



Purchasing Department
113 Mable T. Willis Blvd.
Walterboro, SC 29488
843.782.0504

BID: CPST-13
Tax Payer Service Center

Due: Thursday, March 18, 2021 at 11:00am

ADDENDUM 4

Dated: March 4, 2021

1. Spec section 28-31-11, page 2, and paragraph 2.1 A, notes that the new fire alarm must be compatible with the existing system. What is the manufacture/model of the existing system?
Answer: This note in this specification is intended for renovation projects. It is not applicable in this instance. There is no compatibility requirements for the new fire alarm system.
2. There is a lightning plan that looks like it is a generic plan in the electrical section but that he cannot find an architectural plan or other notes as to where any lightning rods are to be placed on the building? **Answer:** Lightning protection is a deferred design similar to fire suppression or fire alarm. The electrician or GC would need to engage a certified lightning protection vendor and get a turnkey price for a deferred design and installation. Once selected, based on our specification and details, the lightning protection vendor will provide a final design plan for review and approval by the owner and A/E team.
3. There is a conflict between the plans and specs on the ceiling tile. The material legend on A140 calls out USG 4801 which is a pebbled-texture 2x2 square-edge tile; the specs call out USG 87200 which is their Mars fine-texture 2x2 with SLT reveal-edge?
Answer: The specification is to be followed instead of the material legend.
4. Plans call for a 25' slide gate for equipment access. The fence layout will not allow of a slide gate unless it's mounted to the outside of the fence – which wouldn't look the best. Would a 25' Double swing gate be acceptable here? **Answer:** Yes, a 25' double swing gate would be acceptable here in lieu of a 25' sliding cantilevered gate.
5. The number assigned to two of the doors changed. In the plans you sent me, and thus what my quote & specs referenced, 105b was the public side of the conference room. In the final drawings released in the bid, 105a was the public side of the conference room. That wouldn't

- be a crazy big deal if the employee hallway side, which WAS listed as 105a and is now 105b, was also changed to a set of double doors. That has thrown off the hardware spec as well, because the architects put some access control hardware specs for a set of double doors but nothing for the single public door. **Answer:** There is to be access control at Door #105a and no access control at Door #105b per the E401 drawing. Door hardware set for Door #105a should be HW-07.
6. Is there a preference for the Ceramic Tile to have Ceramic Tile Trims or to be “Non-Ceramic” Schluter Trims? It appears the specs call for either/or. **Answer:** We prefer the non-ceramic Schuler trim option. We would direct to delete spec section 1.01/C as well as 2.02/A.
 7. After reviewing the areas where steel border is to be installed, the total area for the lawn and mechanical area is 550 lf. There is an additional area at the back of the property between the lawn and the mulch disturbed area which would be an additional 240 lf of steel border, please verify that this area should be included and the steel border to be used is 1/8” rather than the 3/16”x 4”. **Answer:** This area should be included and the steel border to be used is the 3/16”x 4”.
 8. The hardware schedule is missing door #124. Also, there are two doors listed on the hardware schedule (102 & 131) that are not on the door schedule or the floor plan. Please clarify. **Answer:** Door #124 should have hardware set HW-04 as noted on the Door Schedule. Doors listed in the hardware schedule that are not on the door schedule should be ignored.
 9. Who is to provide the Generator and the Automatic Transfer Switch? What are the specifications for each? **Answer:** Generator and Transfer Switch are to be Contractor furnished and Contractor installed and must be a Generac System. No substitutions are allowed. Refer to attached cut-sheets.
 10. The plan called for parallel lines from the existing 6” water line to the newly installed meters. Please make sure that there is only a single line installed in the ROW that will accommodate the flow for both the irrigation and domestic meters. **Answer:** The utility plan has been updated to have 1 – 2” tap into the 6” main and a 2” line will run up to the site. We have a 2” domestic meter at the property line. Before the meter is to tap with ¾” line to provide irrigation meter to the site as well. Refer to the attached drawing.

GRADING, DRAINAGE, & UTILITY LEGEND:

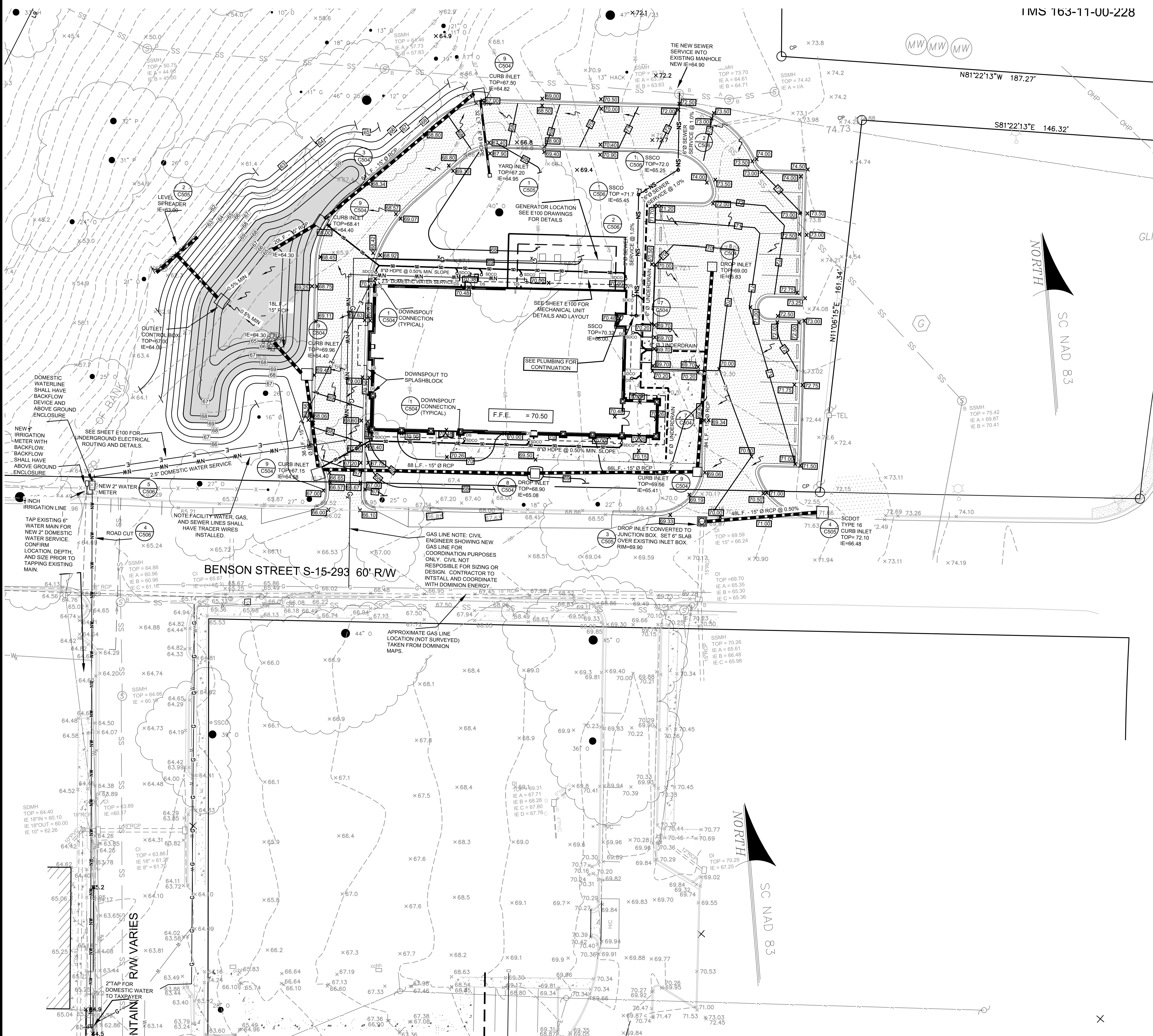
- [7.60] — FINISHED GRADE ELEVATION
- DRAINAGE DIRECTIONAL ARROW
- DI — DROP INLET
- HDPE — HIGH DENSITY POLYETHYLENE PIPE
- RCP — REINFORCED CONCRETE PIPE
- CO — STORM CLEAN OUT
- NEW STORM DRAIN PIPE
- SD — STORM DRAINAGE TO BE LOCATED BY OTHERS
- NS — NEW SANITARY SEWER GRAVITY
- NW — NEW POTABLE WATER

