/Certified Generac Service Dealer, or branch thereof. Repairs or diagnostics performed by individuals other than Authorized/Certified Generac Service Dealers not authorized in writing by Generac will not be covered.
4. This Warranty is transferable between ownership of original install site.
5. Generac supplied engine coolant heaters (block-heaters), heater controls and circulating pumps are only covered during the first year of the warranty provision.
6. Generac may choose to repair, replace or refund a piece of equipment in its sole discretion.
7. Enclosures are warranted against rust for the first year of ownership only. Damage caused after receipt of generator is the responsibility of the owner and is not covered by this warranty. Nicks, scrapes, dents or scratches to the painted enclosure should be repaired promptly by the owner.
8. Warranty only applies to permanently wired and mounted units.
9. Damage to any covered components or consequential damages caused by the use of a non-OEM part will not be covered by the warranty.
10. Proof of performance of all required maintenance must be available.
11. Travel allowance is limited to 100 miles maximum and seven and half (3) hours maximum (per occurrence, whichever is less) round trip from the nearest Authorized Generac Dealer. Any additional travel required will not be covered.

The following will NOT be covered by this warranty:

1. Costs of normal maintenance (i.e. tune-ups, associated part(s), adjustments, loose/leaking clamps, installation and start-up).
2. Damage/failures to the generator and/or transfer switch system caused by accidents, shipping, handling, or improper storage.
3. Damage/failures caused by operation with improper fuels, speeds, loads or installations other than what's recommended or specified by Generac Power Systems.
4. Damage to the generator and/or transfer switch due to the use of non-Generac parts and/or equipment, contaminated fuels, oils, coolants/antifreeze or lack of proper fuels, oil or coolants/antifreeze.
5. Failures due to normal wear and tear, accident, misuse, abuse, neglect, improper installation, improper sizing, or rodent and/or insect infestation.
6. Rental equipment used while warranty repairs are being performed and/or any extraordinary equipment used for removal and/or reinstallation of generator (i.e. cranes, hoists, lifts, et. al.).
7. Planes, ferries, railroad, buses, helicopters, snowmobiles, snowcats, off-road vehicles or any other mode of transport deemed not standard by Generac.
8. Products that are modified or altered in a manner not authorized by Generac in writing.
9. Starting batteries, fuses, light bulbs, engine fluids and any related labor.
10. Steel enclosures that rust as a result of improper installation, location in a harsh or salt water environment, or are scratched where the integrity of applied paint is compromised.
11. Units sold, rated or used for "Prime Power", "Trailer Mounted" or "Rental Unit" applications as defined by Generac. Contact an Authorized Generac Service Dealer for definitions.
12. Shipping costs associated with expedited shipping.
13. Additional costs for overtime, holiday or emergency labor costs for repairs outside of normal business hours.
14. Any incidental, consequential or indirect damages caused by defects in materials or workmanship, or any delay in repair or replacement of the defective part(s).
15. Failures caused by any act of God or external cause including without limitation, fire, theft, freezing, war, lightning, earthquakes, windstorm, hail, water, tornado, hurricane, or any other matters which are reasonably beyond the manufacturer's control.

THIS WARRANTY SUPERSEDES ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, SPECIFICALLY, GENERAC MAKES NO OTHER WARRANTIES AS TO THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ANY IMPLIED WARRANTIES WHICH ARE ALLOWED BY LAW, SHALL BE LIMITED IN DURATION TO THE TERMS OF THE EXPRESS WARRANTY PROVIDED HEREIN. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. GENERAC'S ONLY LIABILITY OR CONSEQUENTIAL DAMAGES, EVEN IF SUCH DAMAGES ARE A DIRECT RESULT OF GENERAC'S NEGLIGENCE, SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU ALSO HAVE OTHER RIGHTS FROM STATE TO STATE.

FOR AUSTRALIA ONLY: Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. For Service or other product inquiries in Australia, please contact Allpower by phone at 1800-333-428 or visit Allpower's website at www.allpower.com.au.

FOR NEW ZEALAND ONLY: Nothing in this warranty statement excludes, restricts or modifies any condition, warranty right or remedy which pursuant to the New Zealand Legislation (Commonwealth or State) including the Fair Trading Practices Act of 1988 or the Consumer Guarantees Act 1993 ("CGA") applies to this limited warranty and may not be so excluded, restricted or modified. Nothing in this statement is intended to have the effect of contracting out of the provisions of the CGA, except to the extent permitted by that Act, and these terms are to be modified to the extent necessary to give effect to that intention. If you acquire goods from Generac Power Systems or any of its authorized resellers and distributors for the purposes of a business, then pursuant to section 43(2) of the CGA, it is agreed that the provisions of the CGA do not apply. For Service or other product inquiries in New Zealand, please contact Allpower by phone at 09-268-1160 or visit Allpower's website at www.allpower.com.nz.

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To locate the nearest Authorized Dealer and to download schematics, exploded views and parts lists
visit our website: www.generac.com

Part No. 0L0258

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