Submittal Cover Sheet

Tower Project Name:	**Nestle Generator Upgrade**
Tower Project Number:	**2021216**
Client:	Nestle Health Science
Prepared By:	Ted Knickerbocker
Date:	November 30, 2021

Date Received:	**November 24, 2021**
Contractor:	
Submittal Number:	**1**

Manufacturer/Supplier	Item or System	Recommended Action	Comments
Kelly Generator	Generator	Revise and Resubmit	See Below
Kelly Generator	Transfer Switches	Revise and Resubmit	See Below

Specific Comments:

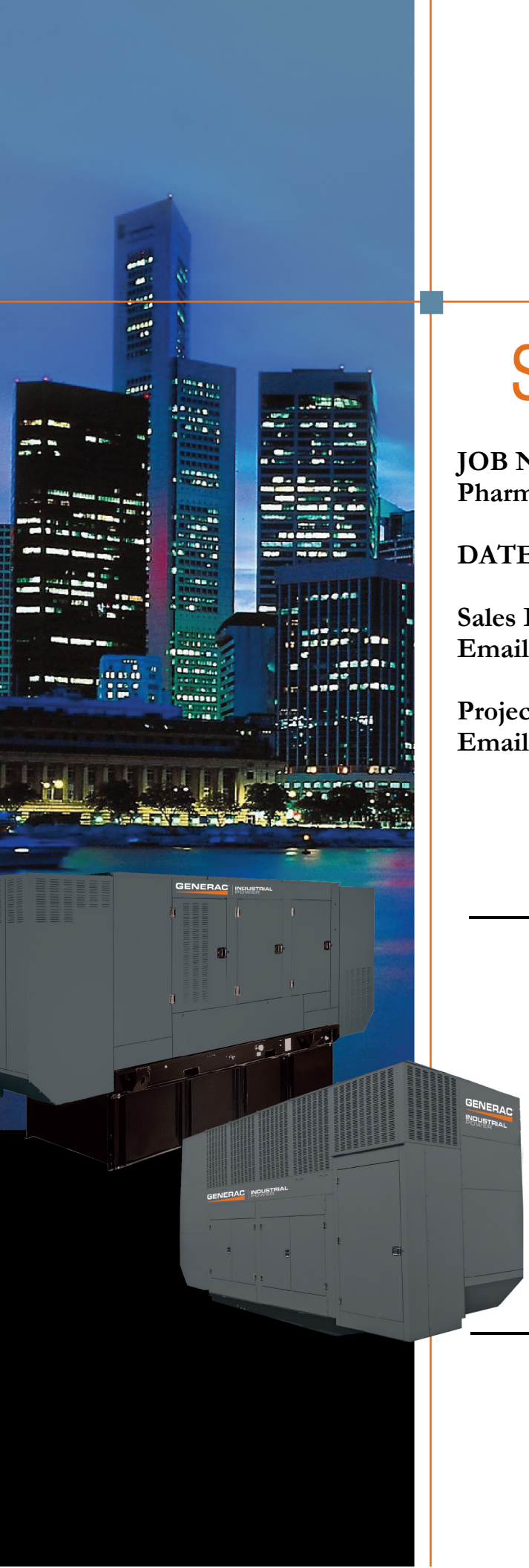
Generator:

1. Provide Generator with a 700A onboard circuit breaker as specified, in lieu of an 800A as submitted.

Transfer Switches:

2. Provide (2) Automatic Transfer switches as specified, 1-60A for life safety loads, 1-600A for optional standby loads.
3. Provide an 800A Manual Transfer Switch as specified. This transfer switch is for the permanent generator and a temporary generator connection box.

END OF SUBMITTAL COVER SHEET



SUBMITTAL PACKAGE

JOB NAME: Combustion Service & Equipment - Nestle Pharmaceutical

DATE: November 24, 2021

Sales Engineer: Carl Belli
Email: cbelli@kge.com

Project Coordinator: Mary Plue
Email: mplue@kge.com

SUBMITTAL FOR APPROVAL

PREPARED FOR:

Customer: Combustion Service & Equipment
Attn: Jim Cater
Phone: 412-584-5753
Email: jcombustion@gmail.com

Kelly Generator & Equipment, Inc.
50 Technology Drive, Coal Center, PA 15423
O: 724.330.5900 x211 / F: 724-330-5902 / TF: 800-677-3815
www.kge.com

11/24/2021

Bill of Materials for Combustion Service & Equipment - Nestle Pharmaceutical

Quantity 1 - Generac Industrial gaseous engine-driven generator, turbocharged/aftercooled 12 cylinder 21.9L engine, consisting of the following features and accessories:

- Stationary Emergency-Standby rated
- 400 kW Rating, wired for 277/480 VAC three phase, 60 Hz
- Level 2 Acoustic Enclosure, Steel
    - Industrial Grey Baked-On Powder Coat Finish
- UL2200
- EPA Certified
- Power Zone Digital Control Panel for Single or MPS Generators
    - Meets NFPA 99 and 110 requirements
    - Temp Range -40 to 70 degrees C
    - Humidity 2 – 95% (Non Condensing)
    - UL6200
    - C-ETL-US
    - CE
    - FCC
    - IEC801 (Radiated Emissions, Susceptibility, and Surge Immunity)
    - 7" Resistive Color Touchscreen
        - Built-in Wi-Fi, Bluetooth, and Webserver
        - IP65 (front)
        - Auto/Manual/Off key switch, Alarm Indication, Not in Auto Indication, audible alarm, emergency stop switch
    - Dual Core Digital Microprocessor
        - RS485, Ethernet and CANbus ports
    - All engine sensors are 4-20ma for minimal interference
        - Sensors: Oil Pressure, optional Oil Temp, Coolant Temp and Level, Fuel Level/Pressure (where applicable), Engine Speed, DC Battery Voltage, Run-time Hours, Generator Voltages, Amps, Frequency, Power, Power Factor
        - Alarm Status: Low or High AC Voltage, Low or High Battery Voltage, Low or High Frequency, Pre-low or Low Oil Pressure, Pre-high or High Oil Temp (optional), Low Water Level and Temp, Pre-high or High Engine Temp, High, Low, and Critical-low Fuel Level/Pressure (where applicable), Overcrank, Over and Under Speed, Unit Not in Automatic
        - Programmable I/O
        - Built-in PLC for special applications
    - Engine function monitoring and control:
        - Full range standby operation; programmable auto crank, Emergency Stop, Auto-Off-Manual switch
        - Isochronous Governor
            - 0.25% digital frequency regulation with: soft-start ramping - adjustable, gain - adjustable, overshoot limit - adjustable
        - 3 Phase RMS Voltage Sensing
            - +/-0.5% digital voltage regulation with: soft-start voltage ramping - adjustable, loss of sensing protection - adjustable, negative power limit - adjustable, Hi/Lo voltage limit - adjustable, V/F slope and gain - adjustable, fault protection

"For **GAS UNITS ONLY**, an external gas regulator is required at installation by the gas contractor or by others. This is not part of Kelly Generator & Equipment, Inc. Scope of Work"

    - Service reminders, trending, fault history (alarm log)
    - I2T function for full generator protection
    - Selectable low-speed exercise
    - 2-wire start controls for any 2-wire transfer switch
- 21 Light Annunciator - Surface
- Remote Emergency Stop Switch, Surface-Mount, shipped loose
- 225 AH, 1155 CCA Group 8D Batteries, with rack, installed
- Air Filter Restriction Ind
- Battery Heating Pad
- Battery Charger, 10 Amp, NFPA 110 compliant, installed
- Coolant Heater, 2500W, 240VAC
- AC/DC Enclosure Interior LED Lighting Kit
- Std set of 3 Manuals
- 12 Position 1PH Load Center
- 120V GFCI and 240V Outlet
- Alternator Strip Heater
- Flex Fuel Line
- Oil Temp Sender
- MLCB, 100% rated, LSI Electronic Trip
    - 800 Amp
- 1 Hour factory load testing at reactive (0.8) power factor
- 5-Year Comprehensive Warranty
- SG0400KG30219S18PPLYE

Quantity 1 - 12.9 14.2 21.9 GAS 5C 5 YR P/L

Quantity 1 - PSTS Series Automatic Transfer Switch consisting of the following features and accessories:

- Standard Open Transition
- 32D - Inphase Transfer, default to Time Delay Neutral
- Contactor-Based Design
- 800 Amp, 3 Pole, 277/480 VAC three phase
- CSA C22.2 Certified
- CUL Listed
- UL1008 Listed
- NEMA 3R Enclosure
- ATC-300+ Microprocessor-Based Controller
    - 2-Line, 32-Character Alphanumeric LCD Display
    - Front Panel Mimic Diagram with colored LEDs for Source/Load Indication
    - Standard Features:
        - Sensing and Programmable Setpoints for both Normal (S1) and Emergency (S2): Under-voltage/Under-frequency, Over-voltage/Over-frequency; Voltage Unbalance Sensing and Phase Reversal for all phases
        - Adjustable Time Delays: Engine Start, Transfer Normal to Emergency & Emergency to Normal, Engine Cooldown, Emergency Fail

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  - Pushbutton for Bypassing Time Delays on Transfer/Retransfer
  - Test Pushbutton
  - Contacts for Go to Emergency (S2)
  - MODBUS Communication
  - Digital Programmable Plant Exerciser:
    - Off, 1-Day, 7-Day, 14-Day, 28-Day Intervals
    - Adjustable 0-600 Minutes Run Time
    - Selectable for Load or No Load
  - Auxiliary Contacts:
    - Normal (S1) Source Present (2 Form C)
    - Emergency (S2) Source Present (2 Form C)
    - Normal (S1) Position Indication (1 Form C)
    - Emergency (S2) Position Indication (1 Form C)
    - Pre-Transfer Signal Contacts (1 Form C)
- 29G - Selector Switch, Auto/Manual Operation
- 29J - Selectable Automatic/Non-Auto Retransfer
- 41A - 100W Space Heater with Adjustable Thermostat
- 9C - Monitor Mode Selector Switch
- 42 - IBC/CBC Seismic Qualified
- 36 - Load Shed from Emergency
- Normal Terminal Mechanical Lugs, Customer Connection: (4) 1/0-750MCM per phase
- Emergency Terminal Mechanical Lugs, Customer Connection: (4) 1/0-750MCM per phase
- Load Terminal Mechanical Lugs, Customer Connection: (4) 1/0-750MCM per phase
- Neutral Terminal Mechanical Lugs, Customer Connection: (12) 1/0-750MCM
- 5-Year Extended Warranty
- ATC3C5X30800XRU

Quantity 1 - PSTS 400-800 - 5C 5 YR P/L/T

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INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency

GENERAC | INDUSTRIAL POWER

DEMAND RESPONSE READY

Standby Power Rating
400 kW, 500 kVA, 60 Hz

Demand Response Rating
400 kW, 500 kVA, 60 Hz

Prime Power Rating
360 kW, 450 kVA, 60 Hz

ISO 9001:2008

USA ENGINEERED & BUILT* *Assembled in the USA using domestic and foreign parts

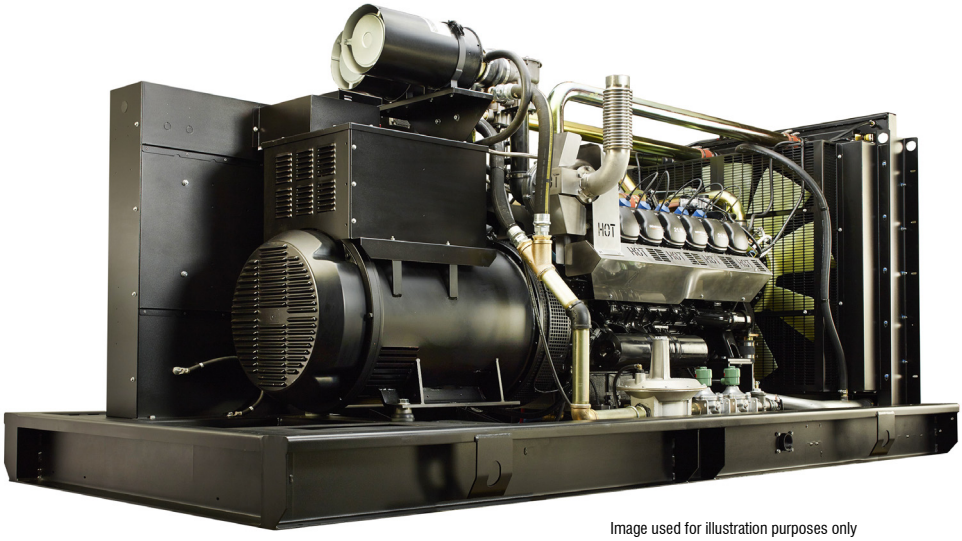

Image used for illustration purposes only

Codes and Standards

Not all codes and standards apply to all configurations. Contact factory for details.

- UL2200, UL6200, UL1236, UL489
- CSA C22.2, B149
- BS5514 and DIN 6271
- SAE J1349
- NFPA 37, 70, 99, 110
- NEC700, 701, 702, 708
- ISO 3046, 7637, 8528, 9001
- NEMA ICS10, MG1, 250, ICS6, AB1
- ANSI C62.41
- IBC 2009, CBC 2010, IBC 2012, ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012)

Powering Ahead

Generac ensures superior quality by designing and manufacturing most of its generator components, such as alternators, enclosures, control systems and communications software. Generac also makes its own spark-ignited engines, and you'll find them on every Generac gaseous-fueled generator. We engineer and manufacture them from the block up — all at our facilities throughout Wisconsin. Applying natural gas and LP-fueled engines to generators requires advanced engineering expertise to ensure reliability, durability and necessary performance. By designing specifically for these dry, hotter-burning fuels, the engines last longer and require less maintenance. Building our own engines also means we control every step of the supply chain and delivery process, so you benefit from single-source responsibility.

Plus, Generac Industrial Power's distribution network provides all parts and service so you don't have to deal with third-party suppliers. It all leads to a positive owner experience and higher confidence level. Generac spark-ignited engines give you more options in commercial and industrial generator applications as well as extended run time from utility-supplied natural gas.

SG400 | 21.9L | 400 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency

GENERAC | INDUSTRIAL POWER

STANDARD FEATURES

DEMAND RESPONSE READY

ENGINE SYSTEM

- Oil Drain Extension
- Engine Coolant Heater
- Air Cleaner
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Critical Silencer

Fuel System

- NPT Fuel Connection on Frame
- Primary and Secondary Fuel Shutoff

Cooling System

- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- 50/50 Ethylene Glycol Antifreeze
- Radiator Drain Extension

Electrical System

- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

ALTERNATOR SYSTEM

- UL2200 GENprotect™
- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Permanent Magnet Excitation
- Sealed Bearing
- Amortisseur Winding
- Full Load Capacity Alternator

GENERATOR SET

- Internal Genset Vibration Isolation
- Separation of Circuits - High/Low Voltage
- Separation of Circuits - Multiple Breakers
- Wrapped Exhaust Piping
- Standard Factory Testing
- 2 Year Limited Warranty (Standby and Demand Response Rated Units)
- 1 Year Limited Warranty (Prime Rated Units)
- Silencer Mounted in the Discharge Hood (Enclosed Units Only)

ENCLOSURE (If Selected)

- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuated Enclosures)
- Gasketed Doors
- Upward Facing Discharge Hoods (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- RhinoCoat™ - Textured Polyester Powder Coat Paint

CONTROL SYSTEM

Power Zone® Pro Sync Controller

Program Functions

- NFPA 110 Level 1 Compliant
- Engine Protective Functions
- Alternator Protective Functions
- Digital Engine Governor Control
- Digital Voltage Regulator
- Multiple Programmable Inputs and Outputs
- Remote Display Capability
- Remote Communication via Modbus® RTU, Modbus TCP/IP, and Ethernet 10/100
- Alarm and Event Logging with Real Time Stamping
- Expandable Analog and Digital Inputs and Outputs
- Remote Wireless Software Update Capable
- Wi-Fi, Bluetooth, BMS and Remote Telemetry
- Built-In Programmable Logic Eliminates the Need for External Controllers Under Most Conditions
- Ethernet Based Communications Between Generators
- Programmable I/O Channel Properties
- Built-In Diagnostics

Protections

- Low Oil Pressure
- Low Coolant Level
- High/Low Coolant Temperature
- Sensor Failure
- Oil Temperature
- Over/Under Speed
- Over/Under Voltage
- Over/Under Frequency
- Over/Under Current
- Over Load
- High/Low Battery Voltage
- Battery Charger Current
- Phase to Phase and Phase to Neutral Short Circuits (I^2T Algorithm)

7 Inch Color Touch Screen Display

- Resistive Color Touch Screen
- Sunlight Readable (1400 NITS)
- Easily Identifiable Icons
- Multi-Lingual
- On Screen Editable Parameters
- Key Function Monitoring
- Three Phase Voltage, Amperage, kW, kVA, and kVAR
- Selectable Line to Line or Line to Neutral Measurements
- Frequency
- Engine Speed
- Engine Coolant Temperature
- Engine Oil Pressure
- Engine Oil Temperature
- Battery Voltage
- Hourmeter
- Warning and Alarm Indication
- Diagnostics
- Maintenance Events/Information

