XG Protector® Series

Protector® Series
Standby Generators
Liquid-Cooled Gaseous Engine

STANDARD FEATURES
- Power Zone® 410 Controller, NFPA 110 System Control Capable
- Padlockable Control Panel Cover with UV Protection
- Cellular Connectivity for Mobile Link and Fleet[1]
- Quiet Operation
- Corrosion Resistant Aluminum Enclosure, Electro-Galvanized Baseframe Components, and Stainless Steel Exhaust System
- 5 Year/2,000 Hour Limited Warranty
- High Motor-Starting & Surge Capacity
- ±1% Digital Voltage Regulation
- <5% Total Harmonic Distortion Power Quality
- Fuel Efficiency
- Controller-Selectable Fuel Type - Propane or Natural Gas
- 1-Phase or Configurable 3-Phase Voltage Output Models
- Single-Side Regular Maintenance Access
- EPA Emissions Certified
- CA & MA Emissions Compliant 40 & 48 kW Models Available
- UL 2200 Listed
- SwRI listed and labeled allowing installation as close as 18 in (457 mm) to a structure[2]
- 145 mph (233 km/h) Wind Speed Rating[3]

1 - Cellular service for the US, Canada, and other supported countries using the Generac Generator Connectivity Accessory, Cellular (GGCAC).

2 - Must be located away from doors, windows, and fresh air intakes and in accordance with all applicable codes and regulations.

3 - Requires correctly prepared concrete pad and anchoring system.

OPTIONAL FIELD-INSTALLABLE FEATURES
Available as field-installable kits
- 3-Phase Voltage Configuration Cartridge (VCC)
- 3-Phase Circuit Breakers (1-Phase Generators Include the Circuit Breaker)
- Generator Ready-Status Indicator
- Push-Button Emergency Stop
- NFPA 110 System Control & Remote Annunciation
- Cold Weather Operation Heaters
- Provisions for Rooftop and Elevated Mounting
- Baseframe Blockoff
- Engine Fluid Containment

STANDBY POWER RATING
Model XG03245 – 32 kW, 60 Hz Emergency Standby Power Generator
Model XG04045 – 40 kW, 60 Hz Emergency Standby Power Generator
Model XG04845 – 48 kW, 60 Hz Emergency Standby Power Generator

Product may vary from above image depending on model.

*Assembled in the USA using domestic and foreign parts

EPA Emissions Certified
CA & MA Emissions Compliant 40 & 48 kW Models Available

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.
- **MOBILE LINK® CONNECTIVITY:** Standard with the Generac Liquid-Cooled XG Protector Series home standby generators, Mobile Link Cellular allows users to monitor the status of their generator from anywhere using a smartphone, tablet, or PC. Easily access real-time operating status, maintenance alerts, and generator readiness. Users can also connect their account to an authorized generator servicer for proactive support and streamlined service. With Mobile Link, users can see their generator is ready before the next power outage.
- **ONE CONFIGURABLE 3-PHASE VOLTAGE MODEL:** Each XG power output 3-phase model can be configured for 208/120, 240/120, or 480/277 V 3-phase output. Every 3-phase XG model is configured at the factory for 208/120 V using a Voltage Configuration Cartridge (VCC). The 3-phase voltage can be changed by the generator installer using a different VCC available as an accessory. The single-piece VCC makes installation simple and error-proof eliminating the need to consult wiring diagrams or require skilled labor. Fewer models with more possibilities.
- **TRUE POWER™ ELECTRICAL TECHNOLOGY:** Superior harmonics and sine wave form produce less than 5% Total Harmonic Distortion for utility quality power. This allows confident operation of sensitive electronic equipment and micro-chip based appliances, such as variable speed HVAC systems.
- **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 service 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 the GENERAC product line is offered with its own transfer systems and controls for total system compatibility.