GRADING NOTES:

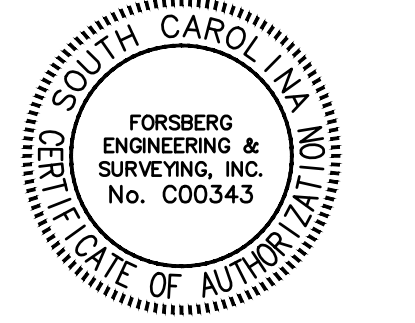
- 1) NEW STORM DRAINAGE AND SANITARY SEWER LINES SHALL BE LAID UPGRADE AFTER CONFIRMATION OF EXISTING INVERT ELEVATIONS.
- 2) SEE SHEET C101 FOR SWPPP PLAN AND SEQUENCE OF CONSTRUCTION NOTES.
- 3) SEE LANDSCAPE PLANS AND TREE LOCATIONS & HARDSCAPE LAYOUT.
- 4) SEE SHEET C507 FOR SEWER NOTES.
- 5) SEE SHEET C506 FOR WATER SYSTEM NOTES.
- 6) ALL WORK INVOLVING CPWS LINES AND STRUCTURES SHALL BE DONE BY A CONTRACTOR FROM CPWS "APPROVED CONTRACTORS" LIST.
- 7) CONTRACTOR SHALL EXCAVATE EXISTING SANITARY SEWER LINE TO CONFIRM LOCATION & DEPTH.
- 8) SEE LANDSCAPE PLANS FOR SIDEWALK DETAILS.
- 9) SEE ARCHITECTURAL PLANS FOR FINAL BUILDING DIMENSIONS AND LAYOUT.
- 10) CONTRACTOR IS RESPONSIBLE OF ALL SWPPP AS-BUILTS.
- 11) EXISTING AND NEW SSMH, WM, WV, DRAINAGE, FIRE HYDRANTS, INLETS ETC. MUST BE ADJUSTED TO FINAL FINISHED GRADES. MINOR ADJUSTMENT MAY BE NECESSARY.
- 12) PRIOR TO PAVING, CONTRACTOR SHALL VERIFY THAT FINE GRADED BASE COURSE MEETS REQUIRED GRADES SUCH AS TO AVOID "BIRD BATH" AREAS ON FINAL PAVEMENT.
- 13) LANDSCAPING AND IRRIGATION RESPONSIBILITY OF CONTRACTOR.

PRE VERSUS POST TABLE

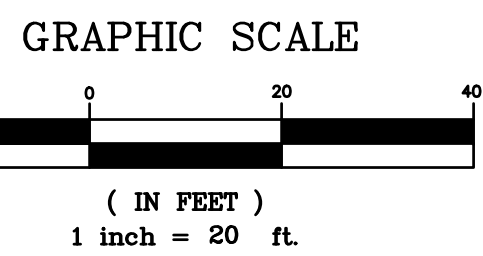
YEAR	PRE(cfs)	POST(cfs)	ELEV.
2	2.0	1.7	66.3
10	4.2	3.6	67.9
25	5.8	5.6	68.5
100	9.1	9.7	69.3



REV.	DATE	DESCRIPTION
1	3.11.21	DOMESTIC WATER LINE REVISIONS



CONSIDERABLE EFFORT HAS BEEN MADE TO DETERMINE THE LOCATION OF UNDERGROUND UTILITIES. SOME LOCATIONS ARE ACTUAL FIELD MEASUREMENTS AND SOME ARE TAKEN FROM UTILITY RECORDS. THIS PLAN DOES NOT WARRANT THAT UTILITIES ARE SHOWN ACCURATELY NOR THAT ALL UTILITIES ARE SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES PRIOR TO BEGINNING DIGGING OPERATIONS. CALL PALMETTO UTILITIES PROTECTION SERVICE AT 1-888-721-7877 A MINIMUM OF 3 WORKING DAYS BEFORE DIGGING. ANY UTILITIES DAMAGED OR DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. ADDITIONALLY, THE CONTRACTOR SHALL CONFIRM THE CONNECTION POINTS OF NEW UTILITIES TO EXISTING UTILITIES PRIOR TO BEGINNING NEW CONSTRUCTION.



TAXPAYER SERVICE CENTER
COLLETON COUNTY
118 BENSON STREET
WALTERBORO, SC 29488

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 JOB NUMBER: 1904
 PROJECT MGR: SH
 DRAWN BY: TL
 CHECKED BY: GL
 APPROVED BY: TL
 DATE ISSUED FOR: CDS 11/23/2020

GRADING, DRAINAGE, & UTILITY PLAN

C401

Standby Generators

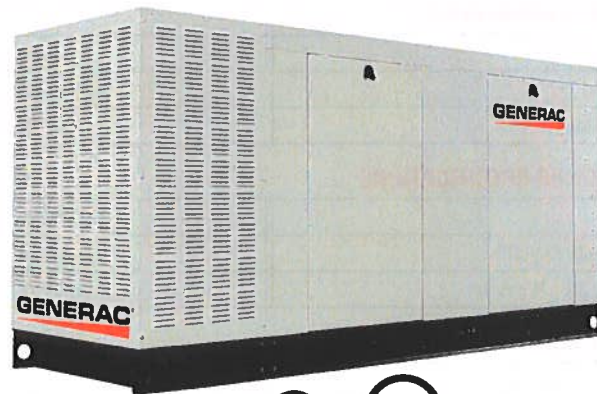
Standby Generators Liquid-Cooled Gaseous Engine

INCLUDES:

- Two Line LCD Tri-Lingual Digital Nexus™ Controller
- 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
- 2 Year Limited Warranty
- UL 2200 Listed

Standby Power Rating

- Model QT070 (Aluminum - Bisque) - 70 kW 60 Hz
- Model QT080 (Aluminum - Bisque) - 80 kW 60 Hz
- Model QT100 (Aluminum - Bisque) - 100 kW 60 Hz
- Model QT130 (Aluminum - Bisque) - 130 kW 60 Hz
- Model QT150 (Aluminum - Bisque) - 150 kW 60 Hz



QUIET-TEST™

Meets EPA Emission Regulations

70, 100, 130 & 150 kW meet CA/MMA emissions requirement with optional catalyst
80 kW not for sale in CA/MMA

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.