SG400 | 21.9L | 400 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency

GENERAC | INDUSTRIAL POWER

CONFIGURABLE OPTIONS

DEMAND RESPONSE READY

ENGINE SYSTEM

- ○ Baseframe Cover/Rodent Guard
- ○ Oil Heater
- ○ Air Filter Restriction Indicator
- ○ Radiator Stone Guard (Open Set Only)
- ○ Level 1 Fan and Belt Guards (Enclosed Units Only)

FUEL SYSTEM

- ○ NPT Flexible Fuel Line

ELECTRICAL SYSTEM

- ○ 10A UL Listed Battery Charger
- ○ Battery Warmer

ALTERNATOR SYSTEM

- ○ Alternator Upsizing
- ○ Anti-Condensation Heater
- ○ Tropical Coating

CIRCUIT BREAKER OPTIONS

- ○ Main Line Circuit Breaker
- ○ 2nd Main Line Circuit Breaker
- ○ Shunt Trip and Auxiliary Contact
- ○ Electronic Trip Breakers

GENERATOR SET

- ○ Demand Response Rating
- ○ Extended Factory Testing (3-Phase Only)
- ○ 12 Position Load Center

ENCLOSURE

- ○ Weather Protected Enclosure
- ○ Level 1 Sound Attenuated
- ○ Level 2 Sound Attenuated
- ○ Level 2 Sound Attenuated with Motorized Dampers
- ○ Level 3 Sound Attenuated (Steel Only)
- ○ Steel Enclosure
- ○ Aluminum Enclosure
- ○ Damper Alarm (Motorized Dampers Only)
- ○ Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- ○ AC/DC Enclosure Lighting Kit
- ○ Enclosure Heaters (Motorized Dampers Only)
- ○ Door Open Alarm Switch

CONTROL SYSTEM

- ○ NFPA 110 Compliant 21-Light Remote Annunciator
- ○ Remote Relay Assembly (8 or 16)
- ○ Oil Temperature Sender with Indication Alarm
- ○ Remote E-Stop (Break Glass-Type, Surface Mount)
- ○ Remote E-Stop (Red Mushroom-Type, Surface Mount)
- ○ Remote E-Stop (Red Mushroom-Type, Flush Mount)
- ○ 10A Engine Run Relay
- ○ Ground Fault Annunciator
- ○ 100 dB Alarm Horn
- ○ 120V GFCI and 240V Outlets

WARRANTY (Standby Gensets Only)

- ○ 2 Year Extended Limited Warranty
- ○ 5 Year Limited Warranty
- ○ 5 Year Extended Limited Warranty
- ○ 7 Year Extended Limited Warranty
- ○ 10 Year Extended Limited Warranty

ENGINEERED OPTIONS

ENGINE SYSTEM

- ○ Coolant Heater Ball Valves
- ○ Fluid Containment Pan

ALTERNATOR SYSTEM

- ○ 3rd Breaker System

CONTROL SYSTEM

- ○ Battery Disconnect Switch

GENERATOR SET

- ○ Special Testing
- ○ Battery Box

SG400 | 21.9L | 400 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency

GENERAC | INDUSTRIAL POWER

APPLICATION AND ENGINEERING DATA

DEMAND RESPONSE READY

ENGINE SPECIFICATIONS

General

Make	Generac
Cylinder #	12
Type	V12
Displacement - in^3 (L)	1,336.4 (21.9)
Bore - in (mm)	5.03 (128)
Stroke - in (mm)	5.6 (142)
Compression Ratio	10.0:1
Intake Air Method	Turbocharged/Aftercooled
Number of Main Bearings	7
Connecting Rods	Steel Alloy
Cylinder Head	Cast Iron
Cylinder Liners	Cast Steel Alloy
Ignition	Electronic
Piston Type	Cast Aluminum Alloy
Crankshaft Type	Steel
Lifter Type	Solid
Intake Valve Material	High Temp Steel Alloy
Exhaust Valve Material	High Temp Steel Alloy
Hardened Valve Seats	Proprietary Alloy

Engine Governing

Governor	Electronic
Frequency Regulation (Steady State)	±0.25%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full-Flow Spin on Cartridge
Crankcase Capacity - qt (L)	31.7 (30)

Cooling System

Cooling System Type	Pressurized Closed Recovery
Fan Type	Pusher
Fan Speed - RPM	1,404
Fan Diameter - in (mm)	44 (1,117.6)

Fuel System

Fuel Type	Natural Gas
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard
Operating Fuel Pressure - in H_2O (kPa)	11 - 14 (2.7 - 3.5)
Optional Operating Fuel Pressure - in H_2O (kPa)	7 - 11 (1.7 - 2.7)

Engine Electrical System

System Voltage	24 VDC
Battery Charger Alternator	57 A
Battery Size	See Battery Index 0161970SBY
Battery Voltage	(2) - 12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	K0400124Y21
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5% (3-Phase)
Telephone Interference Factor (TIF)	<52
Standard Excitation	Permanent Magnet
Bearings	Sealed Ball
Coupling	Direct via Flexible Disc
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Full Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

SG400 | 21.9L | 400 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

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GENERAC | INDUSTRIAL POWER

OPERATING DATA

DEMAND RESPONSE READY

POWER RATINGS - NATURAL GAS

	Standby/Demand Response	Prime
Three-Phase 120/208 VAC @0.8pf	400 kW/500 kVA Amps: 1,390	360 kW/450 kVA Amps: 1,251
Three-Phase 120/240 VAC @0.8pf	400 kW/500 kVA Amps: 1,204	360 kW/450 kVA Amps: 1,084
Three-Phase 277/480 VAC @0.8pf	400 kW/500 kVA Amps: 602	360 kW/450 kVA Amps: 542
Three-Phase 346/600 VAC @0.8pf	400 kW/500 kVA Amps: 482	360 kW/450 kVA Amps: 434

MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip

277/480_3PH	30%	208/240 VAC	30%
K0400124Y21	953	K0500124Y23	730
K0500124Y23	1,020	K0600124Y23	1,120
K0600124Y23	1,560		

FUEL CONSUMPTION RATES*

Natural Gas – scfh (m^3/hr)

Percent Load	Standby/Demand Response	Prime
25%	1,680 (47.6)	1,620 (45.9)
50%	2,640 (74.8)	2,460 (69.7)
75%	3,600 (101.9)	3,300 (93.4)
100%	4,620 (130.8)	4,200 (118.9)

* Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby/Demand Response	Prime
Air Flow (Fan Air Flow Across Radiator)	scfm (m^3/min)	28,004 (793)	28,004 (793)
Coolant Flow	gpm (Lpm)	211 (798.6)	211 (798.6)
Coolant System Capacity	gal (L)	15.5 (58.7)	15.5 (58.7)
Max. Operating Ambient Temperature	°F (°C)	122 (50)	122 (50)
Maximum Operating Ambient Temperature (Before Derate)		See Bulletin No. 0199270SSD	
Maximum Radiator Backpressure	in H_2O (kPa)	0.5 (0.12)	0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

	Standby/Demand Response	Prime
Flow at Rated Power - scfm (m^3/min)	731 (20.7)	666 (18.9)

ENGINE

		Standby/Demand Response	Prime
Rated Engine Speed	RPM	1,800	1,800
Horsepower at Rated kW**	hp	589	530
Piston Speed	ft/min (m/min)	1,680 (512)	1,680 (512)
BMEP	psi (kPa)	194 (1,338)	175 (1,204)

EXHAUST

		Standby/Demand Response	Prime
Exhaust Flow (Rated Output)	scfm (m^3/min)	2,378 (67.3)	2,142 (60.7)
Max. Backpressure (Post Silencer)	inHg (kPa)	0.75 (2.54)	0.75 (2.54)
Exhaust Temp (Rated Output - Post Silencer)	°F (°C)	1,297 (702.8)	1,277 (691.7)

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.
Please contact a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, and DIN6271 standards.
Standby - See Bulletin 0187500SSB
Demand Response - See Bulletin 10000018250
Prime - See Bulletin 0187510SSB

SG400 | 21.9L | 400 kW

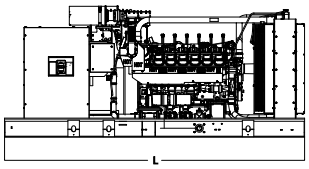
INDUSTRIAL SPARK-IGNITED GENERATOR SET

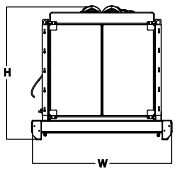
EPA Certified Stationary Emergency and Non-Emergency

GENERAC | INDUSTRIAL POWER

DIMENSIONS AND WEIGHTS*

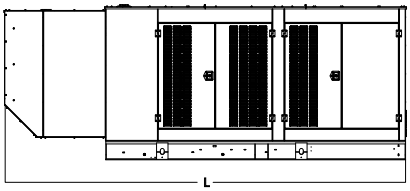
DEMAND RESPONSE READY

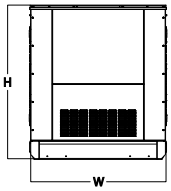




OPEN SET (Includes Exhaust Flex)

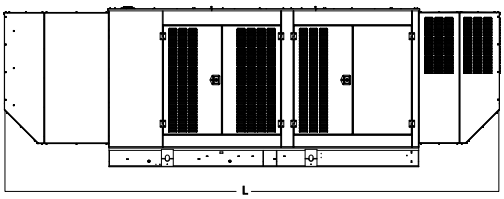
L x W x H - in (mm)	154.4 (3,922) x 71.0 (1,803) x 66.5 (1,689)
Weight - lbs (kg)	7,286 - 8,650 (3,304 - 3,923)

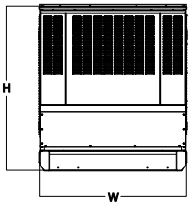




WEATHER PROTECTED ENCLOSURE

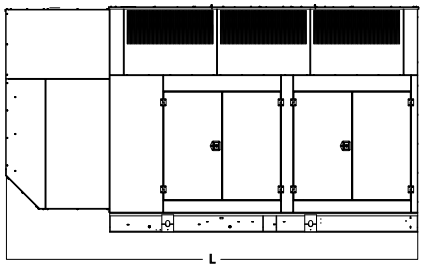
L x W x H - in (mm)	207.4 (5,268) x 71.0 (1,803) x 80.0 (2,032)
Weight - lbs (kg)	Steel: 9,490 - 10,840 (4,304 - 4,916) Aluminum: 8,404 - 9,753 (3,811 - 4,423)

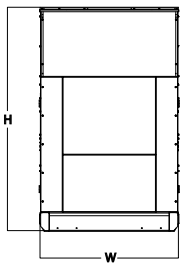




LEVEL 1 SOUND ATTENUATED ENCLOSURE

L x W x H - in (mm)	247.5 (6,287) x 71.0 (1,803) x 80.0 (2,032)
Weight - lbs (kg)	Steel: 10,498 - 11,847 (4,761 - 5,373) Aluminum: 8,818 - 10,185 (3,999 - 4,619)





LEVEL 2 SOUND ATTENUATED ENCLOSURE

L x W x H - in (mm)	207.4 (5,268) x 71.0 (1,803) x 114.1 (2,898)
Weight - lbs (kg)	Steel: 10,836 - 12,185 (4,914 - 5,526) Aluminum: 8,963 - 10,330 (4,065 - 4,685)

LEVEL 3 SOUND ATTENUATED ENCLOSURE

L x W x H - in (mm)	232.0 (5,893) x 76.9 (1,953) x 129.2 (3,282)
Weight - lbs (kg)	13,224 - 14,285 (5,997 - 6,478)

* All measurements are approximate and for estimation purposes only.

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

KELLY GENERATOR & EQUIPMENT, INC. | KELLY GENERATOR & EQUIPMENT OF PA & WV, INC. | GENERAC INDUSTRIAL POWER

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.

SPEC SHEET

Generac Power Systems, Inc. | P.O. Box 8 | Waukesha, WI 53189
P: (262) 544-4811

Part No. 10000035560
Rev. B 11/15/19

GENERATOR ENCLOSURES

DESCRIPTION

GENERAC POWER SYSTEMS' generator enclosures provide year-round weather protection for your power equipment. Engineered with functionality and value in mind, the enclosure design benefits are unique in that the enclosures utilize dimensionally matched components for either a weather protective configuration or a sound attenuated/acoustic configuration. With common components used between design, modification and on-site upgrades can be accomplished with ease.

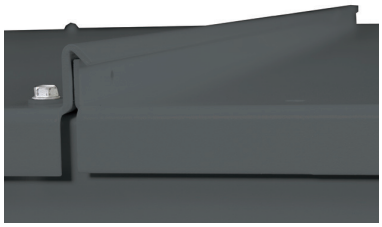
The enclosure design offers several benefits over the "standard enclosures" of other manufacturers. Generac's enclosures have been created with the goal of maximizing the customer's product performance satisfaction while maintaining the functionality of reducing exterior noise levels and discouraging product tampering.

Although others may require a "premium" for a self-enclosed exhaust system, rugged steel panel construction or protective polyethylene washers under all exterior panel fasteners, Generac includes these and several other features on every enclosure configuration. Be sure to compare. Generac Enclosures offer additional design enhancement extras that other "standard enclosures" do not.

Doc No. 0163180SBY
Rev. E 06/10/19

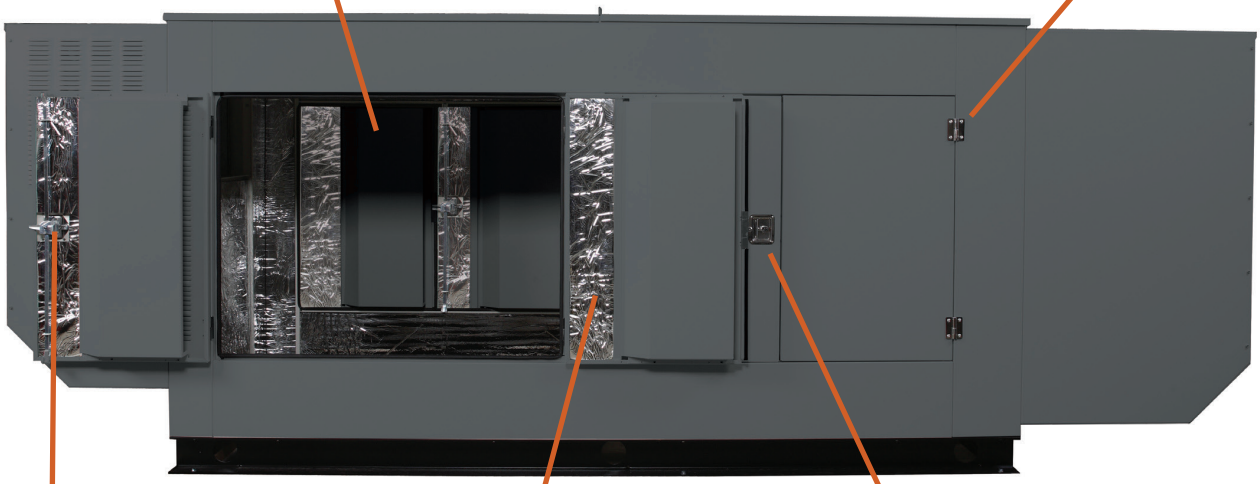
GENERATOR ENCLOSURES

Post-Free Twin Doors
Provide Large, Unobstructed Service Access



Gasket-Free, Interconnected Roof Panel Joint
Drip-Free, Maintenance-Free

Heavy Gauge, Stainless Steel, Partial Pin Hinges with Nylon Spacers
Durable, Corrosion-Free, Removable Doors



Two-Point Door Latch System
Ensures Proper Seal Preventing Water Ingress and Sound Egress

Dense, Closed-Cell Foam Insulation with Reflective Silver Mylar Layer
Improved Sound Attenuation Without Damaging Effects From Radiant Heat Exposure

Lockable Turn and Tuck Stainless Steel Latch Handle
Corrosion-Free, Non-Protruding and Secure