GENERAC®

GENERATOR SPECIFICATIONS

GENERATOR OUTPUT

PROPANE

Voltage	XG03245		XG04045		XG04845	
	Power (kW)	Current (A)	Power (kW)	Current (A)	Power (kW)	Current (A)
120/240 V 1–Phase	32	133	40	167	48	200
208/120 V 3–Phase	32	111	40	139	48	167
240/120 V 3–Phase	32	96	40	120	48	144
480/277 V 3–Phase	32	48	40	60	48	72

NATURAL GAS

Voltage	XG03245		XG04045		XG04845	
	Power (kW)	Current (A)	Power (kW)	Current (A)	Power (kW)	Current (A)
120/240 V 1-Phase	32	133	40	167	48	200
208/120 V 3-Phase	32	111	40	139	48	167
240/120 V 3-Phase	32	96	40	120	48	144
480/277 V 3-Phase	32	48	40	60	48	72

Emergency Standby Power (ESP) Rating: Standby ratings apply to installations served by a reliable utility source. The ESP rating is applicable to varying loads for the duration of a power outage. The average power output over 24 hours shall not exceed 70% of the ESP rating.

ALTERNATOR SYSTEM

		XG03245	XG04045	XG04845
Voltage Output	1-Phase	120/240 V Only	120/240 V Only	120/240 V Only
	3-Phase	208/120 V; Configurable for 240/120 or 480/277 V with Optional VCC	208/120 V; Configurable for 240/120 or 480/277 V with Optional VCC	208/120 V; Configurable for 240/120 or 480/277 V with Optional VCC
Circuit Breaker (CB) Size (A)	1-Phase	150	200	200
	3-Phase	Not Included; Optional, Field-Installable Kit	Not Included; Optional, Field-Installable Kit	Not Included; Optional, Field-Installable Kit
Alternator Type		Synchronous		
Rotor Insulation Class		F		
Stator Insulation Class		H		
Telephone Interference Factor (TIF)		<50		
Bearings		Sealed Ball		
Coupling		Flexible Disc		
Excitation System		Direct		
Total Harmonic Distortion		<5%		

VOLTAGE REGULATION

Type	Digital
Sensing	All Phases
Regulation	±1%

GENERATOR SPECIFICATIONS

SURGE CAPACITY

Surge Amps at <0.4 Power Factor	XG03245		XG04045		XG04845	
	15% Voltage Dip (A)	30% Voltage Dip (A)	15% Voltage Dip (A)	30% Voltage Dip (A)	15% Voltage Dip (A)	30% Voltage Dip (A)
120/240 V 1-Phase	107	204	117	267	220	340
208/120 V 3-Phase	111	167	139	215	166	266
240/120 V 3-Phase	91	140	114	150	144	230
480/277 V 3-Phase	55	87	63	102	72	129

ENGINE SYSTEM

	XG03245	XG04045	XG04845
Make	Generac		
Model	4.5 L, Inline 4-Cylinder, Naturally Aspirated		
Compression Ratio	9.9:1		
Lifter Type	Hydraulic		
Oil Pump Type	Gear		
Oil Filter Type	Full Flow Spin-on Cartridge		
Crackcase Capacity (qt (L))	12 (11)		
Temperature Derate	1.7% per 10 °F above 77 °F (1.5% per 5 °C above 25 °C)		
Altitude Derate	3% per 1,000 ft above 600 ft (1% per 100 m above 183 m)		
Exercise Speed (rpm)	1,200		
Operating Speed (rpm)	1,800		
Exhaust Flow at Rated Output (cfm (m^3/min))	187 (8.3)	235 (6.7)	280 (7.9)

GOVERNOR

Type	Electronic
Frequency Regulation	Isochronous

COOLING SYSTEM

	XG03245	XG04045	XG04845
Coolant	50/50 (50% Ethylene Glycol)		
Coolant System Capacity (US gal (L))	2.9 (11)		
Water Pump Type	Belt Driven		
Fan Type	Belt Driven		Electric
Fan Quantity	1		3
Maximum Ambient Air Temperature (°F (°C))	122 (50)		

GENERAC®

GENERATOR SPECIFICATIONS

FUEL SYSTEM

Usable Fuels	Liquid Propane (LP) Vapor or Natural Gas (NG)
Fuel Type Configuration	Controller-Selected Only
LP Vapor Pressure (in H_2O (kPa))	7-14 (1.74-3.48)
NG Pressure (in H_2O (kPa))	3.5-14 (0.87-3.48)
Fuel Shutoff Solenoid	Standard, Dual