70 • 80 • 100 • 130 • 150 kW**application & engineering data****GENERATOR SPECIFICATIONS**

Type	Synchronous
Rotor Insulation Class	H
Stator Insulation Class	H
Telephone Interference Factor (TIF)	< 50
Alternator Output Leads 1-Phase	4 wire
Alternator Output Leads 3-Phase	6 wire (70, 80 & 150 kW) or 12 wire (100 & 130 kW)
Bearings	Sealed Ball
Coupling	Flexible Disc (70, 80 & 150 kW) or Gear Drive (100 & 130 kW)
Excitation System	Brushless

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 Amp
Recommended Battery (battery not included)	Group 24F, 525 CCA (70, 80 & 150 kW) or Group 27F, 700 CCA (100 & 130 kW)
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 NEMA rated All models fully prototyped tested</p>
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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: 80 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 SPECIFICATIONS: 70, 100, 130 & 150 kW

Make	Generac
Model	V-Type
Cylinders	10
Displacement (Liters)	6.8
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 (q/l)	5/4.7 (70, 100, 130 & 150 kW) or 6/5.7 (80 kW)

ENGINE COOLING SYSTEM

Type	Closed
Water Pump	Belt driven
Fan Speed (rpm)	2300 - 70 kW 2174 - 80 kW 1670 - 100 kW 1950 - 130 kW 2200 - 150 kW
Fan Diameter (in/mm)	22/558.8 (70 kW) or 26/660.4 (80, 100, 130 & 150 kW)
Fan Mode	Pusher (70 kW) or Puller (80, 100, 130 & 150 kW)

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" water column/21-26 mm HG

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

70 • 80 • 100 • 130 • 150 kW

operating data

GENERATOR OUTPUT VOLTAGE/kW - 60 Hz

		kW LPG	Amp LPG	kW Nat. Gas	Amp Nat. Gas	CB Size (Both)
QT070	120/240 V, 1Ø, 1.0 pf	67	292	64	267	300
	120/208 V, 3Ø, 0.8 pf	70	243	67	232	300
	120/240 V, 3Ø, 0.8 pf	70	211	67	201	250
	277/480 V, 3Ø, 0.8 pf	70	105	67	101	125
QT080	120/240 V, 1Ø, 1.0 pf	77	333	77	333	400
	120/208 V, 3Ø, 0.8 pf	80	278	80	278	300
	120/240 V, 3Ø, 0.8 pf	80	241	80	240	300
	277/480 V, 3Ø, 0.8 pf	80	120	80	120	150
QT100	120/240 V, 1Ø, 1.0 pf	100	417	89	371	450
	120/208 V, 3Ø, 0.8 pf	100	347	94	326	400
	120/240 V, 3Ø, 0.8 pf	100	301	94	283	350
	277/480 V, 3Ø, 0.8 pf	100	150	94	141	175
QT130	120/240 V, 1Ø, 1.0 pf	130	542	117	488	600
	120/208 V, 3Ø, 0.8 pf	130	451	122	423	500
	120/240 V, 3Ø, 0.8 pf	130	391	122	367	450
	277/480 V, 3Ø, 0.8 pf	130	195	122	183	225
QT150	120/240 V, 1Ø, 1.0 pf	144	625	136	567	700
	120/208 V, 3Ø, 0.8 pf	150	520	142	493	600
	120/240 V, 3Ø, 0.8 pf	150	451	142	427	500
	277/480 V, 3Ø, 0.8 pf	150	225	142	214	250

SURGE CAPACITY IN AMPS

		Voltage Dip @ < .4 pf	
		15%	30%
QT070	120/240 V, 1Ø	129	356
	120/208 V, 3Ø	194	471
	120/240 V, 3Ø	168	408
	277/480 V, 3Ø	83	201
QT080	120/240 V, 1Ø	174	435
	120/208 V, 3Ø	186	466
	120/240 V, 3Ø	161	404
	277/480 V, 3Ø	70	175
QT100	120/240 V, 1Ø	150	413
	120/208 V, 3Ø	186	452
	120/240 V, 3Ø	161	392
	277/480 V, 3Ø	107	261
QT130	120/240 V, 1Ø	236	648
	120/208 V, 3Ø	364	885
	120/240 V, 3Ø	315	767
	277/480 V, 3Ø	161	390
QT150	120/240 V, 1Ø	486	1214
	120/208 V, 3Ø	534	1334
	120/240 V, 3Ø	463	1156
	277/480 V, 3Ø	250	624

ENGINE FUEL CONSUMPTION

		Natural Gas		Propane		
		(ft³/hr)	(m³/hr)	(gal/hr)	(l/hr)	(ft³/hr)
QT070	Exercise cycle	110	3.1	1.2	4.6	44
	25% of rated load	260	7.4	2.85	10.8	104
	50% of rated load	500	14.2	5.46	20.8	200
	75% of rated load	696	19.8	7.62	29.1	280
	100% of rated load	1020	29	11.17	42.6	411
QT080	Exercise cycle	95	2.7	1.4	5.51	53
	25% of rated load	549.5	15.6	3.46	13.11	126
	50% of rated load	784.4	22.2	6.62	25.1	241
	75% of rated load	1024.8	29.0	9.24	34.96	336
	100% of rated load	1252.2	35.5	12.78	48.38	465
QT100	Exercise cycle	130	3.7	1.4	5.4	52
	25% of rated load	371	10.5	4.1	15.5	149
	50% of rated load	713	20.3	7.9	29.8	287
	75% of rated load	991	28.2	11	41.5	400
	100% of rated load	1260	35.8	13.9	52.6	507
QT130	Exercise cycle	135	3.8	1.4	5.7	55
	25% of rated load	482	13.7	5.3	20	193
	50% of rated load	927	26.3	10.3	38.7	373
	75% of rated load	1292	36.7	14.3	54	520
	100% of rated load	1786	50.8	19.8	74.6	719
QT150	Exercise cycle	155	4.4	1.7	6.5	63
	25% of rated load	556	15.8	6.09	23.2	224
	50% of rated load	1070	30.4	11.72	44.7	431
	75% of rated load	1491	42.4	16.33	62.3	600
	100% of rated load	2061	58.6	22.57	86.1	830

Note: Fuel pipe must be sized for full load.

For Btu content, multiply gal/hr x 90950 (LP) or ft³/hr x 1000 (NG).

For megajoule content, multiply l/hr x 25.35 (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.