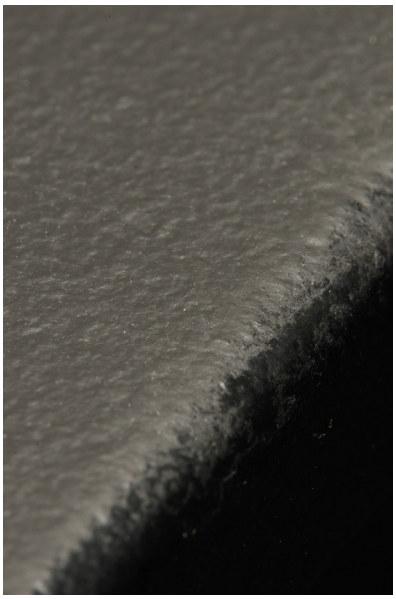
Doc No. 0163180SBY
Rev. E 06/10/19

GENERATOR ENCLOSURES

FEATURES:	BENEFITS:
Dimensional matching of acoustic and non-acoustic enclosure designs	Reduces variation in fuel tank pricing, inventory; removes need to change out fuel tank or retrofit
Standardized enclosure components *	Ease of retrofit or upgrade to acoustic system; reduced parts inventory, costs
Enclosure mounted directly to unit baseframe	Simplified delivery and installation with enclosure and unit in single component design
Electrostatically painted panels	Maximum protection from weather elements
12 or 14 gauge steel based on kW rating	Maximum sound attenuation, protection and product life
Aluminum Enclosure optional	Prevents corrosion in coastal regions
Stainless steel door latch and hinge hardware	Provides extended component life; maximum protection against rusting
Stainless steel door latch strike plate	Maximum protection against enclosure paint damage from door latch pin
Door hinges utilize slip-pin design	Provides quick door removal for full-unit access
Polyethylene gasketing under door hinges	Additional protection for enclosure paint finish
Keyed door latches	Protection for equipment and personnel
Large removable access doors	Ease of maintenance
Relocation of access doors	Provides improved access to MLCB on all units
Redesigned door gasketing	Improved sealing quality from sound and weather elements
Weather resistant aluminum roof design with drip ledge	Provides optimum moisture/rain runoff from unit
Cabled and gasketed radiator access cover	Provides improved radiator access and additional protection from weather elements
Acoustic roof panels manufactured with mechanical retention pins	Increased acoustic foam retention within unit
Polyethylene washers under all panel fasteners	Additional paint finish protection from stainless steel fastener
Internally fastened enclosure panels (where possible)	Provides streamlined unit appearance
Additional roof panel stiffener	Added overall compartment rigidity and acoustic foam panel retention
Self-enclosed exhaust system	Provides safe unit operation; no enclosure hot spots; streamlined unit appearance
Discharge air duct has been designed with minimal fasteners	Ease of removal and access to exhaust system
Stainless steel exhaust band clamps	Provides extended component life; ensures proper exhaust seal
Drain holes within air ducts	Enables maximum water run-off
Rodent-proof, tamper proof enclosure design	Safety and security for personnel and equipment
Redesigned baseframe lifting lugs	Ease of unit relocation; prevents compartment damage from lifting straps
Up to 200 MPH wind kit options (Contact Factory for Availability)	Meets locally enforced wind requirements

* Consult Generac Power Systems, Inc. for installation drawings for specific configurations and dimensions.

RhinoCoat™



Generac's RhinoCoat™ finish system provides superior durability as a standard for all Generac Industrial enclosures, tanks and frames.*

Testing Standards

Generac's RhinoCoat™ finished surfaces are subjected to numerous tests. These include:

- ASTM D - 1186 - 87.....2.5+ MIL Paint Thickness
- ASTM D - 3363 - 92a.....Adequate Material Hardness
- ASTM D 522 - B.....Resistant to Cracking
- ASTM D 3359 - B.....Exceptional Adhesion
- ASTM B117 D 1654.....Resistant to Salt Water Corrosion
- ASTM D1735 D 1654.....Resistant to Humidity
- ASTM 2794 93 (2004).....Exceptional Impact Resistance
- SAEJ1690 - UV Specifications.....UV Protection

In addition to the testing standards above, Generac adds the following test requirements more specific to generator applications:

- Resistant to Typical Oils
- Resistant to Typical Fuels
- Resistant to Typical Antifreeze
- Resistant to Distilled Water

Primary Codes and Standards

*RhinoCoat™ powder coat paint is durable and corrosion resistant however it is not a rust preventative. Generac pretreats all powder coated parts to assist with resistance to corrosion.

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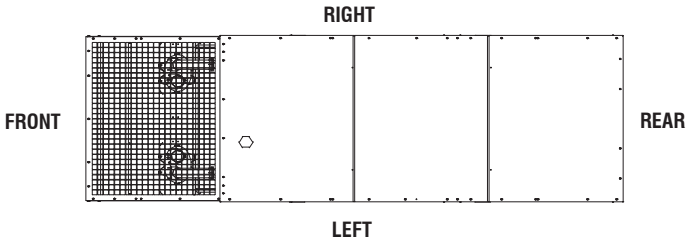
P: (262) 544-4811

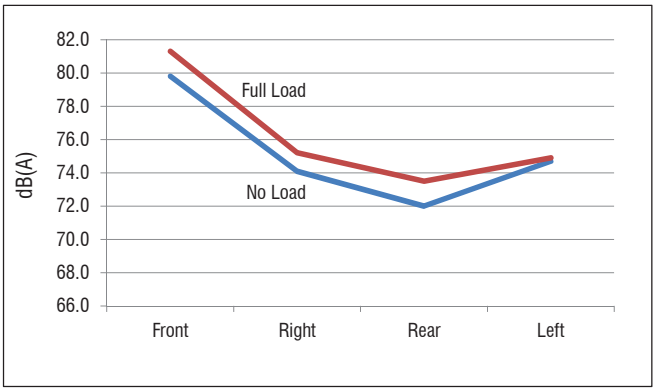
Part No. 0180230SBY
Rev. F 11/16/19

LEVEL 2 ACOUSTIC ENCLOSURE
SG400 21.9L

	60Hz NO-LOAD DATA, dB(A)								DISTANCE: 7 METERS	
MICROPHONE LOCATION	OCTAVE BAND CENTER FREQUENCY (Hz)									
	31.5	63	125	250	500	1000	2000	4000	8000	dB(A)
FRONT	51.8	64.3	71.6	73.4	76.1	70.4	64.3	61.4	55.3	79.8
RIGHT	48.0	59.2	66.5	65.9	70.2	64.0	63.8	58.2	53.1	74.1
REAR	51.1	58.3	65.3	66.1	67.1	62.1	58.4	51.6	44.6	72.0
LEFT	47.0	60.2	68.5	67.1	70.6	64.3	62.0	56.1	49.5	74.7
AVERAGE	49.5	60.5	68.0	68.1	71.0	65.2	62.1	56.8	50.6	**75.1**

	60Hz FULL-LOAD DATA, dB(A)								DISTANCE: 7 METERS	
MICROPHONE LOCATION	OCTAVE BAND CENTER FREQUENCY (Hz)									
	31.5	63	125	250	500	1000	2000	4000	8000	dB(A)
FRONT	56.1	72.1	76.3	73.6	75.9	70.2	64.9	61.5	55.7	81.3
RIGHT	53.2	66.2	70.1	66.2	69.8	63.4	63.1	58.0	51.4	75.2
REAR	54.3	65.2	69.1	65.9	66.5	60.9	58.1	52.6	45.0	73.5
LEFT	51.1	63.4	69.3	66.3	70.1	64.5	62.3	58.1	50.7	74.9
AVERAGE	53.7	66.7	71.2	68.0	70.6	64.8	62.1	57.6	50.7	**76.2**





1. All positions at 23 feet (7 meters) from side faces of generator set.
2. Test conducted on a 100 foot diameter asphault surface.
3. Sound pressure levels are subject to instrumentation, installation and testing conditions.

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Part No. 0K8103C
Rev. B 05/05/15

ALTERNATOR DATA SHEET
K0400124Y21

General Characteristics

Voltages (V)	480	Number of Leads	12
Frequency (Hz)	60	Winding Type	Reconnectable
Phases	3	Air Flow (cfm)	Consult Factory
Speed (rpm)	1800	Total Harmonic Distortion (%)	<5
Excitation System	PMG	Largest Single Harmonic Value (%)	<3.5
Insulation Class	H	Telephone Interference Factor (TIF)	<50
Winding Pitch	2/3	Reference Part Number	0L3722E01R

Ratings at 0.8 pf based on 40˚C Ambient

Voltage (V)	80˚C Rise		105˚C Rise		120˚C Rise		150˚C Rise	
	kW	kVA	kW	kVA	kW	kVA	kW	kVA
208/240	Consult Factory							
480	304	380	364	455	400	500	428	535

Base Data at 480V, 500 kVA, 1800 RPM, 60 Hz, 3 Phase

Description	Value
Stator Resistance, Line to Line, High Wye Connection (Ω)	0.0061
Rotor Resistance (Ω)	1.6500
Exciter Stator Resistance - PMG (Ω)	7.5900
Exciter Rotor Resistance - PMG (Ω)	0.3300
Excitation Winding Resistance - PMG (Ω)	1.0121
Xd, Direct Axis Synchronous Reactance (p.u.)	4.150
X2, Negative Sequence Reactance (p.u.)	0.250
X0, Zero Sequence Reactance (p.u.)	0.060
X'd, Direct Axis Transient Reactance (p.u.)	0.190
X"d, Direct Axis Subtransient Reactance (p.u.)	0.170
Xq, Quadrature Axis Synchronous Reactance (p.u.)	1.990
T'd, Direct Axis Transient Short Circuit Time Constant (s)	0.112

Description	Value
T"d, Direct Axis Subtransient Short Circuit Time Constant (s)	0.016
T'do, Direct Axis Transient Open Circuit Time Constant (s)	2.910
Ta, Short Circuit Time Constant of Armature Winding (s)	0.037
Phase Sequence CCW-NDE	T1, T2, T3
Voltage Balance, L-L or L-N (%)	2.5
Deviation Factor (%)	< 7
High Wye Connection, Sustained 3 Phase Short Circuit Current (%) - PMG only	300
X/R	14
Short Circuit Ratio	0.31
Heat Rejection (BTU/hr) - 100% Rated Load, 480V, 0.8pf, 120ºC Temp. Rise	134,986

Reference: Mil-STD-705B
All Ratings are Nominal

Generac Power Systems, Inc. | P.O. Box 8 | Waukesha, WI 53187
P: (262) 544-4811

Bulletin No. 0182670SSD
Rev. E 10/15/18

ALTERNATOR DATA SHEET
K0400124Y21

sKVA

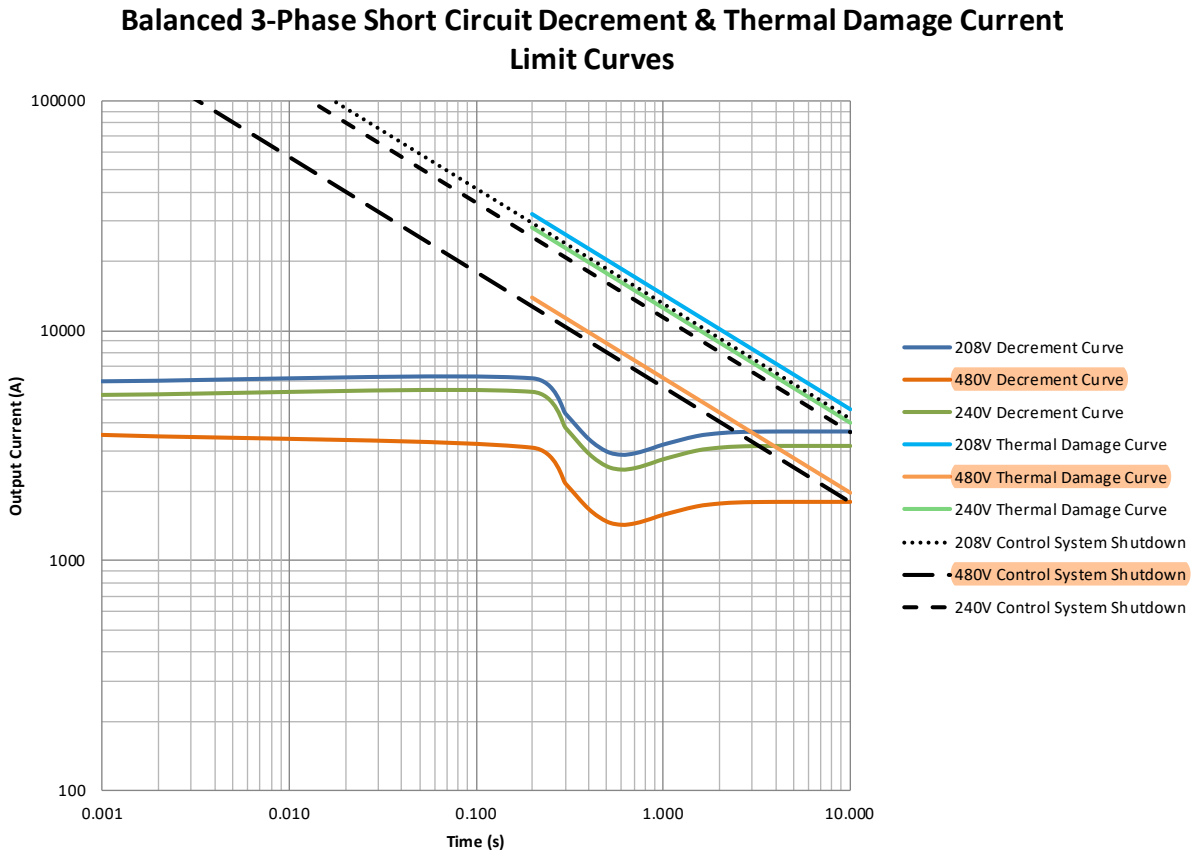
	10%	15%	20%	25%	30%	35%
480 V @ 0.3PF	229	346	492	656	862	1040
480 V @ 0.6PF	264	400	561	732	953	1174
208/240 V @ 0.3PF	171	259	369	487	645	787
208/240 V @ 0.6PF	202	299	425	558	717	874

Efficiencies

	480 V @ 0.8 PF	480 V @ 1.0 PF	208/240 V @ 0.8PF	208/240 V @ 1.0 PF
20% Rated Power*	86.0	86.5	Consult Factory	
40% Rated Power*	90.0	91.1		
60% Rated Power*	91.4	93.1		
80% Rated Power*	91.4	93.7		
100% Rated Power*	91.0	93.8		

*Rated Power value is rating kW at 120°C Winding Temp Rise and 0.8pf

LOG LOG Decrement Curve



GENprotect ™
Seamless Protection for Industrial Power Generators

GENprotect Operation

The design choice of an onsite power system using a Generac Industrial Power Generator assures your emergency power source is protected from unexpected power distribution faults. Typically, a generator will include some type of over-current device, such as a circuit breaker, or be protected by inherent design with the controller protecting the alternator through a protection algorithm. Generac's GENprotect generator protection system monitors the system current output and protects the alternator with extended security against fault scenarios that could occur within the site's downstream distribution system.

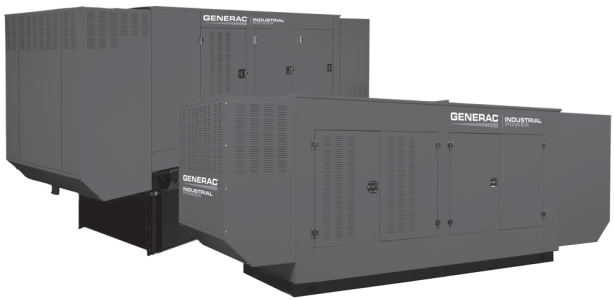
It is a common misconception that the alternator's main circuit breaker protects the alternator from a short circuit event. The main output breaker protects the cabling and provides a convenient disconnect. The characteristic trip curve for the industry standard thermal magnetic breaker (MCCB, molded case thermal magnetic or solid state) does not coordinate with the thermal damage limitation for an on-site generator. If circuit breakers are used for generator protection, a solid-state circuit breaker with full adjustments (Long Time, Short Time and Instantaneous, LSI) is required to coordinate the breaker protection curve within the generator thermal damage curve. Historically, this limitation was often accepted in system design since failures of the main generator feeder are extremely rare. Most short circuit events happen at a branch circuit, equipment level, where the fault is easily cleared by the smaller down stream breakers.

Given the mission critical nature of today's back-up power applications, it is more desirable to protect the system against even relatively rare failure modes. As generator controllers have become more powerful it is feasible for manufactures to supply coordinated short circuit protection integral to the generator control system, negating the need for a main-line circuit breaker.

Generac's GENprotect alternator protection algorithm monitors the generator output. If this monitoring senses short circuit current in excess of rated amps, GENprotect steps in to provide a controlled and safe approach to breaker coordination and alternator protection. GENprotect first limits the alternator short circuit current level to 300%. By limiting the available fault current, GENprotect extends the time the alternator can maintain fault current resulting in consistent breaker coordination. Without this functionality a line to neutral fault may be at 800% of rated current and need to be cleared within 1.4 seconds. The second function GENprotect performs is I2T thermal protection for the alternator. Since a short circuit event can heat the alternator so rapidly, it is not possible to protect the alternator by monitoring temperature. Instead GENprotect calculates the heat energy of the fault current. When this energy reaches the limits of NEMA MG1, GENprotect trips the generator off-line. This configuration ensures the alternator is protected and the power system is ensured 10 seconds of 300% fault current for breaker coordination.