FUEL CONSUMPTION

LIQUID PROPANE

Rated Load	XG03245		XG04045		XG04845	
	(US gph)	(L/h)	(US gph)	(L/h)	(US gph)	(L/h)
No Load @ Exercise Speed	1.1	4.1	1.1	4.1	1.1	4.1
25%	2.6	10.0	2.8	10.7	3.0	11.5
50%	3.4	13.0	3.8	14.4	4.2	15.9
75%	4.2	15.9	4.8	18.1	5.4	20.4
100%	5.0	18.9	5.8	21.9	6.6	24.8

Propane – 91,452 BTU/US gal (25.5 MJ/L); 36 ft^3/US gal (0.27 m^3/L); 2,516 BTU/ft^3 (93.7 MJ/m^3); 4.24 lb/US gal (0.508 kg/L)

NATURAL GAS

Rated Load	XG03245		XG04045		XG04845	
	(CFH)	(m^3/h)	(CFH)	(m^3/h)	(CFH)	(m^3/h)
No Load @ Exercise Speed	71	2.0	71	2.0	71	2.0
25%	177	5.0	198	5.6	215	6.1
50%	258	7.3	297	8.4	335	9.5
75%	335	9.5	396	11.2	456	12.9
100%	417	11.8	494	14.0	576	16.3

Natural Gas – 1,036 BTU/ft^3 (37.3 MJ/m^3)
See Emissions Data Sheets for maximum fuel flow for EPA and SCAQMD permitting purposes.

ELECTRICAL SYSTEM

	XG03245	XG04045	XG04845
System Voltage (V)	12		
Charge Alternator (A)	37		145
Battery Charger (A)	5		
Recommended Battery (not included)	Flooded Lead Acid, Group 27, 600 CCA Minimum		
Maximum Allowable Battery	Flooded Lead Acid, Group 31, 750 CCA Minimum		

ENCLOSURE

	XG03245	XG04045	XG04845
Sound Level at Exercise Speed (dB(A) @ 23 ft (7 m))[4]	59	59	54
Sound Level at Operating Speed & No Load (dB(A) @ 23 ft (7 m))[4]	66	66	58
Wind Speed Rating (mph (km/h))[5]	145 (233)		
Color	Metro Gray		

4 - Lowest sound level measurement of 8 locations around the generator. Sound levels at other locations around the generator may vary depending on the installation.
5 - ASCE 7-16 exposure B wind speed rating

POWER ZONE 410 CONTROLLER

016030

Standard Features
- 128 x 64 Pixel Graphical Display with Heater
- Multilingual
  - English
  - French
  - Spanish
  - Portuguese
- 3-Phase Sensing Digital Voltage Regulator
- Full Range Standby Operation
- Full System Status
  - 3-Phase AC Voltage
  - 3-Phase Current
  - Power
  - Power Factor
  - Oil Pressure
  - Engine Coolant Temperature
  - Oil Temperature (check for oil temp sensor)
  - Fuel Pressure
  - Engine Speed
  - Battery Voltage
  - Output Frequency
  - Time
  - Date
  - Load On Line Power and Gen Power
  - Hourmeter
  - Service Reminders
  - Fault History (Alarm Log)
- Remote Communications
- Programmable Auto Crank
- Emergency Stop
- Not in Auto Flashing Light
- Selectable Low Speed Exercise
- NFPA 110 System Control Capable
- 5A Integrated Battery Charger

Standard Protections
- Low Oil Pressure
- Low Coolant Level
- High/Low Coolant Temperature
- Oil Temperature
- Over/Under Speed
- Over/Under Voltage
- Over/Under Frequency
- Over/Under Current
- Overload
- Battery Voltage
- Battery Charger Current
- Phase-to-Phase and Phase-to-Neutral Short Circuits (I^2T Algorithm)
- Ground Fault

Display
- Easy Menu Structure
- Multilingual (English, Spanish, French, and Portuguese)
- On Screen Editable Parameters
- Key Function Monitoring
  - 3-Phase Voltage, Amperage, Power, Apparent Power, Reactive Power
  - Selectable Average or Line-to-Neutral Voltage Measurements
  - Frequency
  - Engine Speed
  - Engine Coolant Temperature
  - Oil Pressure
  - Battery Voltage
  - Warning and Alarm Indication
  - Diagnostics
  - Maintenance Events/Information
  - Hourmeter