70 • 80 • 100 • 130 • 150 kW**operating data****ENGINE COOLING**

	70 kW	80 kW	100 kW	130 kW	150 kW
Air flow (inlet air including alternator and combustion air in ft ³ /min)	5200/147.2	5300/150.1	5500/155.7	6450/182.6	7800/220.9
System coolant capacity (gal/liters)	4.5/17	4/15.1	4.5/17	4.5/17	4.5/17
Heat rejection to coolant (BTU/hr)	287,000/302.8	316,000/333.4	342,000/360.8	496,000/523.3	568,000/599.3
Maximum operation air temperature on radiator (°C/°F)	60/150				
Maximum ambient temperature (°C/°F)	50/140				

COMBUSTION REQUIREMENTS

	70 kW	80 kW	100 kW	130 kW	150 kW
Flow at rated power (cfm/cmm)	205/5.8	143/4	262/7.4	336/9.5	410/11.6

SOUND EMISSIONS

	70 kW	80 kW	100 kW	130 kW	150 kW
Sound output in dB(A) at 23 ft (7 m) with generator in exercise mode*	64	65	68	69	66
Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load*	72	74	72	75	79

*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

	70 kW	80 kW	100 kW	130 kW	150 kW
Exhaust flow at rated output (cfm/cmm)	557/15.8	720/20.4	888/25.1	1119/31.7	1535/43.5
Exhaust temperature at muffler outlet (°C/°F)	477/890	796/1465	516/960	521/970	593/1100

ENGINE PARAMETERS

	70 kW	80 kW	100 kW	130 kW	150 kW
Rated Synchronous rpm	1800	3600	2300	2970	3600

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 (70,100,130 & 150)	1% for every 100 m above 183 m or 3% for every 1000 ft above 600 ft
Altitude Deration (80 kW)	1% for every 100 m above 915 m or 3% for every 1000 ft above 3000 ft

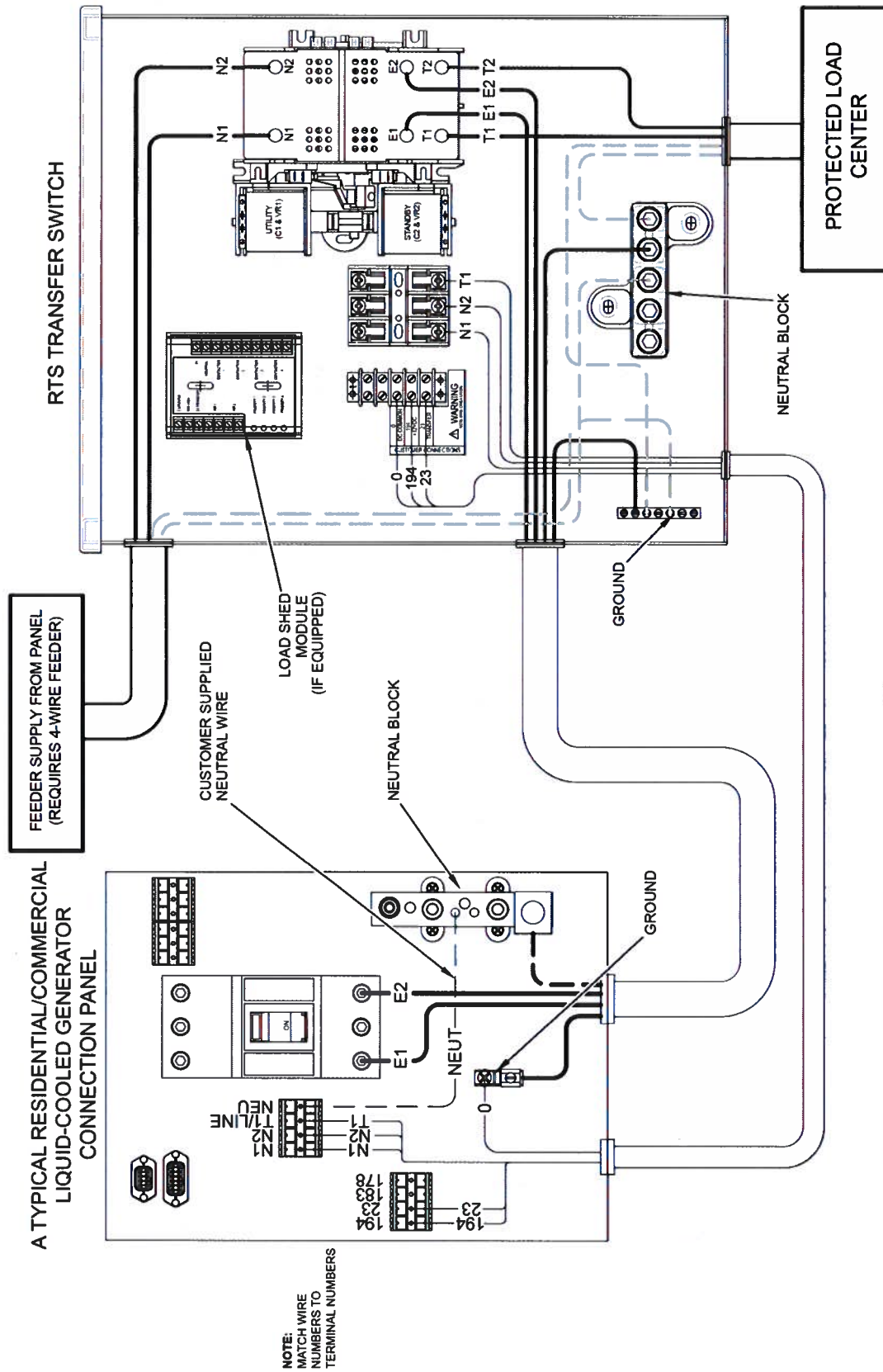
CONTROLLER FEATURES

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

Model #	Product	Description
G006463-4	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™.
G005632-1 - 70, 80 & 150 kW G005633-0 - 100 & 130 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.
G005620-0 - 70, 100 & 130 kW G006204-0 - 80 kW G005667-0 - 150 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.
G005703-0	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.
G005660-0 - 70, 100, 130, and 150 kW G006915-0 - 80 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.
G007005-0	Wi-Fi LP Fuel Level Monitor	The Wi-Fi enabled LP fuel level monitor provides constant monitoring of the connected LP fuel tank. Monitoring the LP tank's fuel level is an important step in making sure your generator is ready to run during an unexpected power failure. Status alerts are available through a free application to notify when your LP tank is in need of a refill.
G006510-0	E-Stop	E-stop allows for immediate fuel shutoff and generator shutdown in the event of an emergency.