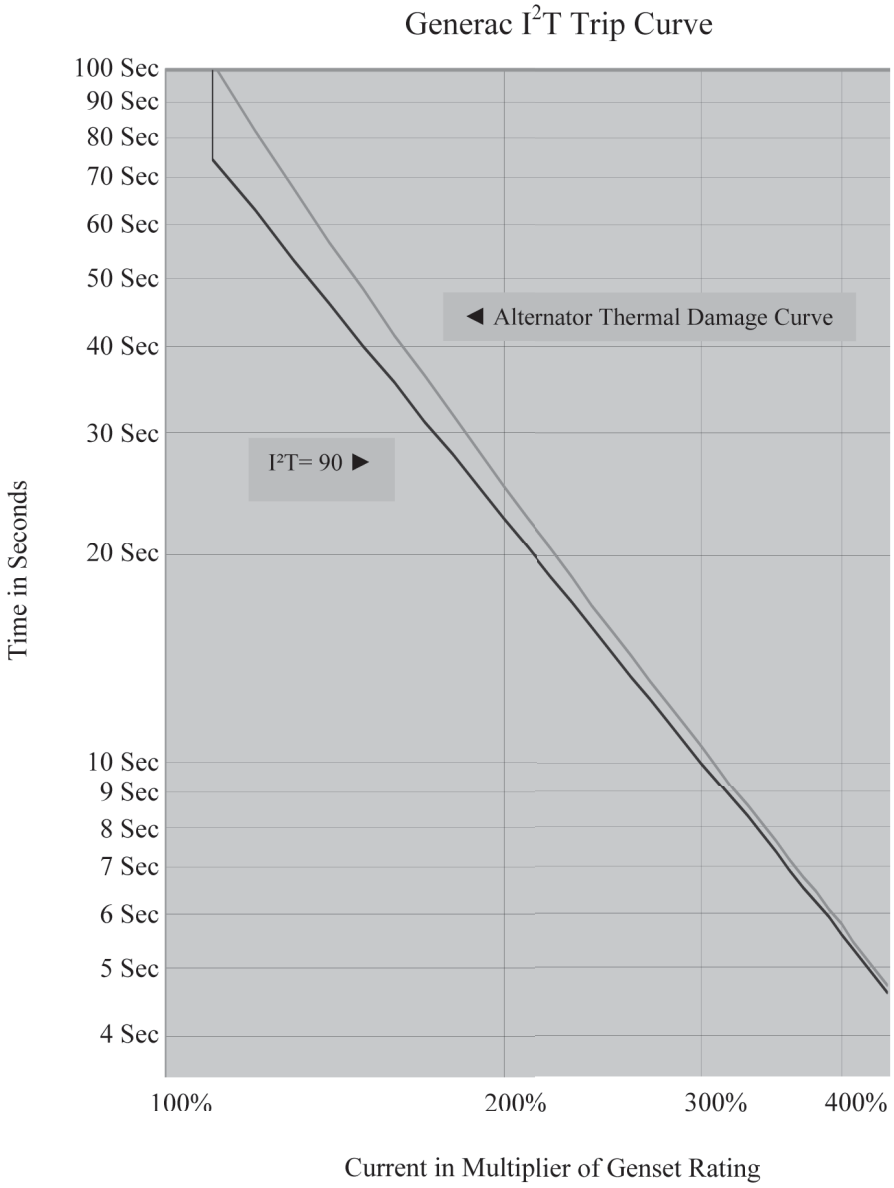
DESCRIPTION

- GENprotect is an alternator protection algorithm approved by UL.
- Protects alternator from damage due to shorts and electrical faults.
- Provides breaker coordination and alternator protection.
- Allows for use of multiple circuit breaker choices, including "no" breaker.



Doc. No 0187980SBY
Rev. D 06/13/19

GENprotect ™
Seamless Protection for Industrial Power Generators



The above Figure shows the Generac GENprotect thermal protection curve for use in protection and coordination studies. The alternator Thermal Damage Curve is shown just to the right of the GENprotect protection curve. If the alternator load is greater than the thermal damage protection curve for the alternator, the generator set will trip off-line. For example, an overload current of 110% for 75 seconds causes an overload alarm and will trip the generator off-line, shutting down the engine. GENprotect will provide generator protection over a full range of time and current, from instantaneous faults to overloads lasting several minutes. An advantage of GENprotect over a MCCB is that GENprotect allows for downstream breakers to clear faults without tripping the generator off-line, providing selective coordination with the first level of downstream breakers.

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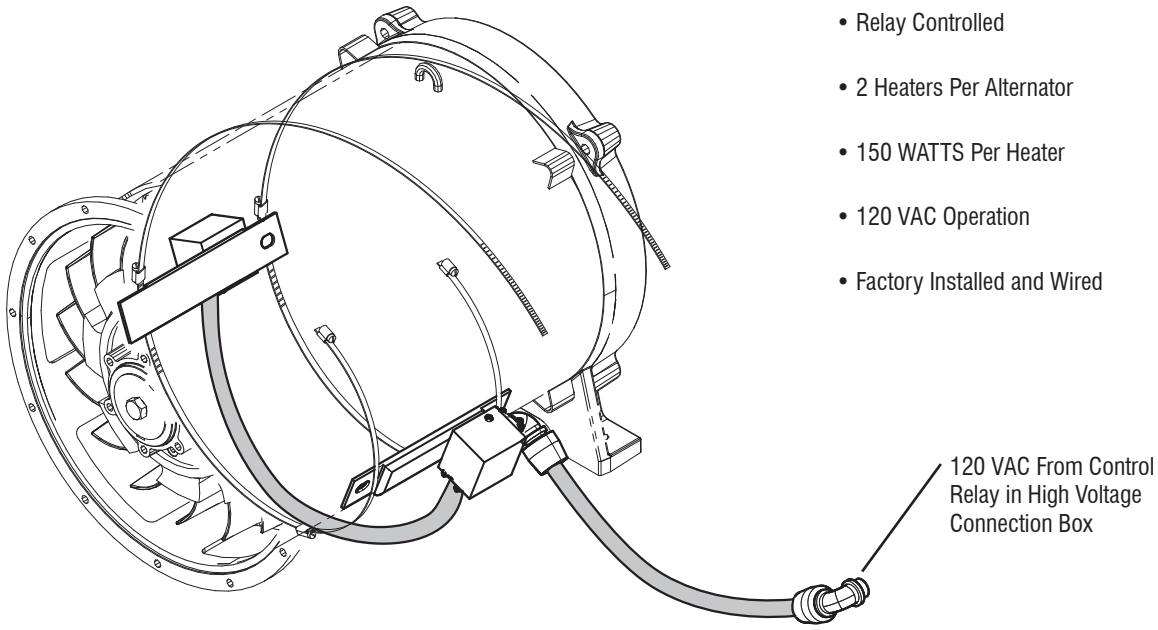
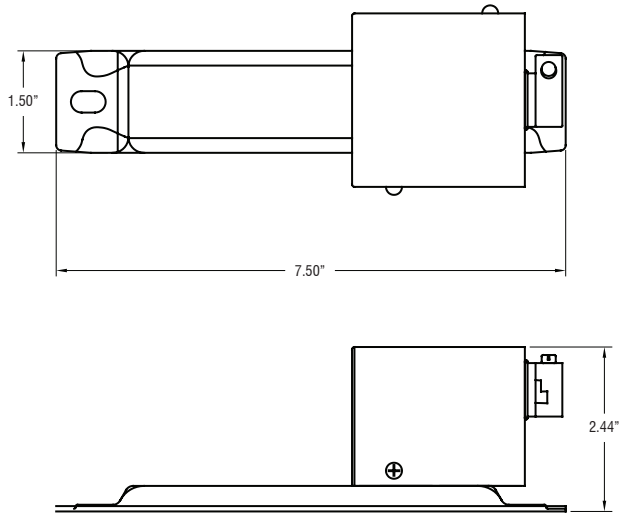
Doc. No 0187980SBY
Rev. D 06/13/19

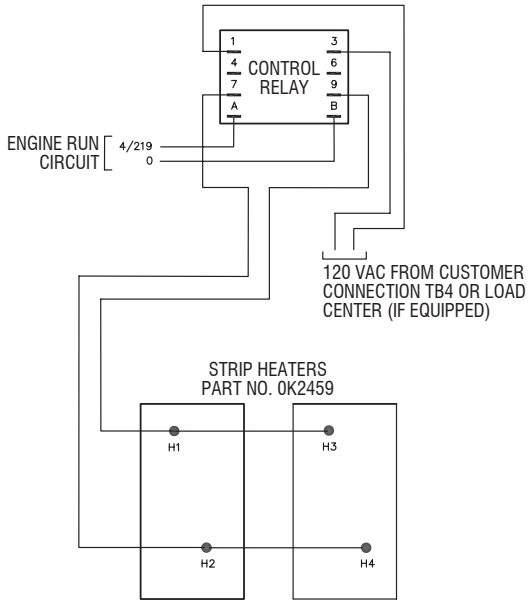
ALTERNATOR STRIP HEATER 120 VAC



Typical Heater Location on Alternator

- Relay Controlled
- 2 Heaters Per Alternator
- 150 WATTS Per Heater
- 120 VAC Operation
- Factory Installed and Wired





WIRING DIAGRAM

Part No. 0603480SSD
Rev. E 06/14/19

EATON CIRCUIT BREAKER DATA
100% Rated LSI Electronic Trip

AMPS	VOLTS	ACCESSORIES	EATON PART NUMBER	SERIES	FRAME	GENERAC PART NUMBER
20	600	No Accessories	JGE305032GC	G	JG-FRAME	0H9300EH0N
		Shunt Trip and Aux. Contacts	JGE305032GCA2__*			0H9300EH__**
25		No Accessories	JGE305032GC			0H9300EH0N
		Shunt Trip and Aux. Contacts	JGE305032GCA2__*			0H9300EH__**
30		No Accessories	JGE305032GC			0H9300EH0N
		Shunt Trip and Aux. Contacts	JGE305032GCA2__*			0H9300EH__**
35		No Accessories	JGE305032GC			0H9300EH0N
		Shunt Trip and Aux. Contacts	JGE305032GCA2__*			0H9300EH__**
40		No Accessories	JGE305032GC			0H9300EH0N
		Shunt Trip and Aux. Contacts	JGE305032GCA2__*			0H9300EH__**
45		No Accessories	JGE305032GC			0H9300EH0N
		Shunt Trip and Aux. Contacts	JGE305032GCA2__*			0H9300EH__**
50		No Accessories	JGE305032GC			0H9300EH0N
		Shunt Trip and Aux. Contacts	JGE305032GCA2__*			0H9300EH__**
70		No Accessories	JGE310032GC			0H9314EH0N
		Shunt Trip and Aux. Contacts	JGE310032GCA2__*			0H9314EH__**
80		No Accessories	JGE310032GC			0H9314EH0N
		Shunt Trip and Aux. Contacts	JGE310032GCA2__*			0H9314EH__**
90		No Accessories	JGE310032GC			0H9314EH0N
		Shunt Trip and Aux. Contacts	JGE310032GCA2__*			0H9314EH__**
100		No Accessories	JGE310032GC			0H9314EH0N
		Shunt Trip and Aux. Contacts	JGE310032GCA2__*			0H9314EH__**
125		No Accessories	JGE316032GC			0H9315EH0N
		Shunt Trip and Aux. Contacts	JGE316032GCA2__*			0H9315EH__**
150		No Accessories	JGE316032GC			0H9315EH0N
		Shunt Trip and Aux. Contacts	JGE316032GCA2__*			0H9315EH__**
175		No Accessories	JGE325032GC			0H9318EH0N
		Shunt Trip and Aux. Contacts	JGE325032GCA2__*			0H9318EH__**
200		No Accessories	JGE325032GC			0H9318EH0N
		Shunt Trip and Aux. Contacts	JGE325032GCA2__*			0H9318EH__**
225		No Accessories	JGE325032GC			0H9318EH0N
		Shunt Trip and Aux. Contacts	JGE325032GCA2__*			0H9318EH__**
250		No Accessories	JGE325032GC			0H9318EH0N
		Shunt Trip and Aux. Contacts	JGE325032GCA2__*			0H9318EH__**

To finish part numbers with either a * or ** Please see data below:

* 12V System, Use - S4
  24V System, Use - S6

** 12V System, Use CN
  24V System, Use BN

EATON CIRCUIT BREAKER DATA
100% Rated LSI Electronic Trip

AMPS	VOLTS	ACCESSORIES	EATON PART #	SERIES	FRAME	GENERAC PART #
300	600	No Accessories	LGE340032WCX1Y17	G	LG-FRAME	0H9321EH0N
		Shunt Trip and Aux. Contacts	LGE340032WCA2__*X1Y17			0H9321EH__**
350		No Accessories	LGE340032WCX1Y17			0H9321EH0N
		Shunt Trip and Aux. Contacts	LGE340032WCA2__*X1Y17			0H9321EH__**
400		No Accessories	LGE340032WCX1Y17			0H9321EH0N
		Shunt Trip and Aux. Contacts	LGE340032WCA2__*X1Y17			0H9321EH__**
450		No Accessories	LGE360032GC			0H9324EH0N
		Shunt Trip and Aux. Contacts	LGE360032GCA2__*			0H9324EH__**
500		No Accessories	LGE360032GC			0H9324EH0N
		Shunt Trip and Aux. Contacts	LGE360032GCA2__*			0H9324EH__**
600		No Accessories	LGE360032GC			0H9324EH0N
		Shunt Trip and Aux. Contacts	LGE360032GCA2__*			0H9324EH__**
700		No Accessories	CMDLB3800FT32WZ02	C	M-FRAME	0H9325EH0N
		Shunt Trip and Aux. Contacts	CMDLB3800FT32WA13S02Z02			0H9325EHBN
800		No Accessories	CMDLB3800FT32WZ02			0H9326EH0N
		Shunt Trip and Aux. Contacts	CMDLB3800FT32WA13S02Z02			0H9326EHBN
900		No Accessories	NGS312032MCZ08	G	NG-FRAME	0H9327EH0N
		Shunt Trip and Aux. Contacts	NGS312032MCA12S03Z08			0H9327EHBN
1,000		No Accessories	NGS312032MCZ08			0H9328EH0N
		Shunt Trip and Aux. Contacts	NGS312032MCA12S03Z08			0H9328EHBN
1,200		No Accessories	NGS312032MCX23Y08			0H9329EH0N
		Shunt Trip and Aux. Contacts	NGS312032MCA12S03Y08			0H9329EHBN
1,400		No Accessories	RGH316032MCY22		RG-FRAME	0H9360EH0N
		Shunt Trip and Aux. Contacts	RGH316032MCA12S21Y22			0H9360EHBN
1,600		No Accessories	RGH316032MCY22			0H9361EH0N
		Shunt Trip and Aux. Contacts	RGH316032MCA12S21Y22			0H9361EHBN
2,000		No Accessories	RGH320032MC			0H9367EH0N
		Shunt Trip and Aux. Contacts	RGH320032MCA12S21			0H9367EHBN

To finish part numbers with either a * or ** Please see data below:

* 12V System, Use - S4
  24V System, Use - S6

** 12V System, Use CN
  24V System, Use BN

EATON CIRCUIT BREAKER DATA LUG INFORMATION

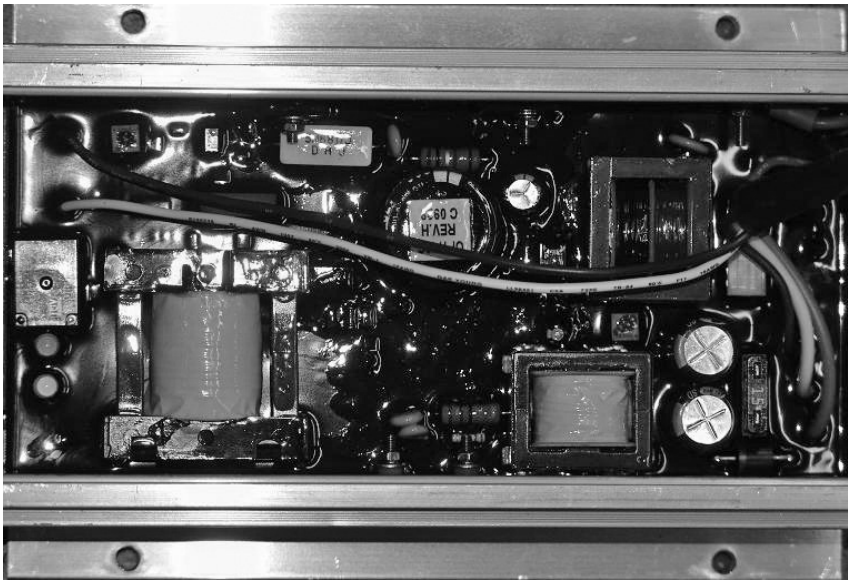
Eaton Series C Circuit Breaker Lugs

			Standard Lug	
Amps	Series	Frame	Eaton Part #	Wire (QTY) Size
15-70	C	G	-	(1) #10-1/0
15-100	C	F	3T100FB	(1) #14-1/0
125-200	C	F	3TA225FD	(1) #4-4/0
225	C	F	3TA225FDK	(1) #6-300MCM
250	C	J	TA250KB	(1) #4-350MCM
300	C	K	TA350K	(1) 250-500MCM
350-400	C	K	3TA400K	(2) 3/0-250MCM
450-500	C	L	TA602LD	(2) 3/0-350MCM
600	C	L	3TA603LDK	(2) 400-500MCM
700-800	C	M	TA800MA2	(3) 3/0-400MCM
900-1,000	C	N	T1200NB3	(4) 3/0-400MCM
1,200	C	N	TA1201NB1	(3) 500-750MCM

Eaton Series G Circuit Breaker Lugs

			Standard Lug	
Amps	Series	Frame	Eaton Part #	Wire (Qty) Size
50-250	G	JG	TA250FJ	(1) #8-350MCM
300-600	G	LG	3TA632LK	(2) #2-500MCM
900-1,200	G	NG	TA1201NB1	(3) 500-750MCM
1,400-1,600	G	RG	T1600RD	(4) 1-600MCM
2,000	G	RG	Lugs Not Included	
2,500	G	RG	Lugs Not Included	

BATTERY CHARGER
2.5 amp and 10 amp



Battery charger shown from inside of control panel enclosure.
Connections are made via an attached harness.