Control Panel
- AUTO/OFF/MANUAL
  - Operation Through Onboard Buttons or Optional Key Switch
  - Indication Through Display Screen and LEDs
- Audible Alarm and Silence
- Auxiliary Shutdown Rocker Switch (on controller)
- Not-in-Auto Indication

Voltage Regulation
- Digital Control
- 3-Phase Sensing
- Variable V/F Slope Settings
- Negative Power Limit
- Loss of Sensing Protection
- Fault Protection (I^2T Function)
- High Voltage Limit
- Low Voltage Limit
- Maximum Power Limit

Governor Functionality
- Speed Control through ECM Integration

Communications Ports
- 1 CANbus Port
- 1 USB Port (for Configuration Transfer and Firmware Upgrades)
- 1 RS-485 Modbus Master Port (for External RAP/RRP/External I/O Modules)
- 1 RS-485 Modbus Slave Port (for other uses, e.g. Building Management System)
- 2 RS-232 Communication Ports (for GGCAC or other uses)

Codes And Standards
- UL 6200
- CE
- NFPA 110

GENERAC®

ACCESSORIES

PRODUCT	PART NUMBER	DESCRIPTION
3-Phase XG Generator Model Kits		
XG032/40/48 'G' 208/120 V 3-Phase Voltage Configuration Cartridge	G0099010	Voltage Configuration Cartridge (VCC) for 208/120 V 3-phase output. It is INSTALLED in every 3-phase XG03245, XG04045, and XG04845 model. Offered as an accessory if a replacement is needed for any reason.
XG032/40/48 'J' 240/120 V 3-Phase Voltage Configuration Cartridge	G0099020	Voltage Configuration Cartridge (VCC) for 240/120 V 3-phase output. It is NOT included with any XG03245, XG04045, or XG04845 model.
XG032/40/48 'K' 480/277 V 3-Phase Voltage Configuration Cartridge	G0099030	Voltage Configuration Cartridge (VCC) for 480/277 V 3-phase output. It is NOT included with any XG03245, XG04045, or XG04845 model.
60 A 3–Pole Circuit Breaker (CB) Kit	G0099040	3–pole, 60 A CB and mounting hardware (typical for 32 kW, 480/277 V 3-phase generator).
70 A 3–Pole Circuit Breaker (CB) Kit	G0099190	3–pole, 70 A CB and mounting hardware (typical for 40 kW, 480/277 V 3-phase generator).
80 A 3–Pole Circuit Breaker (CB) Kit	G0099050	3–pole, 80 A CB and mounting hardware (typical for 48 kW, 480/277 V 3-phase generator).
100 A 3–Pole Circuit Breaker (CB) Kit	G0099060	3–pole, 100 A CB and mounting hardware (typical for 32 kW, 240/120 V 3-phase generator).
125 A 3–Pole Circuit Breaker (CB) Kit	G0099070	3–pole, 125 A CB and mounting hardware (typical for 32 kW, 208/120 V; and 40 kW, 240/120 V 3-phase generators).
150 A 3–Pole Circuit Breaker (CB) Kit	G0099080	3–pole, 150 A CB and mounting hardware (typical for 40 kW, 208/120 V and 48 kW, 240/120 V 3-phase generators).
175 A 3–Pole Circuit Breaker (CB) Kit	G0099090	3–pole, 175 A CB and mounting hardware (typical for 48 kW, 208/120 V 3-phase generator).
Control System Kits		
Generator Ready-Status Indicator Kit	G0099100	3-color LED providing at-a-glance indication of generator ready-to-run status. The display mounts to the front of the generator and plugs into the wire harness.
Enclosure Mounted Emergency Stop Kit	G0079930	Emergency Stop consists of a red push button switch. It mounts to the exterior of the generator enclosure replacing the Generator Emergency Shutdown rocker switch in the same location.
Remote Emergency Stop Kit, Surface Mount	G0099250	Emergency Stop consists of a red push button switch with twist release. The switch has an aluminum enclosure which can be mounted extending out from a surface. It mounts remote from the generator such as near an electrical panel.
Remote Emergency Stop Kit, Flush Mount	G0099260	Emergency Stop consists of a red push button switch with twist release. The switch has an aluminum enclosure which can be mounted flush. It mounts remote from the generator such as near an electrical panel.
Remote Emergency Stop Kit, Break Glass	G0099270	Emergency Stop consists of a spring-loaded switch behind breakable glass. The glass can be broken with the tethered hammer. The switch has an aluminum enclosure which can be mounted extending out from a surface. It mounts remote from the generator such as near an electrical panel.
Generac Load Manager, 50 A	G0070001	50 A Load Manager helps optimize the performance of the standby generator by managing large electrical loads upon startup and shed them to aid in recovery when overloaded.
Generac Load Manager, 100 A	G0070061	100 A Load Manager helps optimize the performance of the standby generator by managing large electrical loads upon startup and shed them to aid in recovery when overloaded.
Generac LTE Propane Tank Fuel Level Monitor	G0070090	The Propane Tank Fuel Level Monitor connects to 4G LTE cellular service to measure and report the amount of LP fuel remaining in the tank. The app alerts the user of both remaining LP fuel and usage reports.