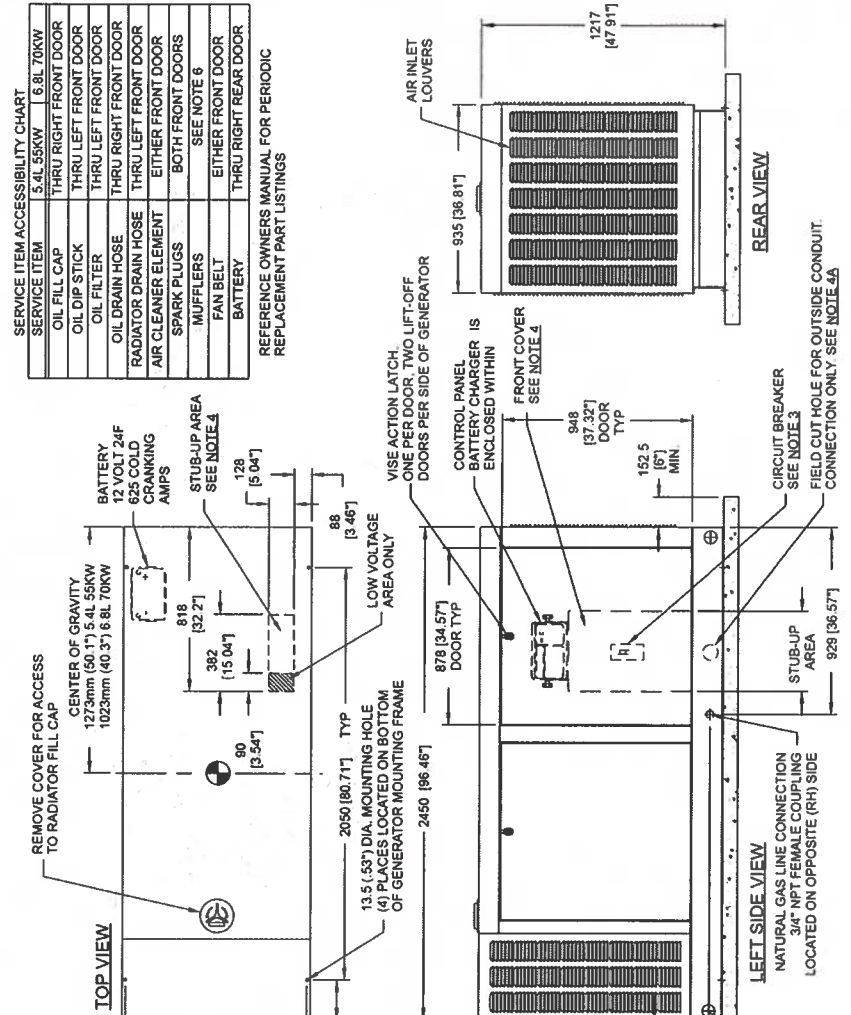
70 • 80 • 100 • 130 • 150 kW

Drawing #0H7452-D



Note: Use the generator's specific installation manual and wiring diagrams to verify generator wiring connections, as they may differ slightly from illustration.

LIQUID COOLED INSTALLATION



SERVICE ITEM ACCESSIBILITY CHART

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

REFERENCE OWNERS MANUAL FOR PERIODIC REPLACEMENT PART LISTINGS

WEIGHT DATA

ENGINE/GENERATOR TYPE	WEIGHT (P/NO)	WEIGHT (P/NO)	WEIGHT (P/NO)	WEIGHT (P/NO)
5.4L/55KW	803 (360)	79 (3.5)	900 (405)	1000 (450)
6.8L/70KW	905 (410)	79 (3.5)	1000 (450)	1000 (450)

- NOTES:**
- 1) MINIMUM RECOMMENDED CONCRETE PAD SIZE: 1240 (48.8") WIDE X 2756 (108.5") LONG. REFERENCE INSTALLATION GUIDE SUPPLIED WITH UNIT FOR CONCRETE PAD GUIDELINES.
 - 2) ALLOW SUFFICIENT ROOM ON ALL SIDES OF THE GENERATOR FOR MAINTENANCE AND SERVICE. CLEARANCE SHOULD BE MAINTAINED IN ACCORDANCE WITH CURRENT APPLICABLE NFPA 31 AND NFPA 70 STANDARDS AS WELL AS ANY OTHER FEDERAL, STATE AND LOCAL CODES FOR MINIMUM DISTANCES FROM OTHER STRUCTURES.
 - 3) CIRCUIT BREAKER INFORMATION SEE SPECIFICATION SHEET WITHIN OWNERS MANUAL.
 - 4) INSIDE STUB-UP AREA FOR AC LOAD LEAD CONDUIT CONNECTION, NEUTRAL CONNECTION, BATTERY CHARGER, 120 VOLT AC (5 AMP MAX.) CONNECTION, AND ACCESS TO TRANSFER SWITCH CONTROL WIRES. REMOVE FRONT COVER FOR ACCESS.
 - 4A) FIELD CUT-HOLE IS ONLY REQUIRED FOR MOUNTING OF GENERATOR ON AN EXISTING PAD.
 - 5) REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.
 - 6) REMOVE EITHER LEFT OR RIGHT HAND SIDE PANEL TO ACCESS EXHAUST MUFFLERS.

DIMENSIONS: MM [INCH]

80 kW

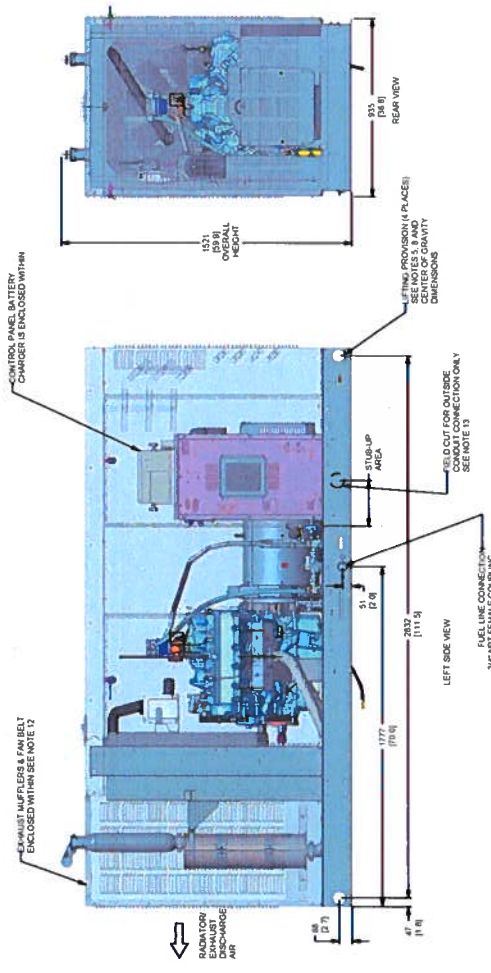
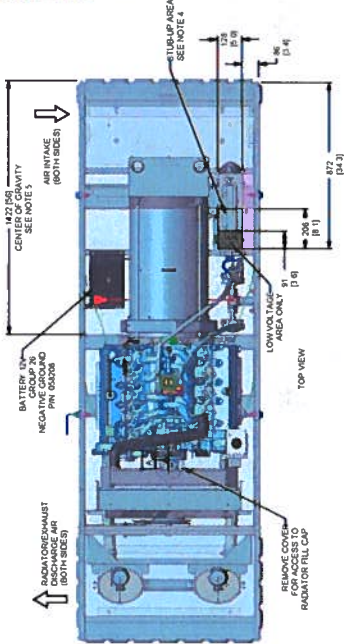
Drawing #0L3178-B