The Generac 2.5 amp 12 volt and 10 amp 12/24 volt battery chargers are designed to work with Generac Industrial Controls to provide the ultimate in automatic battery voltage maintenance.

The 2.5 amp charger is self-regulating and produces instantaneous output current adjustments to keep the battery charged to an optimum level. Battery voltage is read on the control panel digital display.

The 10 amp charger has automatic float and equalize control. It precisely monitors the battery's voltage and automatically activates the correct charging mode. The charge rate is limited and controlled to efficiently and safely maintain ideal battery levels under varying conditions.

The equalize system uses a control circuit to limit charging current to 10 amps. When battery voltage drops below a preset level, charging current increases to 5 amps and then to the 10 amp charge rate if needed. When the battery reaches maximum charge, the charger switches to float mode to supply just enough current to maintain the battery at or above 13/26 volts. Battery voltage and charging current are read at the control panel digital display.

Specifications	2.5A	10A
Nominal Input	120 VAC	120 VAC
Operating AC Line Voltage Range	108 to 132 VAC	108 to 132 VAC
Input AC Line Frequency	50/60 Hz	50/60 Hz
Battery Fuse	N/A	15 A
Nominal Charge Rate	2.5 A	10 A
Equalize Voltage	N/A	13.8/27.6 V
Float Voltage	13.4 V	13.0/26.0 V
Current @ Equalize to Float Transition	N/A	5 A
Battery Under-voltage shutdown	N/A	11/22 V
LED Indicators	No	Yes
AC Line Voltage	N/A	Green LED
Battery Connected and Charging	N/A	Yellow LED
Battery Current Drain	30 mA	30 mA
AC Line Connection	Connector Plug	Connector Plug
Battery Connection	Connector Plug	Connector Plug
Control Connection		AC Power Fail Form Relay Form C 2 A Rating
CUL Recognized	Yes	Yes
NFPA 110 Compliant	No	Yes
AGM Compatible	No	Yes
UL1236	No	Yes
CSA 22.2 No. 107	No	Yes

INDUSTRIAL GENSET - BATTERY INDEX

• Warranty by Exide Corp. • Exide e-mail: tbgna@exide.com • 800-782-7848 National Hot line

INDUSTRIAL SPARK-IGNITED GENSETS - AVAILABLE BATTERIES

			GENERAC PART #					
Engine	System Voltage	Battery Quantity	058208 (Group 24F)	077483 (Group 26)	058665 (Group 27F)	061119 (Group 31)	061104 (Group 8D)	BT0015A02 (Group 8D)
G2.4	12	1		X				
G4.5	12	1			X	X		
G9.0	12	1			X	X		
G14.2	24	2					X	
G21.9	24	2					X	
G25.8	24	2					X	
G33.9	24	4					X	
G49.0	24	4					X	X

INDUSTRIAL DIESEL GENSETS - AVAILABLE BATTERIES

			GENERAC PART #			
Engine	System Voltage	Battery Quantity	058665 (Group 27F)	061119 (Group 31)	061104/BT0015A00 (Group 8D)	BT0015A02 (Group 8D)
D2.2 Perkins	12	1	X	X		
D2.4 Generac	12	1	X	X		
D3.4 Generac	12	1	X	X		
D4.5 FPT	12	1		X		
D6.7 FPT 100, 130kW	12	1 or 2†		X		
D6.7 FPT 150, 175kW	12	2†		X		
D8.7 FPT	24	2		X		
D10.3 FPT	24	2		X	X	
D12.9 FPT	24	2		X	X	
D12.5 Perkins	24	2			X	
D15.2 Perkins	24	2			X	
D16.0 Volvo	24	2		X	X	
D18.1 Perkins	24	2			X	
D33.9 MHI	24	2			X	X
D37.1 MHI	24	4			X	X
D49.0 MHI	24	4			X	X
D65.4 MHI	24	4			X	X

			DIMENSIONS (in) NOMINAL		
Part Number	Group Number*	Nominal CCA @ 0° F	L	W	H
058208	24F	525	6.75	10.63	9.00
077483	26	525	6.75	8.25	7.75
058665	27F	700	6.75	12.50	9.00
061119	31	925	6.75	13.00	9.40
061104/ BT0015A00	8D	1,155	11.00	20.80	10.00
BT0015A02	8D	1,300	11.00	20.80	10.00

All batteries are 12V, 6 cell construction, lead calcium type.
For 24V systems, batteries are wired in series.

X Battery available with electrolyte and installed in genset.
† Single or dual-paralleled battery options are available on 100 and 130kW. Single-battery option not available on 150 and 175kW.
* BCI Group Size reference.

Part No. 0161970SBY
Rev. L 8/24/20

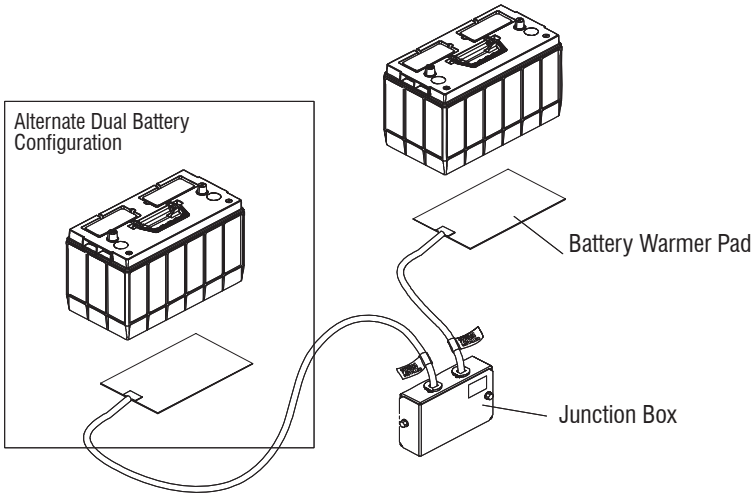
BATTERY PAD WARMER

DESCRIPTION

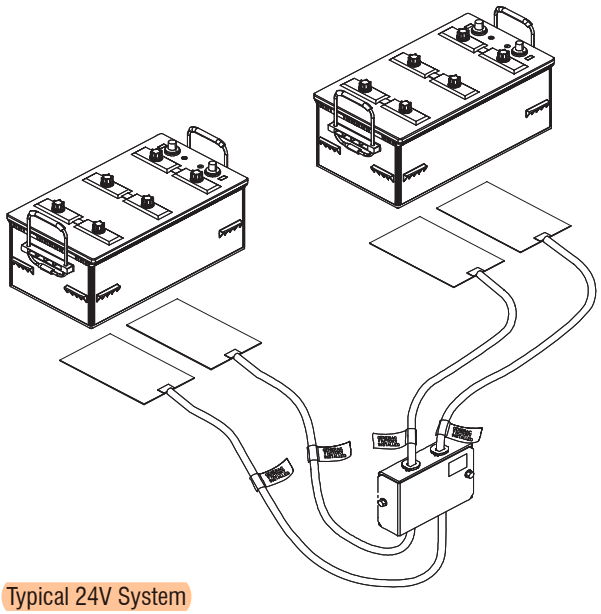
Battery warmers are designed to keep batteries warm and ensure maximum engine cranking speed in cold climate installations. Warming pads are thermostatically controlled, UL listed and factory-wired. 120 VAC is supplied to the warming pad junction box via power cord plugged into a GFCI receptacle or hard-wired to a circuit breaker in a genset-mounted load panel (if equipped).

SPECIFICATIONS

- Power: 75W @ 120 VAC
- Current: 0.625A @ 120 VAC
- Heating Element Type: Wire-Wound
- Pad Material: Silicone Rubber/Fiberglass
- Thermostatic Control
- Open: 40°F, Close: 20°F
- Factory Installed and Wired
- UL Listed
- All Dimensions and Specification are Nominal
- Battery Warmer
- Dimensions: 254 X 152 MM (10 X 6 IN)



Typical 12V System



Typical 24V System

Generac Power Systems, Inc. | P.O. Box 8 | Waukesha, WI 53187
P: (262) 544-4811

Part No. 0197620SSD
Rev. E 5/11/2020

POWER ZONE® CONTROL PLATFORM
Power Zone® Pro Sync Controller

Features

The Generac Power Zone® Digital Control Platform is a fully integrated and multipurpose family of controllers for Generac's single and Modular Power Systems (MPS).

Standard Single Unit Control Features*
- Engine Protective Functions
- Alternator Protective Functions
- Digital Engine Governor Control
- Digital Voltage Regulator
- 7" Color Touch Screen
- Multi-Lingual
- Multiple Programmable Inputs and Outputs
- Remote Display Capability
- Remote Communication via Modbus® RTU, Modbus TCP/IP, Ethernet 10/100, SNMP
- Alarm and Event Logging with Real Time Stamping
- Expandable Analog and Digital Inputs and Outputs
- Wireless Software Update via Remote Computer
- Wi-Fi, Bluetooth, BMS and Remote Telemetry
- USB Port for Easy Log Data Downloads and Firmware Updates
- Analog Input Bias for Speed and Voltage◊
- E-mail Notifications for Alarm Conditions and Log Data†

Additional Standard Parallel Control Features**
- Paralleling Control (Synchronizing)
- Reverse Power
- Loss of Synchronization Between Gensets
- Load and VAR Sharing

Standard System Control Features
- Built-In PLC Logic Eliminates the Need for External Controllers Under Most Conditions
- Ethernet Based Communications Between Gensets
- Programmable I/O Channel Properties
- Built-In Diagnostics

Customer Ports
- 1 - RS485 - Modbus RTU (Main Controller)
- 1 - RJ45 - Remote Annunciator Panel/Remote Relay Panel (Main Controller)
- 1 - CANBus - Power Zone® Accessories (Main Controller)
- 1 - RJ45 - Modbus TCP/IP or Ethernet 10/100 (Display)
- 2 - Type A USB (Display)

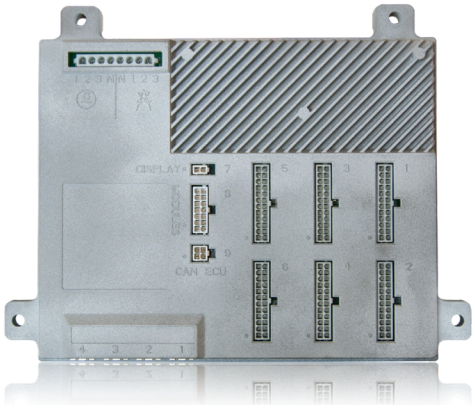
PLC (Built-In Programmable Logic Controller)
- Boolean Logic Programming (Ladder)
- 16 Timers
- 16 Counters
- Counter Reset
- Configurable Through Software Tool

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

* For SG and SD Models
** For MG and MD Models

◊ Not Available in Parallel Controller
† Requires Use of a Network Accessible Authenticated or Open SMTP Server

POWER ZONE® CONTROL PLATFORM
Power Zone® Pro Sync Controller



Voltage Regulation (Single or Three Phase Module Options)
- Digital Control
- Three Phase Sensing††
- Variable V/F Slope Settings and Adjustable Gains
- Negative Power Limit
- Soft Start Ramping
- Loss of Sensing Protection
- Components Encapsulated for Total Protection
- Paralleling Function for Power Zone® -DSP and Power Zone®-GSP ‡
- Fault Protection (I^2T Function)‡
- High Voltage Limit
- Low Voltage Limit
- Maximum Power Limit
- ±0.5% Voltage Regulation
- ±0.1% Stability

Display (Touch Screen)
- Resistive Color Touch Screen
- Hi-Brite (1400 NITS)
- Easy Identifiable Icons
- Multi-Lingual
- IP65 Rated
- On Screen Editable Parameters
- Key Function Monitoring
  - Three Phase Voltage, Amperage, kW, kVa, and kVAr
  - Selectable Line to Line or Line to Neutral Measurements
  - Frequency
  - RPM
  - Engine Coolant Temperature
  - Engine Oil Pressure
  - Engine Oil Temperature
  - Battery Voltage
  - Warning and Alarm Indication
  - Diagnostics
  - Maintenance Events/Information
  - Hourmeter

Governor Module
- Soft Start Ramping (Multiple Steps)
- Synchronizing Function for Power Zone® -DSP and Power Zone® -GSP Only ‡
- Fully Adjustable Gain (PID)

Qualification Testing
- Life Test in Environmental Chamber
- Temperature Rating -40° C to +60° C
- Humidity 2% to 95% (Non Condensing)
- Vibration Tested and Protected

Connections§
- 27 - Digital Outputs (Open Drain, 35 VDC, 1.7A)
  - 6 Fast PWM Capable
  - 1 High Current
- 20 - Digital Inputs Maximum
  - 6 Fast PWM Capable
- 12 - General Purpose Analog Inputs
- 4 - Fast Analog Inputs
- 4 - Analog Outputs (0-10 VDC)
- 1 - E-Stop Relay Output
- 7 - Current Sense Inputs
- 2 - High Voltage Sense Inputs (Three Phase + Neutral)
- 2 - Magnetic Pickup Inputs
- 1 - Coolant Sensor Input
- 4 - Ethernet Ports
- 3 - CANBus Channels
- 1 - RS-485 Ports
- 2 - Switchable +12V Power Outputs

Codes And Standards
- UL 6200
- C-ETL-US
- CE
- FCC
- NFPA 110 (Software Programmable for Level 1 or 2)§§

Control Panel And Touch Screen
- Auto/Off/Manual
  - Operation Through Key Switch
  - Indication Through Touchscreen
- Alarm Acknowledge Button
- Audible Alarm and Silence
- Emergency Stop
- Not in Auto Indication

†† With Select Voltage Regulators
‡ Configurable Option

§ Actual I/O May Vary Due to Configuration
§§ With Additional Optional Remote Annunciator

Part No. 10000024063
Rev. J 07/06/20

POWER ZONE® CONTROL PLATFORM
21 Light Remote Annunciator and Remote Relay Panel

Model G0098510 Gray Remote Annunciator Panel with 8 Relays
Model G0098520 Gray Remote Relay Panel without LEDs and Keypad (Relays only)
Model G0098530 Gray Remote Annunciator Panel without Relays

Description:

The Remote Annunciator Panel provides remote monitoring and annunciation for up to 21 generator and system indications. 21 LEDs indicate 18 generator, 2 system, and 1 programmable condition.

The Relay panel has up to 8 selectable functions on form A relays; multiple relay panels can be connected for all 21 generator parameters.

The specific faults can be programmed through the Power Zone® display located on the generator.

Communications for a Power Zone® equipped generator is Ethernet or RS485.

All models require battery power (+12 or +24 VDC) sourced from the generator battery.

The Remote Annunciator Panel complies with NFPA 99 and NFPA 110.