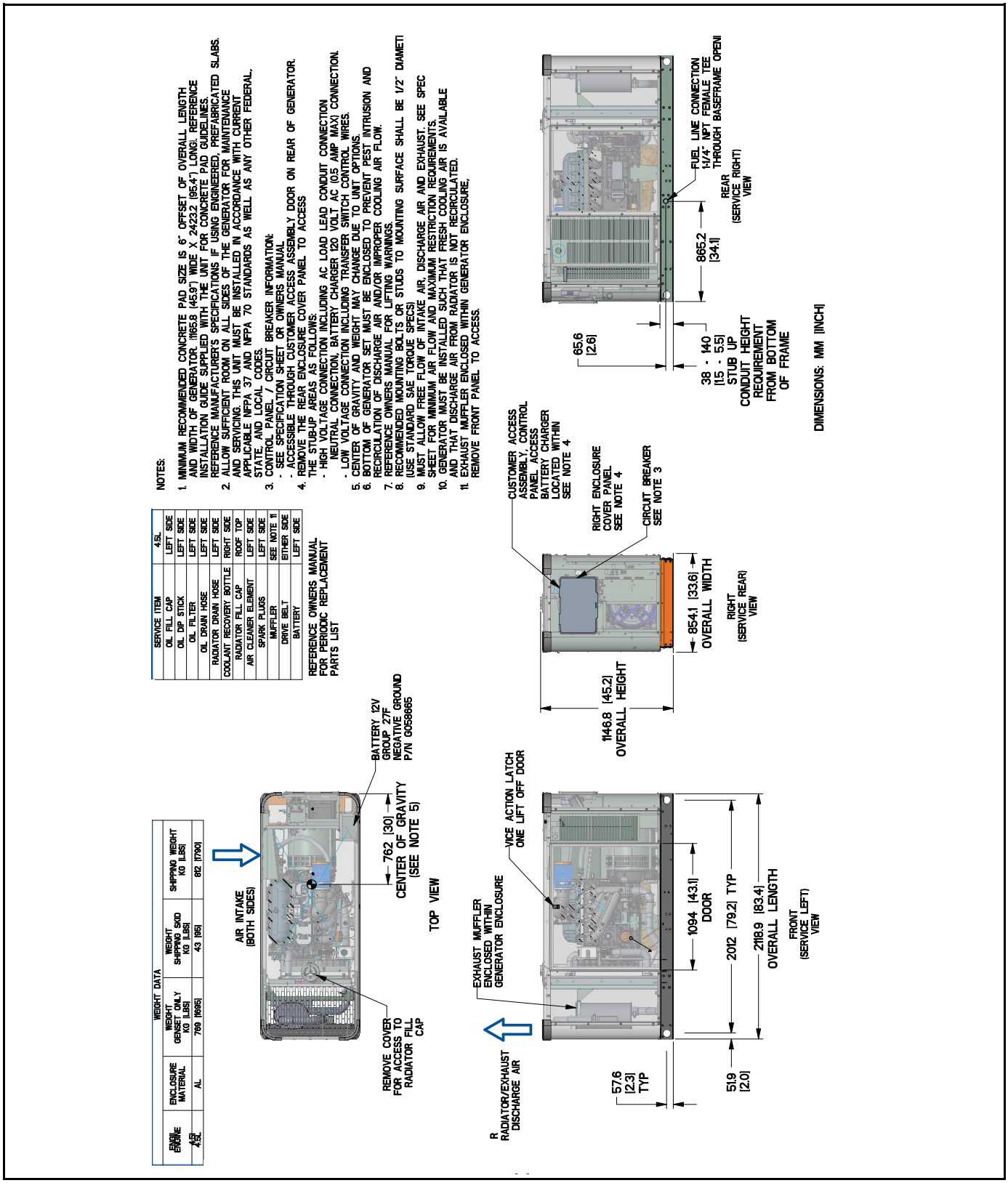
Power Zone Kits		
NFPA 110 Controller Kit	G0099120	Includes controller module with Key Switch, Alarm Horn, and Emergency Stop Switch that connects to the Power Zone 410 controller. The module mounts below the controller and is visible through the control panel cover. The G0098511, G0098521, or G0098531 panel and a capable transfer switch are required to be considered for NFPA 110 system control and remote annunciation.
Remote Annunciator Panel with 8 Relays	G0098511	Remote annunciator panel with relays. The panel mounts in the structure that is connected to the backup generator.
Remote Relay Panel	G0098521	Remote relay panel without LEDs or keypad. The panel mounts in the structure that is connected to the backup generator.
Remote Annunciator Panel without Relays	G0098531	Remote annunciator panel without relays. The panel mounts in the structure that is connected to the backup generator.
Power Zone 410 I/O Extender Kit	G0089370	The kit expands I/O for the Power Zone 410 controller to provide connections for additional accessories. It connects to the controller with a 3-wire RS-485 interface.
Power Zone Gateway Kit	G0089360	The Gateway provides an Ethernet connection port for the generator for a Building Management System (BMS). The Gateway is NOT intended for or able to be used with Mobile Link or Fleet.
Operating Environment Kits		
Battery Heater Kit	G0079920	Recommended for operating environments where the temperature drops below 32 °F (0 °C). The heater is externally powered by 120 VAC, 60 Hz.
Engine Block Heater Kit	G0099230	Recommended for operating environments where the temperature drops below 0 °F (-18 °C). The heater is externally powered by 120 VAC, 60 Hz.
Extreme High Wind Kit	G0099130	Increases wind speed rating of generator to 186 mph (300 km/h). The kit assembles to the exterior of the generator enclosure and frame.