installation layout

- NOTES**
1. MINIMUM RECOMMENDED CONCRETE PAD SIZE: 1'x1' (671 WIDE X 2081 L) LONG. CONCRETE SHOULD BE 4" THICK AND REINFORCED WITH #4 BARS. SEE SPECIFICATIONS FOR MINIMUM REQUIREMENTS.
 2. ALLOW SUFFICIENT ROOM ON ALL SIDES OF THE GENERATOR FOR MAINTENANCE ACCESS. SEE DRAWING FOR DIMENSIONS AND CLEARANCES. ALL DIMENSIONS ARE APPLICABLE IF PA 17 AND MPFA TO STANDARDS AS WELL AS ANY OTHER FEDERAL, STATE AND LOCAL CODES OR REGULATIONS.
 3. CONTACT LOCAL ELECTRICAL INSPECTOR FOR INFORMATION.
 4. SEE PRECIPITATION SHEET OR OWNERS MANUAL.
 5. INSIDE STUB-UP AREA ON AC LOAD LEAD CONDUIT CONNECTION. NEUTRAL CONNECTION TO BE MADE TO THE MAIN SERVICE PANEL. SEE SPECIFICATIONS FOR NEUTRAL CONNECTION SWITCH LOCATIONS. MINIMUM CLEARANCE FROM CONDUIT FOR ACCESS.
 6. CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO BUILT OPTIONS.
 7. EXHAUST MUST BE INSTALLED TO THE OUTSIDE OF THE BUILDING. DISCHARGE AND RECYCLATION OF DISCHARGE AIR AND/OR IMPROVED COOLING AIR FLOW.
 8. EXHAUST SYSTEMS MUST BE PRESSURE TESTED TO VERIFY PROPER OPERATION AND TO ALLOW FREE FLOW OF INTAKE AIR. DISCHARGE AIR AND EXHAUST SHALL BE SPECIFIED FOR MINIMUM AIR FLOW AND MAXIMUM RESTRICTION REQUIREMENTS. SEE SPECIFICATIONS FOR RESTRICTION REQUIREMENTS. RESTRICTIONS SHALL BE INDICATED AND THAT DISCHARGE AIR FROM RADIATORS IS NOT RECYCLED.
 9. MOUNTING BRACKETS OR STUDS TO MOUNTING SURFACE SHALL BE 5/8" X 11 GAUGE. 1/2" MINIMUM SPACING BETWEEN BRACKETS OR STUDS. SEE SPECIFICATIONS FOR MOUNTING SURFACE REQUIREMENTS.
 10. FIELD CUT HOLE IS ONLY REQUIRED FOR MOUNTING OF GENERATOR ON AN EXISTING PANEL.
 11. FIELD CUT HOLE IS ONLY REQUIRED FOR MOUNTING OF GENERATOR ON AN EXISTING PANEL.

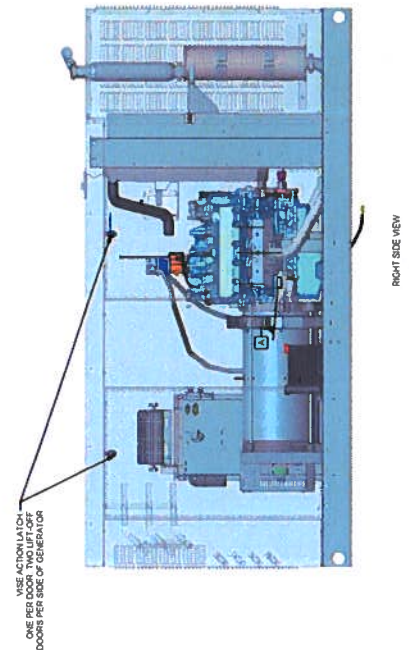
SERVICE ITEM	LOC.
AC LOAD LEAD	LEFT DOOR
OIL DRAIN TRUCK	LEFT DOOR
OIL FILTER	LEFT DOOR
OIL DRAIN HOSE	RIGHT DOOR
RADIATOR DRAIN HOSE	LEFT DOOR
REFRESHMENT	LEFT DOOR
SPARK PLUGS	LEFT DOOR
MUFFLER	SEE NOTE 12
FAN BELT	EITHER DOOR
BATTERY	RIGHT DOOR

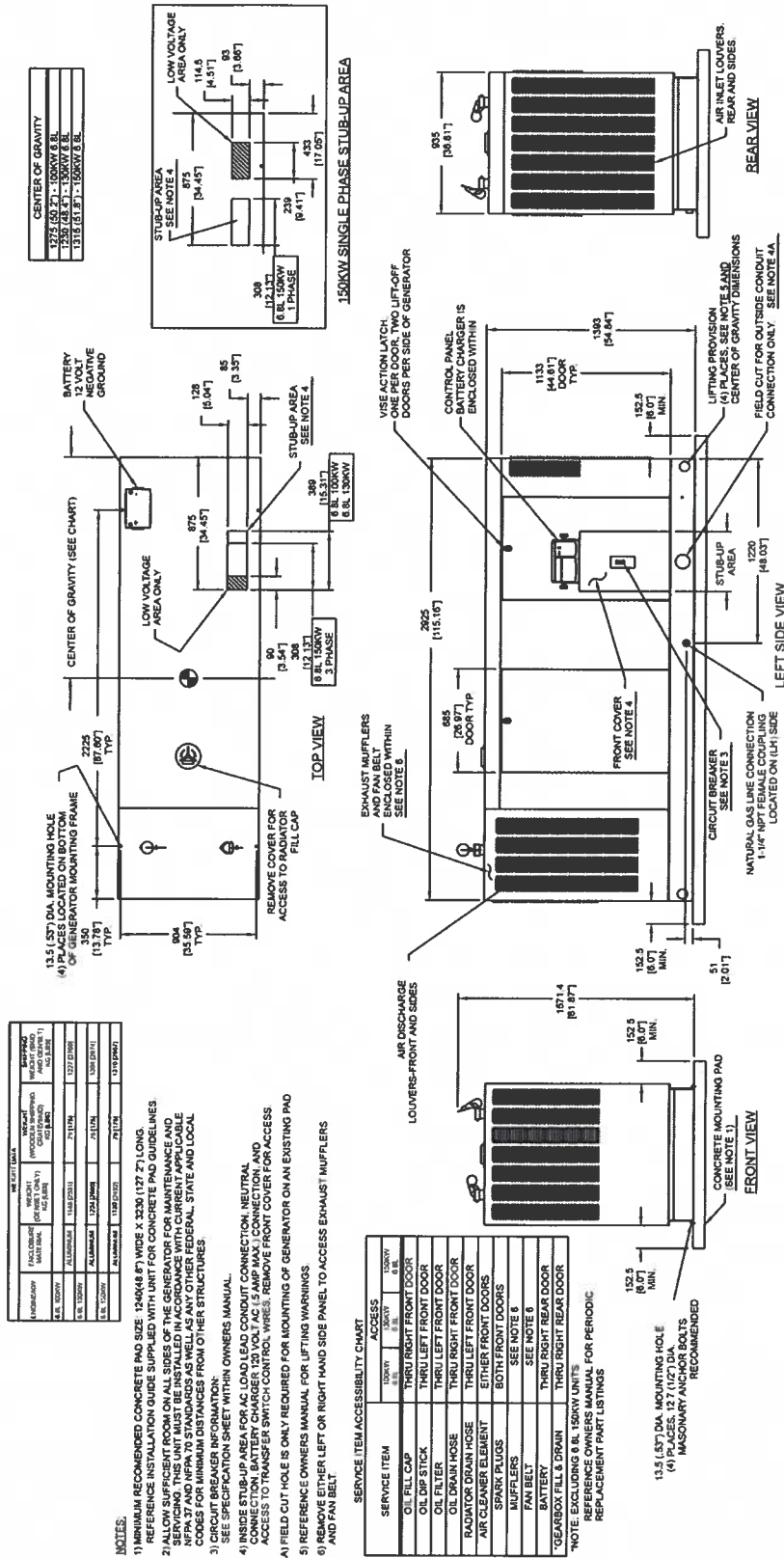
REFERENCE OWNERS MANUAL FOR PERIODIC REPLACEMENT PART LISTINGS



ENGINEERY MATERIAL		WEIGHT DATA	
3 & 4 BRWV	AL	252 (10.3)	292 (13.7)
ENGINEERY MATERIAL	WEIGHT	CE-SET ONLY	SHIPPING SHG
3 & 4 BRWV	AL	252 (10.3)	292 (13.7)
ENGINEERY MATERIAL	WEIGHT	SHIPPING SHG	SHIPPING VOLUME
3 & 4 BRWV	AL	252 (10.3)	292 (13.7)