Environmental Specifications:

Operating Temperature	-25 ºC to 60 ºC
Humidity	0 to 95% Non-Condensing
Power Supply	Generator Battery, +12 or +24 Volts DC
Power Usage	6 Watts Typical
Ethernet Communications	Ethernet (Cat5E)
Ethernet Cable Length (Cat5E)	300 ft*
RS485 Communications	Fully Isolated Twisted Pair Cable with Shield
RS485 Length	4000 ft
Relay Output	One NO Contact and 8** NO&NC Contacts (Energized when Annunciator is Powered and No Faults are Present)
Relay Contact Rating	30 VDC, 1 amp
Enclosure Rating	NEMA 1
Alarm Horn (Remote Annunciator Panels Only)	90 dB @ 10 cm

*Max Distance Between Hubs- No Limit on Number of Hubs or Total Distance
** Only available on Models G0098510 and G0098520

Part No. 10000026036
Rev. D 06/13/19

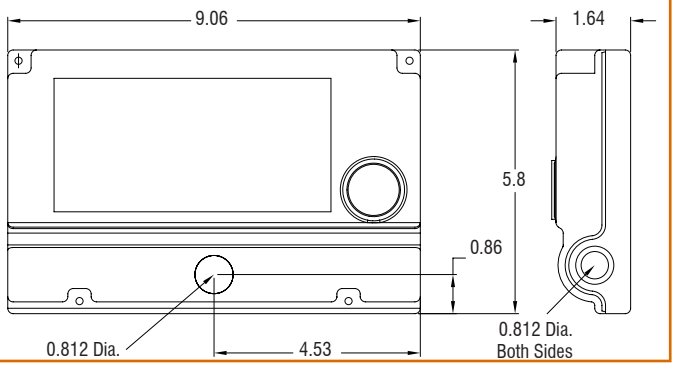
POWER ZONE® CONTROL PLATFORM
21 Light Remote Annunciator and Remote Relay Panel

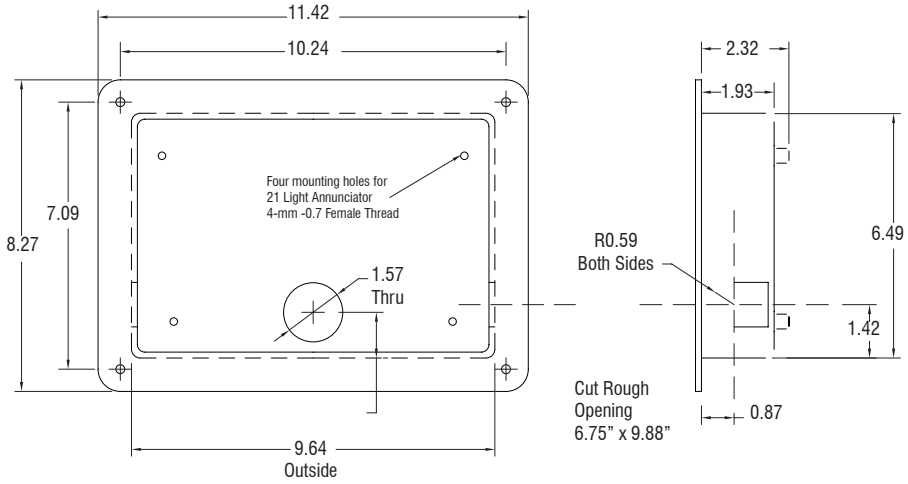
Function	Color	Alarm	Latched
Pre-Low Oil Pressure	Yellow	Yes	Yes
Pre-High Water Temperature	Yellow	Yes	Yes
Pre-Low Water Temperature	Yellow	Yes	Yes
Pre-Low Fuel	Yellow	Yes	Yes
Battery Charge AC Fail	Yellow	Yes	No
Low Battery Voltage	Yellow	Yes	No
High Battery Voltage	Yellow	No	No
Not in Auto	Red	Yes	No
RPM Sensor Loss	Red	Yes	Yes
Overcrank	Red	Yes	Yes
Overspeed	Red	Yes	Yes
Low Oil Pressure	Red	Yes	Yes
High Water Temperature	Red	Yes	Yes
Low Water Level	Red	Yes	Yes
Emergency Stop	Red	Yes	No
Gen Running	Yellow	No	No
Gen Power (ATS)	Yellow	No	No
Line Power (ATS)	Green	No	No
Systems Ready	Green	Yes	No
Communications OK	Green	Yes	No
Spare	Green	No	No

Spare Keypad Switch can be used to implement a remote start function (Models G0098510 and G0098520 only).

Surface Mount Annunciator

The 21 Light Annunciator can mount to a flat surface with connections through the 0.812 inch diameter knockout on the back surface or through 0.812 inch diameter knockouts on sides as shown.



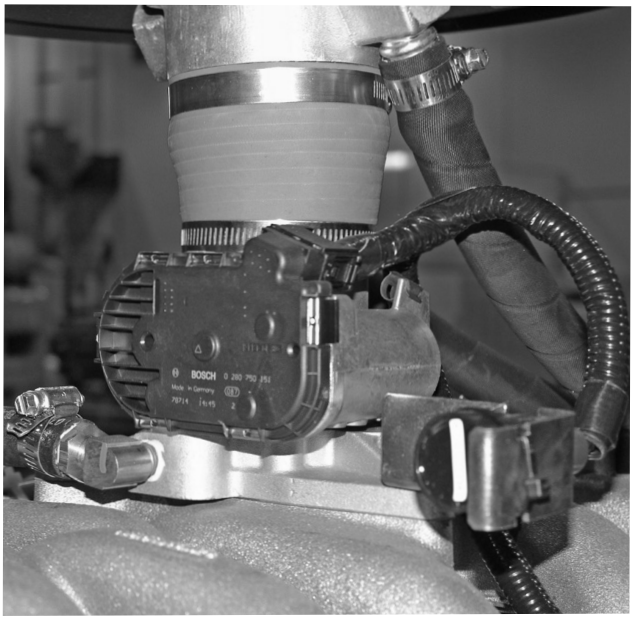


Flush Mount Annunciator

This Flush Mount Box is recessed into the wall opening and the surface mount annunciator mounts to the (4) 4 mm screw holes on the back surface. After wire connections are made the front annunciator cover is attached.

Part No. 10000026036
Rev. D 06/13/19

ELECTRONIC GOVERNOR
Spark-Ignited Engines



Generac's electronic isochronous governor systems are standard on all Spark-Ignited gensets utilizing Generac's Digital Control Platforms.

- Isochronous Speed Regulation
- ±0.25% Steady State Regulation
- Factory Installed and Adjusted
- Fully Adjustable
- Quiet-Test™ Low-Speed Exercise Capability
- Fast Response
- High Reliability
- Environmentally Sealed

ACTUATOR

Die cast enclosure housing the throttle plate and the gear-driven rotary actuator with the interior components sealed against dust, dirt and moisture. The gear drive is directly connected to the throttle plate for fast and precise control. Safety spring-return to a closed position upon loss of power.

Design	Bosch
Type	Electronically Actuated Throttle Valve
Operating Voltage	12/24VDC
Response Time	<100 ms
Operating Temperature Range	-40˚F to 284˚F
Output	Rotary (internal - no linkage)

CONTROLLER

The governor driver module is located in the generator control panel. A sealed unit with waterproof connections and a feedback circuit from the actuator for throttle plate position. Generac software controls speed governing, and is fully adjustable.

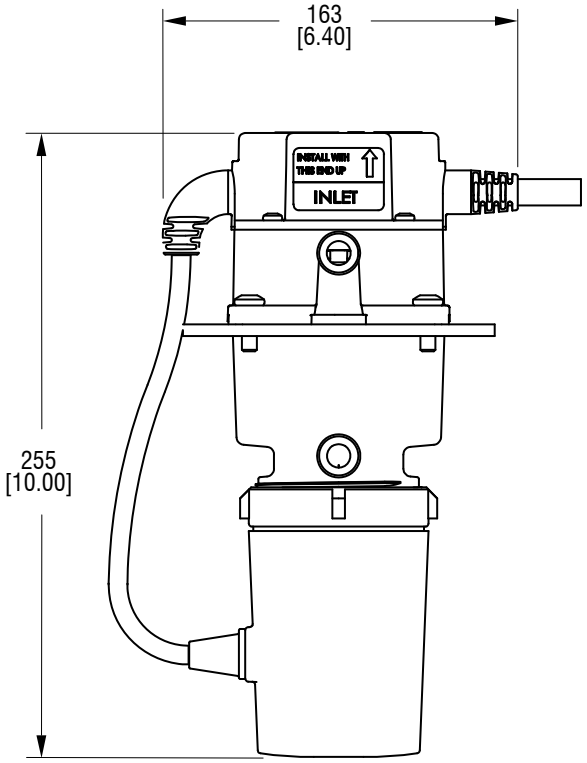
The Generac electronic governor system applies to all spark-ignited gensets with Generac's Digital Control Platforms.

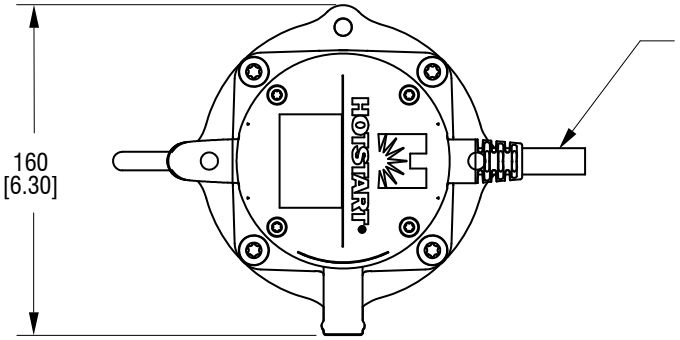
COOLANT HEATER OPTION
2500 WATT, 240V

SPECIFICATIONS

- HOTSTART® HOTFLOW™ CTM25210-N00
- WATTS: 2500
- VOLTAGE: 240VAC SINGLE PHASE
- FIXED THERMOSTAT: 100/120° F
- FLOW RATE: 3.5 GPM @ 3 PSI
- UL/C-US LISTED

c UL us LISTED





DIMENSIONS: mm [INCHES]

Generac Power Systems, Inc. | P.O. Box 8 | Waukesha, WI 53187
P: (262) 544-4811

Part No. 0K5958
Rev. B 04/14/15

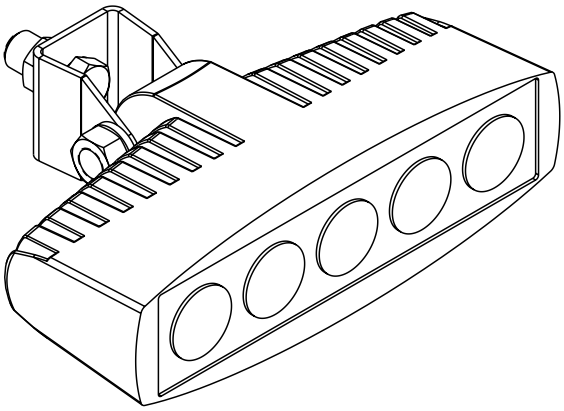
AC/DC LED LIGHT KITS FOR ENCLOSED UNITS ONLY

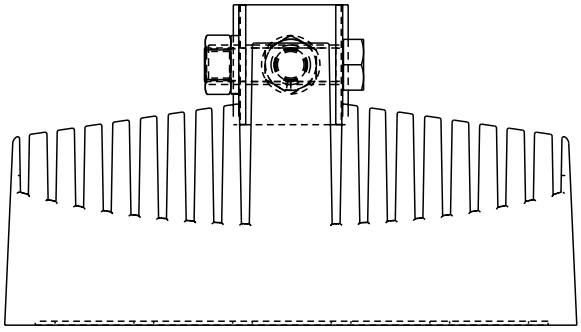
Description

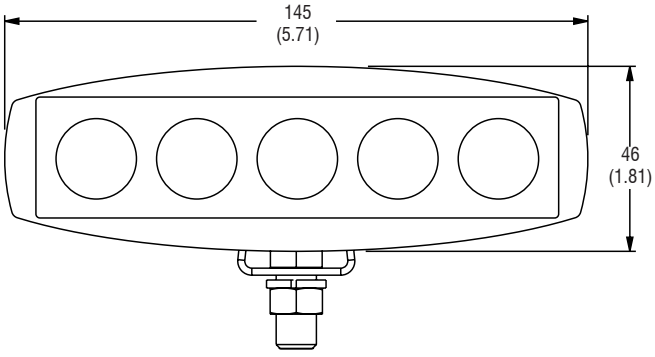
6” Oval 15 WATT Heavy Duty High Powered LED Work Light

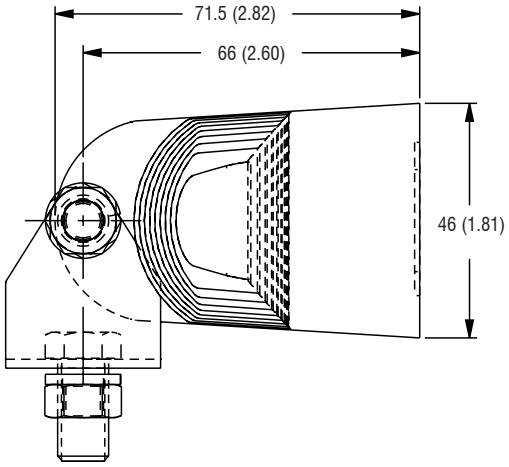
Specifications

- Beam Angle: 45°
- LED Color: Cool White
- LED Type: Epistar
- Light Output: 780 Lumens
- RoHS Compliant
- Power Consumption: 11.61 WATTS
- Operating Voltage: 9~32 VDC
- Color Temperature 6,000 K
- Color Rendering Index: 69
- IP Rating: Waterproof IP68
- Construction: Aluminum, Black Finish
- Beam Pattern: Flood
- Oil and Weather Resistant Wiring
- Adjustable Mount Angles







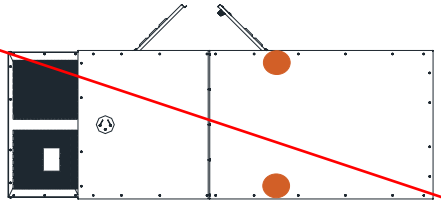


Dimensions: mm (inches)

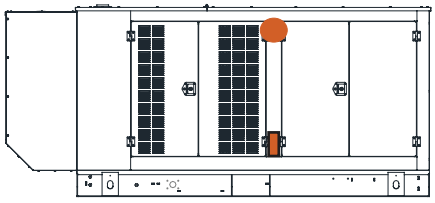
Part No. 0L6697
Rev. D 11/06/19

AC/DC LED LIGHT KITS FOR ENCLOSED UNITS ONLY

Top View



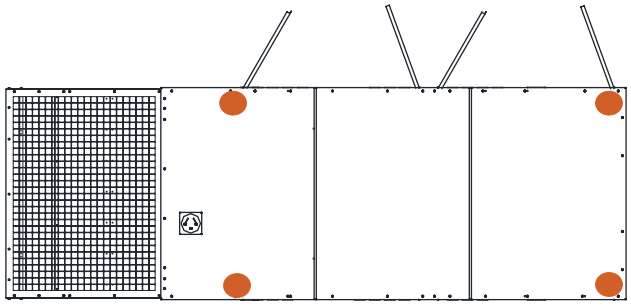
Side View



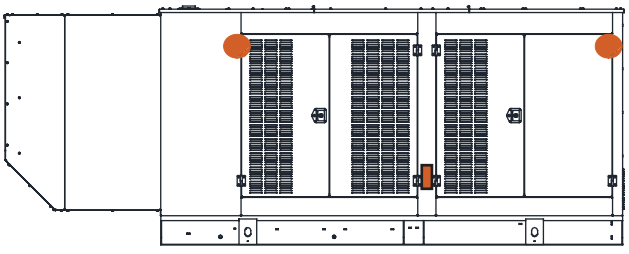
A-D Group Enclosures

- 2 Light Assemblies
- Diesel: 2.2L - 6.7L
- Gas: 4.5L - 9.0L

Top View



Side View



E-H Group Enclosures

- 4 Light Assemblies
- Diesel: 8.7L - 18.1L
- Gas: 14.2L - 33.9L

Legend

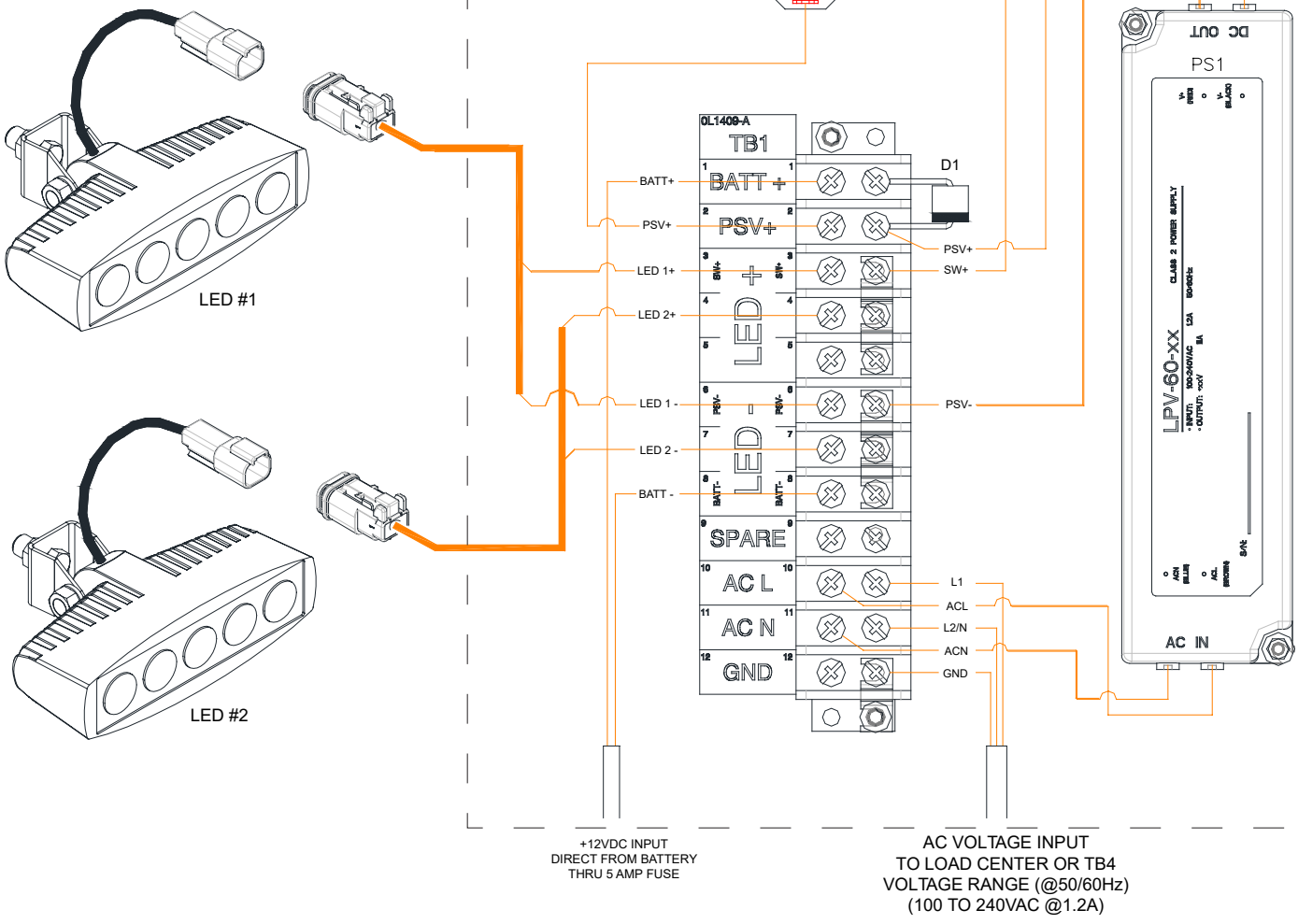
- Light Assembly
- Power Supply Box And Switch