Installation Kits		
Baseframe Blockoff Kit	G0099150	Aluminum panel and hardware to close off the bottom of the generator. It allows correct airflow is maintained through the generator for cooling while keeping objects out? It is required anytime the generator is elevated. Fits XG03245, XG04045, and XG04845.
Engine Fluid Containment Kit	G0099160	Containment pan to capture all engine oil and coolant. Kit includes a sensor to detect the presence of fluid in the pan then displays a warning on the controller screen. The G0089370 Power Zone 410 I/O Extender Kit is required for the sensor installation.
Base Plug Kit	G0056510	Base plugs to fit in the lifting holes of the baseframe to keep debris out.
Maintenance Kits		
4.5 L Gaseous Engine Regular Maintenance Kit	G0079910	Regular maintenance kit includes oil filter, oil funnel, air filter, and spark plugs.
Metro Gray Paint Kit	G0099180	It is important to touch-up the paint to protect against corrosion if the generator enclosure is scratched or damaged. The paint kit includes the necessary paint to correctly maintain or touch-up a generator enclosure.
Transfer Switch Kits		
3-Phase Voltage Sensing Kit for 208/120 & 240/120 V RTS Transfer Switch	G0074110	3-phase Voltage Sensing Kit required for RTS Transfer Switches when used with the Power Zone 410 controller for 'G' 208/120 or 'J' 240/120 V 3-phase voltage. The kit is used with 3-phase XG03245, XG04045, and XG04845 models configured for 'G' or 'J' voltage.
3-Phase Voltage Sensing Kit for 480/277 V RTS Transfer Switch	G0074120	3-phase Voltage Sensing Kit required for RTS Transfer Switches when used with the Power Zone 410 controller for 'K' 480/277 V 3-phase voltage. The kit is used with 3-phase XG03245, XG04045, and XG04845 models configured for 'K' voltage.