DIMENSIONS: MM [INCH]





DIMENSIONS: MM [INCH]

Service Entrance Rated
Molded Case Type
Open and Delayed Transition

Power Series Transfer Switch

100-1000 Amps



Automatic Transfer Switch, 100% Service Entrance Rated
100 – 1000A, Available to 600 VAC, 50/60 Hz
Single & Three phase
2, 3 or 4 poles
NEMA 1, 3R, or 4x
Open and Delayed Transition
UL1008 Listed
CSA C22.2 No. 178 Certified

CODES AND STANDARDS:



UL1008 Listed



NFPA 70, 99, 110, 37



NEC 700, 701, 702, 708



ISO9001, 8528, 3046, 7637, Pluses #2b, 4



NEMA ICS10, MG1, 250, ICS6, AB1



ANSI C62.41



Seismic: IBC 2009, CBC 2010, IBC 2012, ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012)



IEC 61000 EMC Testing & Measuring



CSA C22.2 No. 178 Certified

DESCRIPTION:

Generac's Service Entrance Power Series Transfer Switch integrates automatic power switching with required disconnecting, grounding, and bonding for use as service entrance equipment. The integrated service entrance power switch meets all National Electrical Code requirements for service entrance equipment in a compact package. The switches are rated for full load transfers in critical operating, emergency, legally required, and optional power systems.

Designed with integral overcurrent protection and 100% rated disconnect breaker for unmatched performance, safety, and reliability. The internal dead front cover allows for manual operation under load with a permanently affixed handle. The full assembly is listed to UL 1008 with exceptional withstand and close on ratings.

The microprocessor-based ATS controller offers standard features of Modbus® RTU and pretransfer contacts, with 3-Phase sensing on both sources plus load for voltage, frequency, sequencing, loss and unbalance. The mimic diagram displays source availability and connection, providing "at a glance" indication, further simplifying users interface. The controller is designed beyond industry EMC standards with a time-stamped history log.

Power Series, Service Entrance Rated, Molded Case Type, Open and Delayed Transition

STANDARD FEATURES:

- Double-throw, mechanically interlocked transfer mechanism
- High withstand and closing ratings
- LCD-based display for programming, system diagnostics and Help Menu display
- Mimic diagram with Source Available and Connected LED indication
- Top, bottom and side cable entry
- Time-stamped history log
- System TEST pushbutton
- Programmable plant exerciser – OFF, daily, 7 day interval selectable run time 0-600 minutes no load/load with failsafe
- Safe manual operation under full load with permanently affixed operating handle
- Modbus® RTU
- Field programmable time delays

VOLTAGE AND FREQUENCY SENSING:

- 3-Phase under and over voltage sensing on normal and emergency sources, plus load
- Under and over frequency sensing on normal, emergency, and load
- 3-Phase sequence sensing for phase sensitive loads
- 3-Phase voltage unbalance and loss sensing

CONTACTS:

- Source available:
 - Source-1 Present, 2-N.O. & 2 N.C.
 - Source-2 Present, 2-N.O. & 2 N.C.
- Switch position:
 - Source-1 Position, 1-N.O. & 1-N.C.
 - Source-2 Position, 1-N.O. & 1-N.C.
- Pre Transfer Contacts: 1-N.O. & 1-N.C.

OPTIONAL FEATURES:

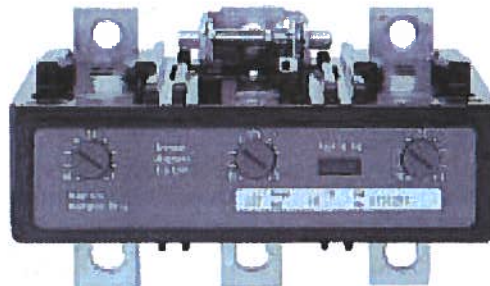
- ATC-900 Digital Controller
- Space Heater with Thermostat
- Digital Multi-function Power Quality Metering
- Ethernet Connectivity
- Remote Annunciator Panel with controller
- Maintenance Selector Switch
- Remote Multi Switch Annunciator Panel with controller
- TVSS
- Stainless steel cover for controller
- Emergency Inhibit
- General Alarm Indication
- Selectable Retransfer
- Manual Generator Retransfer

FAST, POWERFUL AND SAFE POWER SWITCHING MECHANISM:

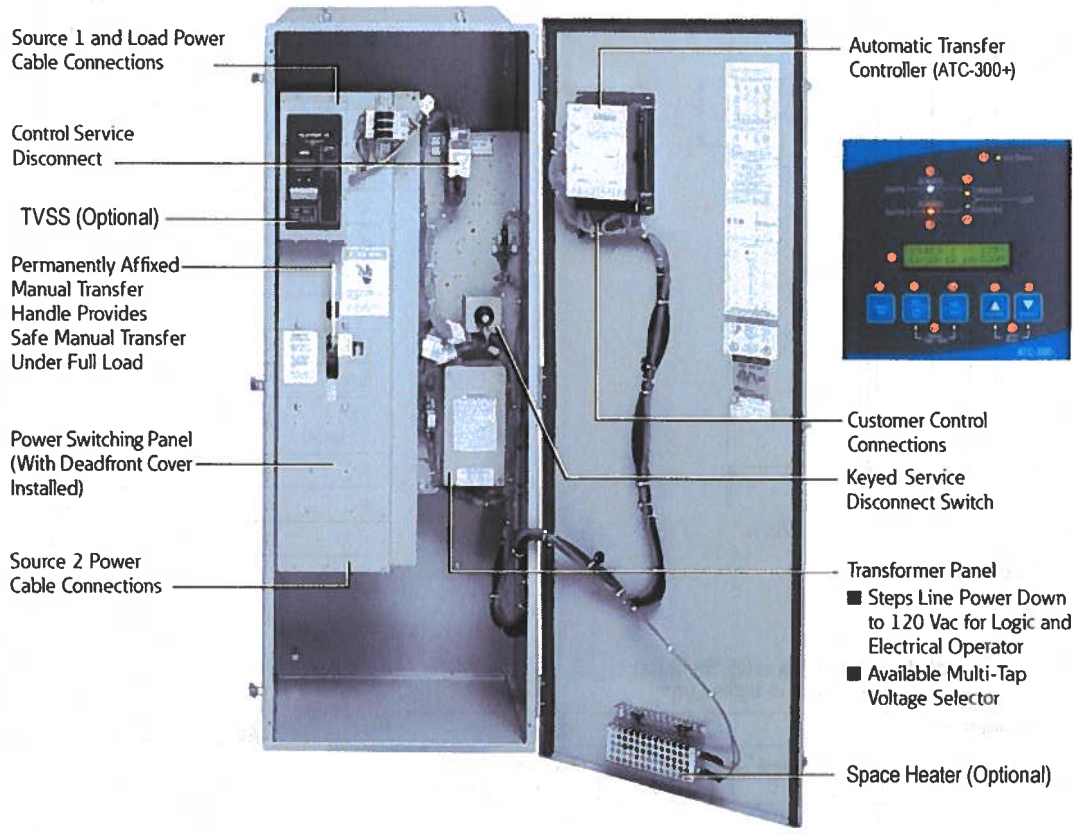
The power panel utilizes a unidirectional gear motor mechanism. The power panel can be operated manually under a full load.