Part No. 0L6697
Rev. D 11/06/19

AC/DC LED LIGHT KITS FOR ENCLOSED UNITS ONLY

POWER SUPPLY NOTES
AC INPUT: 1000-240VAC @ 1.2A @50-60HZ
LINE-TO-NEUTRAL OR LINE-TO-LINE
DC OUTPUT: 12VDC 25A (60W)

LEGEND	
ACL	AC LINE #1 (PS AC INPUT)
ACN	AC LINE #2/NEUTRAL (PS AC INPUT)
BATT_	BATTERY (+12VDC)
D_	DIODE (BACKFEED PROTECTION)
F_	FUSE
GND	AC GROUND
L1	AC HOT LEAD (L-L & L-N @1Ø)
L2	AC HOT LEAD #2 (L-L & L-N @1Ø)
LED_	LED LIGHT
N	AC NEUTRAL
PS_	POWER SUPPLY
PSV_	POWER SUPPLY DC VOLTAGE
SW_	SWITCH
TB_	TERMINAL BLOCK



12-POSTION LOAD CENTER
125A

Description

The 12 position 125A Load Center is a unit-mounted distribution panel for optional equipment on Generac generators that utilize the H-100 Panel, PM-GC, or PM-PC, and Power Zone® control systems. This main lug load center includes all of the circuit breakers required for the coolant heater, battery charger, and other factory-installed optional AC loads within the generator set, and serves as a convenient connection point for the customer's utility feed for those AC loads. All breakers are labeled for specific load circuits.

Specifications

- Available in 120/208 VAC or 120/240 VAC
- Siemens Part Number: SW1224L1125
- 125A Main Lug Load Center
- 100,000A IR
- Single Phase, Aluminum Bus
- UL Listed
- NEMA 3R
- Maximum of 12 Single Pole Breakers
- Maximum of 6 Two Pole 240V Breaker
- Dimensions: 21" L x 14.25" W x 3.88" D

Generac Power Systems, Inc. | P.O. Box 8 | Waukesha, WI 53187
P: (262) 544-4811

Part No. 10000004898
Rev. B 5/11/2020

FUEL SPECIFICATION
Natural Gas

Generac products are designed to run on natural gas and are tested for performance and reliability with clean, dry, pipeline quality natural gas. The properties presented in this standard represent the natural gas used in product testing. The performance and reliability of Generac products using non-conforming fuels are unknown and cannot be guaranteed.

Natural gas is, by definition, any gas that occurs organically, but this standard focuses on natural gas that is intended for use as fuel in reciprocating internal combustion engines. This natural gas is generally assumed to have specific properties, but compositional differences and contaminates greatly influence the fuel's quality and combustion stability. This variation can lead to lower power output, pre-ignition, detonation, and corrosion if the fuel does not meet this standard. This standard identifies an acceptable fuel composition for use in Generac products.

Fuel Specifications

The fuel used by Generac is clean, dry, pipeline quality natural gas adhering to the following:

Component / Property	Unit	Range
Methane	% Volume	80 Minimum
Ethane	% Volume	0-10
Propane	% Volume	0-5
Butanes	% Volume	0-2
Pentanes and Heavier	% Volume	0-0.5
Nitrogen and Other Inerts	% Volume	0-3
Carbon Dioxide	% Volume	0-3
Total Diluents Gases	% Volume	0-5
Hydrogen Sulfide	g/100scf (mg/m3)	0.25-0.3 (6-7)
Total Sulfur	g/100scf (mg/m3)	5-20 (115-460)
Water Vapor	lb/MMscf (mg/m3)	4-7 (60-110)
High Heating Value	Btu/scf (kJ/m3)	950-1,150 (35,400-42,800)
Methane Number	MN	80 Minimum

Notes:
- The fuel must be free of liquid water and hydrocarbons at delivery temperature and pressure.
- The fuel must be free of particulate matter.

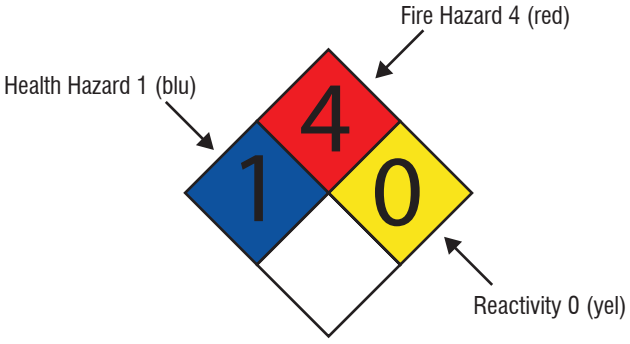
Hazards Information

Emergency Overview

DANGER!
EXTREMELY FLAMMABLE GAS - MAY CAUSE FLASH FIRE OR EXPLOSION!

High concentrations may exclude oxygen and cause dizziness and suffocation. Contact with pressurized vapor may cause frostbite or freeze burn.

NFPA 704 Hazard Identification System



4 - Severe	3 - Serious	2 - Moderate	1 - Slight	0 - Minimal

Part No. A0000641394
Rev. B 4/13/2020

SH	REV	WINDCHILL VERSION	
1/4	E	E.2	

NOTES:
1. CONTROL PANEL, (OPTIONAL BATTERY CHARGER INSIDE).
2. 120V, 20A GFCI & 250V, 15A OUTLET (OPTIONAL).
3. CONNECTION POINTS FOR CONTROL WIRES PROVIDED IN THE LOW VOLTAGE CONNECTION BOX (USE LOW VOLTAGE STUB-UP AREA).
4. BATTERY (24 VOLT NEGATIVE GROUND SYSTEM).
5. MAIN LINE CIRCUIT BREAKER (MLCB), AC LOAD LEADS. (DIMENSIONS MAY VARY DUE TO UNIT CONFIGURATION)
6. CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.

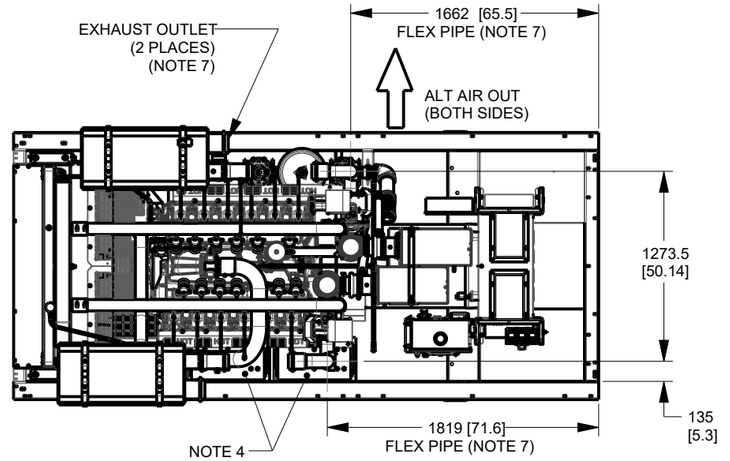
7. ENGINE SERVICE CONNECTIONS:
   INLET NATURAL GAS = 2" NPT FEMALE COUPLING(STAND OPT),3" NPT FEMALE COUPLING (LOW FUEL PRESSURE OPT)
   INLET DIESEL = N/A
   RETURN DIESEL = N/A
   OIL DRAIN = 1/2" NPT FEMALE COUPLING
   RADIATOR DRAIN = 1/2" NPT FEMALE COUPLING
   FLEX PIPE OUTLET = 3.5" O.D.
   EXHAUST OUTLET = 5" O.D.

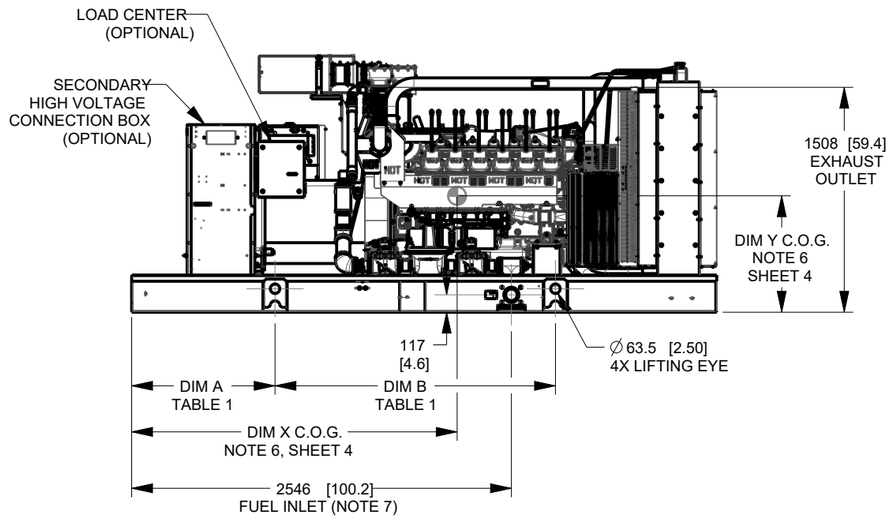
***** SEE GENERATOR SIZING GUIDE FOR FUEL PIPE SIZING TO SUIT APPLICATION *****

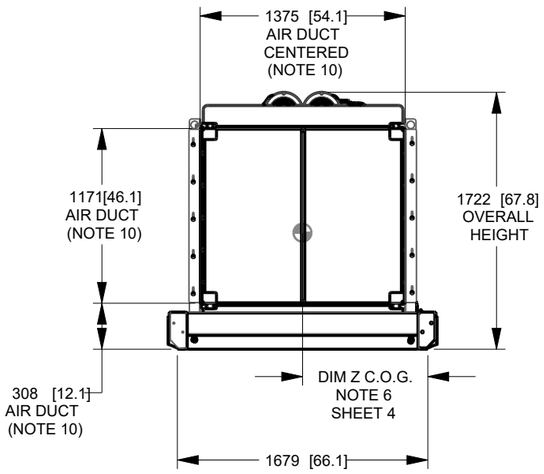
8. AUXILARY AC CONNECTION FOR UNIT OPTIONS ARE LOCATED IN HIGH VOLTAGE CONNECTION BOX, UNLESS AN OPTIONAL LOAD CENTER IS INSTALLED.
9. EXHAUST PIPES MAY BE ROTATED TO ALLOW MUFFLER TO POINT OUT TO THE RIGHT OR LEFT SIDE OF GENERATOR. (MAY NOT APPLY TO ALL UNITS)
10. GENERATOR SET MUST BE INSTALLED SUCH THAT FRESH COOLING AIR IS AVAILABLE AND DISCHARGE AIR FROM THE RADIATOR IS NOT RECIRCULATED.
11. BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND RECIRCULATION OF DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
12. INSTALL EXHAUST BLANKETS ALONG THIS LINE.
13. CONNECT THE OPEN SET EXHAUST PER NFPA 37
14. BLANKETS SHOULD NOT COVER OXYGEN SENSOR.
15. OXYGEN SENSOR MUST BE MOUNTED BETWEEN ENGINE OUTLET AND SILENCER INLET AS SHOWN. IF ELBOW IS REQUIRED, ONLY SINGLE ELBOW MAY BE USED.
16. CATALIZED SILENCER (FOR EPA UNITS) MUST BE MOUNTED IN DESCRIBED POSITION. FAILING TO FOLLOW THESE INSTRUCTIONS WHEN INSTALLING A CERTIFIED ENGINE IN A PIECE OF STATIONARY EQUIPMENT VIOLATES FEDERAL LAW 40 CFR 1068.105(b), SUBJECT TO FINES OR PENALTIES AS DESCRIBED IN THE CLEAN AIR ACT.
17. BOLTS OR STUDS USED TO MOUNT UNIT TO PAD SHALL BE 5/8 - 11 GRADE 5.

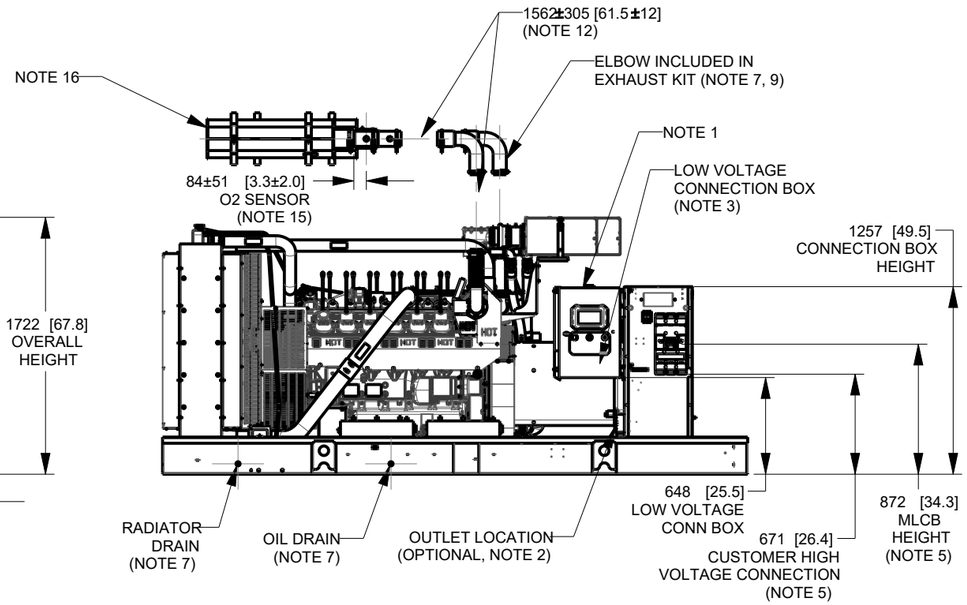
ADDITIONAL NOTES:
FOR WEIGHT AND CENTER OF GRAVITY DATA SEE NOTE 6, AND SHEET 4.

TABLE 1		
DIM	OPEN SET, L1A, L2A ENCLOSED	L3A ENCLOSED
A	961 [37.8]	731 [28.8]
B	1880 [74.0]	2815 [110.8]









DRAWING CREATED FROM PRO/ENGINEER 3D FILE. ECO MODIFICATION TO BE APPLIED TO SOLID MODEL ONLY.