GENERAC

INSTALLATION DRAWING

32–40–48 KW

Drawing # A0005421459 Rev E (1 of 2)



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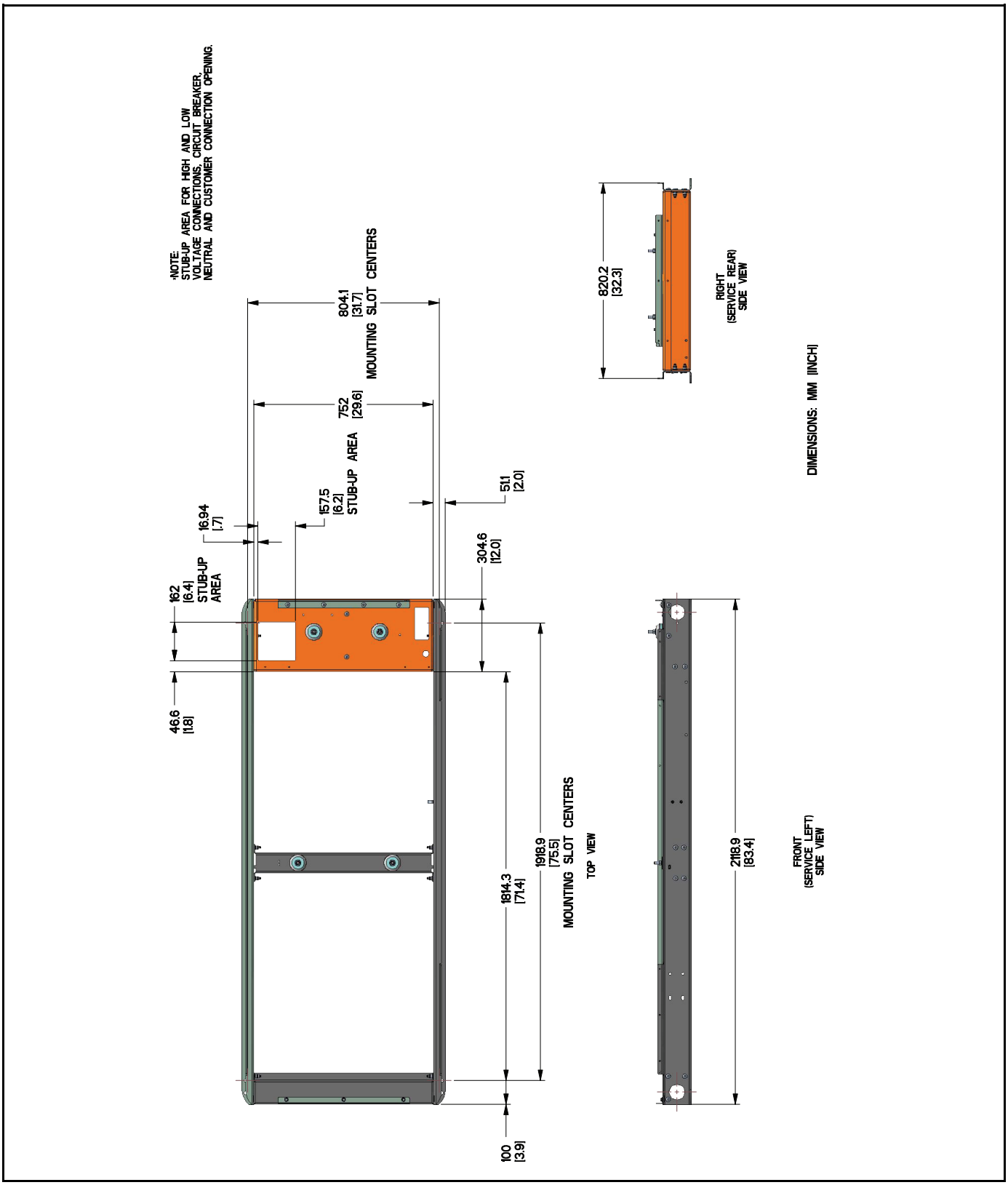
INSTALLATION DRAWING

Drawing # A0005421459 Rev E (2 of 2)



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