INTEGRAL OVERCURRENT PROTECTION CAPABILITY:

The Service Entrance Power Transfer Switch trip units are integrated in to the power switching section. This eliminates the need for separate upstream protective devices, saving cost and space.



Power Series, Service Entrance Rated, Molded Case Type, Open and Delayed Transition



Components of Automatic Transfer Switches

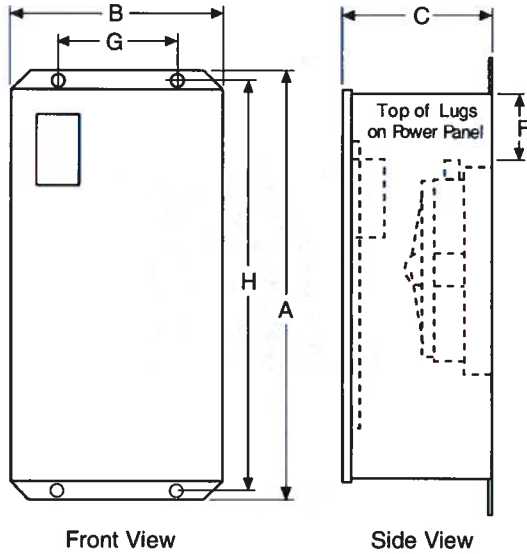
UL1008 Withstand and Close on Ratings as Listed (kA)						
Switch Ampere Rating	3-Cycle Rating			Ratings When Used with Upstream Fuse		
	240 Vac	480 Vac	600 Vac	Maximum Fuse Rating	Fuse Type	600 Vac
100	100	65	25	200	J, T	200
225	100	65	25	400	J, T	200
300	100	65	25	400	J, T	200
400	100	65	25	400	J, T	200
600	100	65 ¹	25	1200	J, T	200
800	65	50 ¹	25	1600	L	200
1000	65	50 ¹	25	1600	L	200

Notes

¹ Four-pole configuration is 35kA for 600, 800 and 1000A.

Power Series, Service Entrance Rated, Molded Case Type, Open and Delayed Transition

UNIT DIMENSIONS:



*Top, bottom and side cable entry

Standard Terminals Dimensions in Inches (mm)

Cu/Al Rated Terminal Lugs (MCM)				
Ampere	Breaker Frame	Normal and Emergency Sources		
		Load	Neutral ¹	
100	HFD	(1) #14-1/0	(1) #14-1/0	(3) #14-1/0
225	HFD	(1) #6-300	(1) #6-300	(3) #4-300
225	HKD	(1) #3-350	(1) #6-350	(3) #4-350
225	HKD	(1) #3-350	(1) #6-350	(3) #4-350
300	HKD	(1) #3-350	(1) #6-350	(3) #4-350
400	HLD	(1) 4/0-600	(2) #1-500	(6) 250-350
600	HLD	(1) 3/0-350	(2) #1-500	(6) 250-350
600	HMDL	(2) #1-500	(2) #1-500	(12) 4/0-500
600 (four-pole)	NB	(3) 3/0-400	(3) 3/0-400	(3) 3/0-500
800	HMDL	(3) 3/0-400	(3) 3/0-400	(12) 4/0-500
800	HNB	(3) 3/0-500	(4) 4/0-500	(12) 4/0-500
1000	HNB	(3) 3/0-500	(4) 4/0-500	(12) 4/0-500

Note

¹ Applies to standard two and three pole configurations with solid neutral.

Molded Case Transfer Switches Dimensions in Inches (mm)

Ampere		Wall Mount Enclosure			Bolt Pattern		Weight Lbs (kg)
		Height A	Width B	Depth ¹ C	Horizontal G	Vertical H	
100	HFD ¹	47.74 (1213.0)	20.81 (528.6)	17.22 (437.0)	10.75 (273.0)	46.44 (1180.0)	232 (105)
225	HFD ¹	35.61 (904.0)	20.06 (509.5)	13.34 (339.0)	10.75 (273.0)	34.31 (904.0)	150 (68)
225	HFD	47.74 (1213.0)	20.81 (528.6)	17.22 (437.0)	10.75 (273.0)	46.44 (1180.0)	232 (105)
225	HKD	56.00 (1422.4)	20.81 (528.6)	18.40 (467.4)	11.00 (279.4)	45.50 (1155.7)	305 (138)
300	HKD	53.00 (1346.2)	25.81 (655.6)	18.40 (467.4)	11.00 (279.4)	53.50 (1358.9)	295 (134)
400	HLD	53.00 (1346.0)	25.81 (655.6)	16.65 (422.9)	16.00 (406.4)	51.50 (1308.0)	425 (193)
600	HLD ¹	64.00 (1625.6)	25.81 (655.6)	18.40 (467.4)	16.00 (406.4)	62.50 (1588.0)	475 (214)
600	HMDL	76.74 (1949.2)	25.81 (655.6)	19.50 (495.3)	16.00 (406.4)	75.15 (1908.8)	480 (218)
800	HMDL ¹	76.74 (1949.2)	25.81 (655.6)	19.50 (495.3)	16.00 (406.4)	75.15 (1908.8)	510 (231)
800-1000	HNB	76.74 (1949.2)	25.81 (655.6)	19.50 (495.3)	16.00 (406.4)	75.15 (1908.8)	540 (245)

Notes

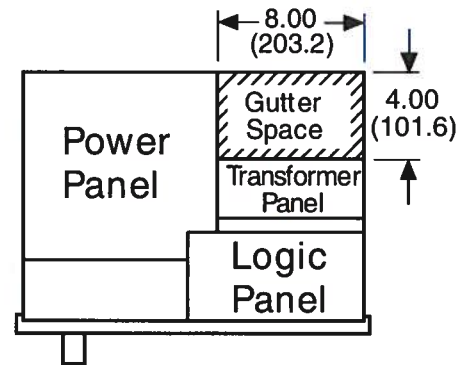
¹ 240/120V, single-phase, three-wire or 208V, three-phase, four-wire systems only, without multi-tap transformer.

* For all dimensions and terminations confirm with submittal information.

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Available Gutter Space



Top View