DIMENSIONS ARE IN MILLIMETERS [INCHES]

INSTALLATION DRAWING

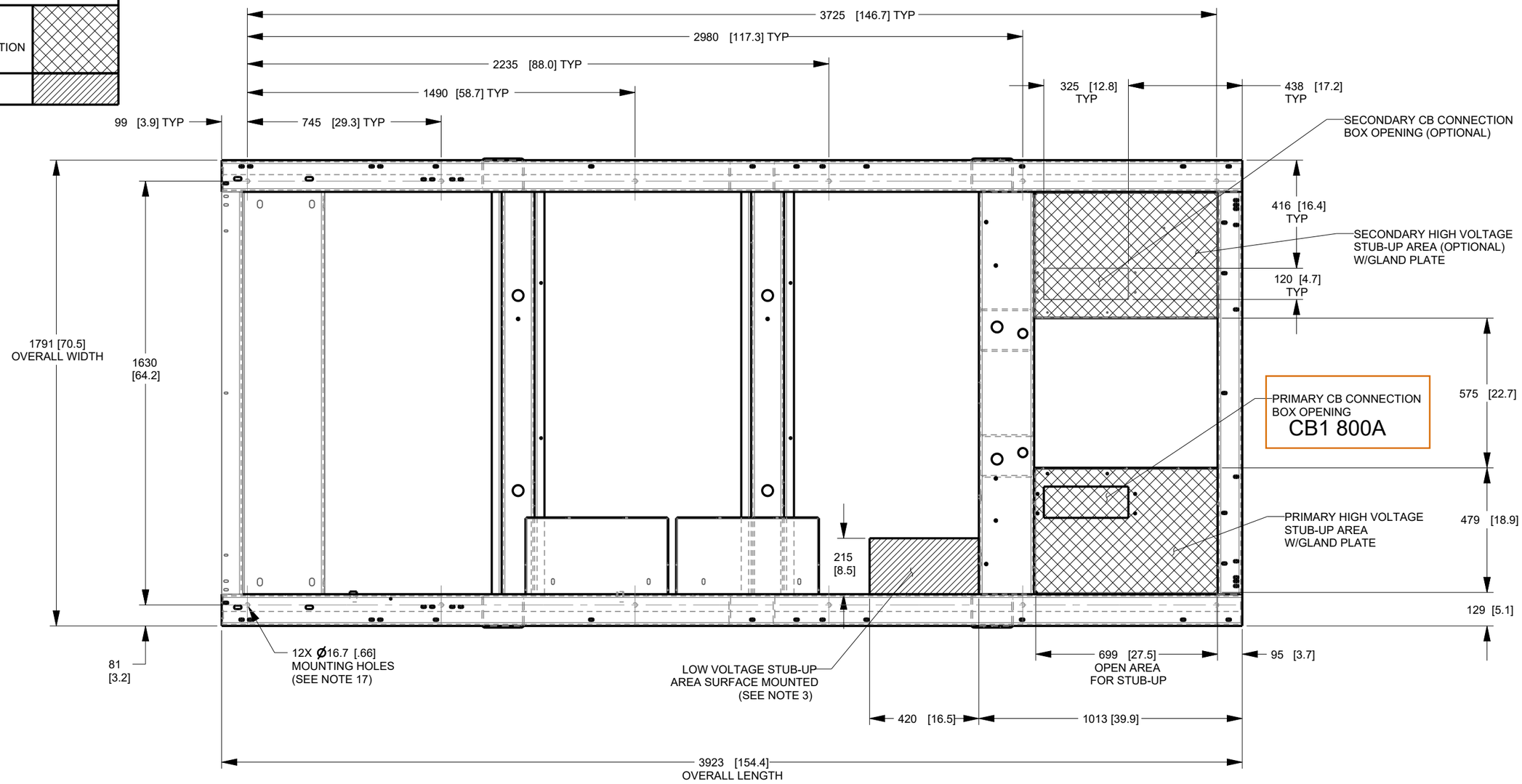
ELECTRONICALLY APPROVED
INSIDE WINDCHILL

GENERAC

TITLE
L1A & L2A OPEN SET, G21.9L
60Hz: SG350, SG400, PG315, PG360
50Hz: SG280, SG320, PG252, PG288
400V, 480V & 600V STANDARD ALT.

ISSUE DATE:	11/14/18				
SIZE	CAGE NO	DWG NO			REV
B	N/A	10000037155			E
SCALE	1.000	WT-KG	0.000	SHEET	1 of 4

RECOMENDED ELECTRICAL STUB-UP	
(HIGH VOLTAGE STUB-UP) AC LOAD LEAD CONDUIT FOR PERMANENT MAGNET EXCITATION CONNECTION BOX	
(LOW VOLTAGE STUB-UP)	



DRAWING CREATED FROM PRO/ENGINEER 3D FILE. ECO MODIFICATION TO BE APPLIED TO SOLID MODEL ONLY.

DIMENSIONS ARE IN MILLIMETERS [INCHES]

INSTALLATION DRAWING

ELECTRONICALLY APPROVED INSIDE WINDCHILL

GENERAC

TITLE
OPEN, STANDARD, L1A & L2A STUB UP VIEW
G21.9, 60Hz: SG350, SG400, PG315, PG360
50Hz: SG280, SG320, PG252, PG288

ISSUE DATE: 11/14/18

SIZE	CAGE NO	DWG NO	REV
B	N/A	10000037155	E

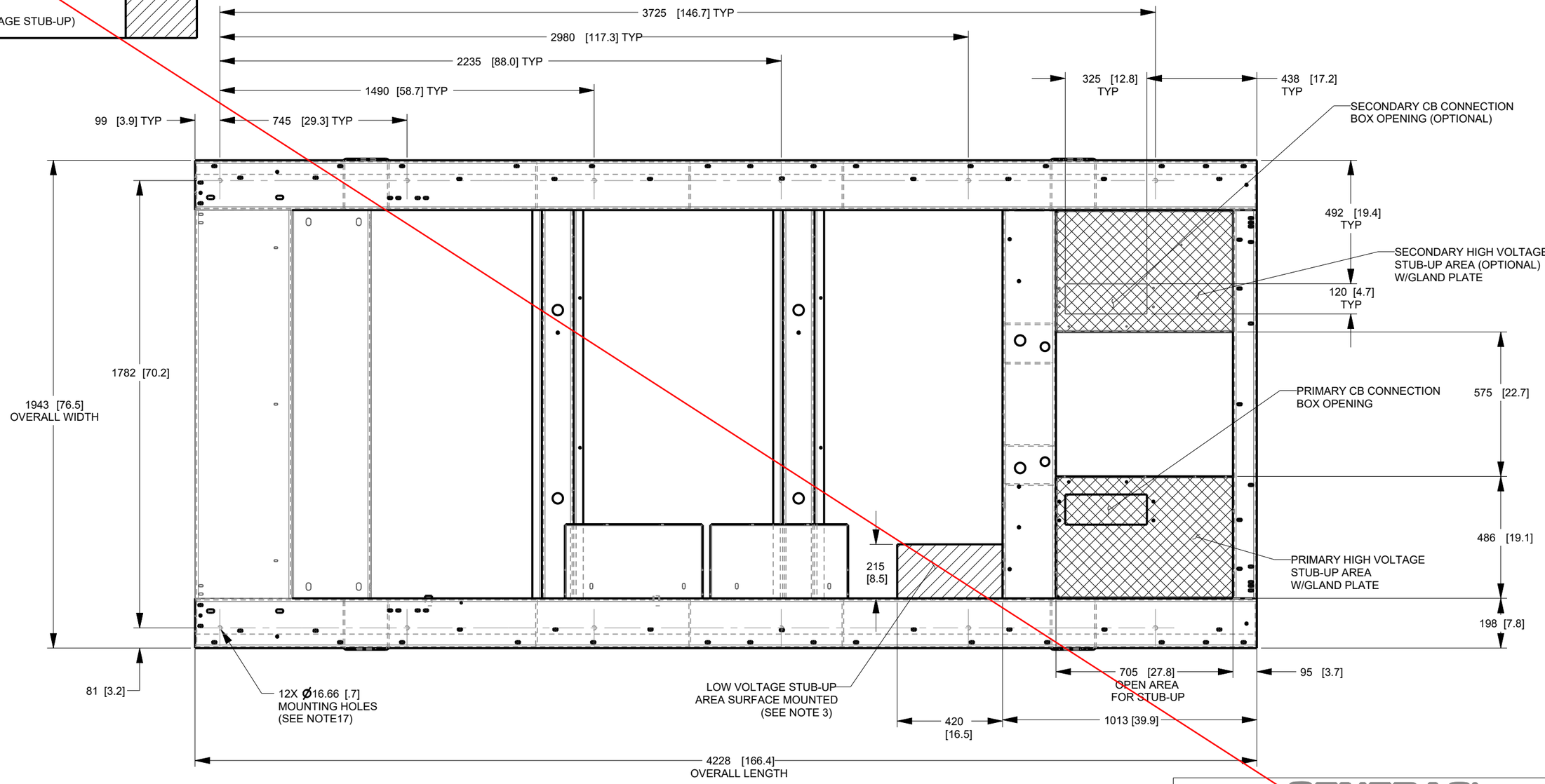
SCALE 1.000 | WT-KG 0.000 | SHEET 2 of 4

SH	REV	WINDCHILL VERSION	
3/4	E	E.2	

RECOMENDED ELECTRICAL STUB-UP

(HIGH VOLTAGE STUB-UP)
AC LOAD LEAD CONDUIT FOR
PERMANENT MAGNUT EXCITATION
CONNECTION BOX

(LOW VOLTAGE STUB-UP)



DRAWING CREATED FROM PRO/ENGINEER 3D FILE. ECO MODIFICATION TO BE APPLIED TO SOLID MODEL ONLY.

DIMENSIONS ARE IN MILLIMETERS [INCHES]

INSTALLATION DRAWING

ELECTRONICALLY APPROVED
INSIDE WINDCHILL

GENERAC

TITLE
L3A STUB-UP VIEW
G21.9L, 60Hz: SG350, SG400, PG315, PG360
50Hz: SG280, SG320, PG252, PG288

ISSUE DATE:	11/14/18				
SIZE	CAGE NO	DWG NO			REV
B	N/A	10000037155			E
SCALE	1.000	WT-KG	0.000	SHEET	3 of 4

NOTE:
CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.

OPEN SET

MODEL	VOLTAGE	WEIGHT	CENTER OF GRAVITY DIM X	CENTER OF GRAVITY DIM Y	CENTER OF GRAVITY DIM Z
SG/MG 350/400, PG/WG 315/360	400V, 480V & 600V	3,312 kg [7,300 lbs]	1988 [78.3]	667 [26.3]	837 [33.0]
SG 280/320, PG 252/288					
SG 350/400, PG 315/360	208V & 240V	3,567 kg [7,864 lbs]	1939 [76.3]	664 [26.1]	837 [33.0]
SG/MG 350/400, PG/WG 315/360	400V, 480V & 600V UPSIZED ALT.	3,667 kg [8,084 lbs]	1915 [75.4]	662 [26.0]	837 [33.0]
SG 280/320, PG 252/288					
SG 350/400 PG 315/360	208V & 240V UPSIZED ALT.	3,753 kg [8,274 lbs]	1896 [74.6]	660 [26.0]	837 [33.0]

STD ENCLOSURE, STEEL

MODEL	VOLTAGE	WEIGHT	CENTER OF GRAVITY DIM X	CENTER OF GRAVITY DIM Y	CENTER OF GRAVITY DIM Z
SG/MG 350/400, PG/WG 315/360	400V, 480V & 600V	4,305 kg [9,490 lbs]	2243 [88.3]	803 [31.6]	837 [33.0]
SG 280/320, PG 252/288					
SG 350/400, PG 315/360	208V & 240V	4,561 kg [10,055 lbs]	2199 [86.6]	797 [31.4]	837 [33.0]
SG/MG 350/400, PG/WG 315/360	400V, 480V & 600V UPSIZED ALT.	4,660 kg [10,274 lbs]	2174 [85.6]	792 [31.2]	838 [33.0]
SG 280/320, PG 252/288					
SG 350/400 PG 315/360	208V & 240V UPSIZED ALT.	4,746 kg [10,463 lbs]	2154 [84.8]	788 [31.0]	838 [33.0]

L1A ENCLOSURE, STEEL

MODEL	VOLTAGE	WEIGHT	CENTER OF GRAVITY DIM X	CENTER OF GRAVITY DIM Y	CENTER OF GRAVITY DIM Z
SG/MG 350/400, PG/WG 315/360	400V, 480V & 600V	4,762 kg [10,498 lbs]	2054 [80.9]	834 [32.8]	841 [33.1]
SG 280/320, PG 252/288					
SG 350/400, PG 315/360	208V & 240V	5,017 kg [11,060 lbs]	2020 [79.5]	828 [32.6]	841 [33.1]
SG/MG 350/400, PG/WG 315/360	400V, 480V & 600V UPSIZED ALT.	5,117 kg [11,281 lbs]	2002 [78.8]	823 [32.4]	841 [33.1]
SG 280/320, PG 252/288					
SG 350/400 PG 315/360	208V & 240V UPSIZED ALT.	5,203 kg [11,470 lbs]	1987 [78.2]	818 [32.2]	841 [33.1]

L2A ENCLOSURE, STEEL

MODEL	VOLTAGE	WEIGHT	CENTER OF GRAVITY DIM X	CENTER OF GRAVITY DIM Y	CENTER OF GRAVITY DIM Z
SG/MG 350/400, PG/WG 315/360	400V, 480V & 600V	4,915 kg [10,836 lbs]	2237 [88.1]	1247 [49.1]	837 [33.0]
SG 280/320, PG 252/288					
SG 350/400, PG 315/360	208V & 240V	5,170 kg [11,398 lbs]	2206 [86.9]	1233 [48.5]	837 [33.0]
SG/MG 350/400, PG/WG 315/360	400V, 480V & 600V UPSIZED ALT.	5,270 kg [11,618 lbs]	2188 [86.1]	1222 [48.1]	837 [33.0]
SG 280/320, PG 252/288					
SG 350/400 PG 315/360	208V & 240V UPSIZED ALT.	5,356 kg [11,808 lbs]	2174 [85.6]	1212 [47.7]	837 [33.0]

L3A ENCLOSURE, STEEL

MODEL	VOLTAGE	WEIGHT	CENTER OF GRAVITY DIM X	CENTER OF GRAVITY DIM Y	CENTER OF GRAVITY DIM Z
SG/MG 350/400, PG/WG 315/360	400V, 480V & 600V	5,997 kg [13,224 lbs]	2,409 [94.8]	995 [39.2]	1005 [39.6]
SG 280/320, PG 252/288					
SG 350/400, PG 315/360	208V & 240V	6,312 kg [13,919 lbs]	2,342 [92.2]	975 [38.4]	1003 [39.5]
SG/MG 350/400, PG/WG 315/360	400V, 480V & 600V UPSIZED ALT.	6,472 kg [14,272 lbs]	2,314 [91.1]	966 [30.0]	1003 [39.5]
SG 280/320, PG 252/288					
SG 350/400 PG 315/360	208V & 240V UPSIZED ALT.	6,308 kg [13,910 lbs]	2,342 [92.2]	975 [38.4]	1004 [39.5]

STD ENCLOSURE, ALUMINUM

WEIGHT	CENTER OF GRAVITY DIM X	CENTER OF GRAVITY DIM Y	CENTER OF GRAVITY DIM Z
3,812 kg [8,404 lbs]	2160 [85.0]	746 [29.4]	837 [33.0]
4,068 kg [8,968 lbs]	2112 [83.1]	741 [29.2]	837 [33.0]
4,167 kg [9,187 lbs]	2086 [82.1]	737 [29.0]	838 [33.0]
4,253 kg [9,376 lbs]	2065 [81.3]	734 [28.9]	838 [33.0]

L1A ENCLOSURE, ALUMINUM

WEIGHT	CENTER OF GRAVITY DIM X	CENTER OF GRAVITY DIM Y	CENTER OF GRAVITY DIM Z
4,008 kg [8,836 lbs]	2066 [81.3]	766 [30.2]	839 [33.0]
4,264 kg [9,400 lbs]	2024 [79.7]	760 [29.9]	839 [33.0]
4,363 kg [9,618 lbs]	2024 [79.7]	756 [29.7]	839 [33.0]
4,449 kg [9,808 lbs]	2024 [79.7]	752 [29.6]	839 [33.0]

L2A ENCLOSURE, ALUMINUM

WEIGHT	CENTER OF GRAVITY DIM X	CENTER OF GRAVITY DIM Y	CENTER OF GRAVITY DIM Z
4,074 kg [8,982 lbs]	2171 [85.5]	1016 [40.0]	837 [33.0]
4,330 kg [9,546 lbs]	2131 [83.9]	1004 [39.5]	837 [33.0]
4,429 kg [9,764 lbs]	2109 [83.0]	994 [39.1]	837 [33.0]
4,515 kg [9,954 lbs]	2091 [82.3]	986 [38.8]	837 [33.0]

DRAWING CREATED FROM PRO/ENGINEER 3D FILE. ECO MODIFICATION TO BE APPLIED TO SOLID MODEL ONLY.

INSTALLATION DRAWING

ELECTRONICALLY APPROVED
INSIDE WINDCHILL

GENERAC

TITLE
WEIGHT AND CENTER OF GRAVITY
G21.9L, 60Hz: SG350, SG400, PG3115, PG360
50Hz: SG280, SG320, PG252, PG288

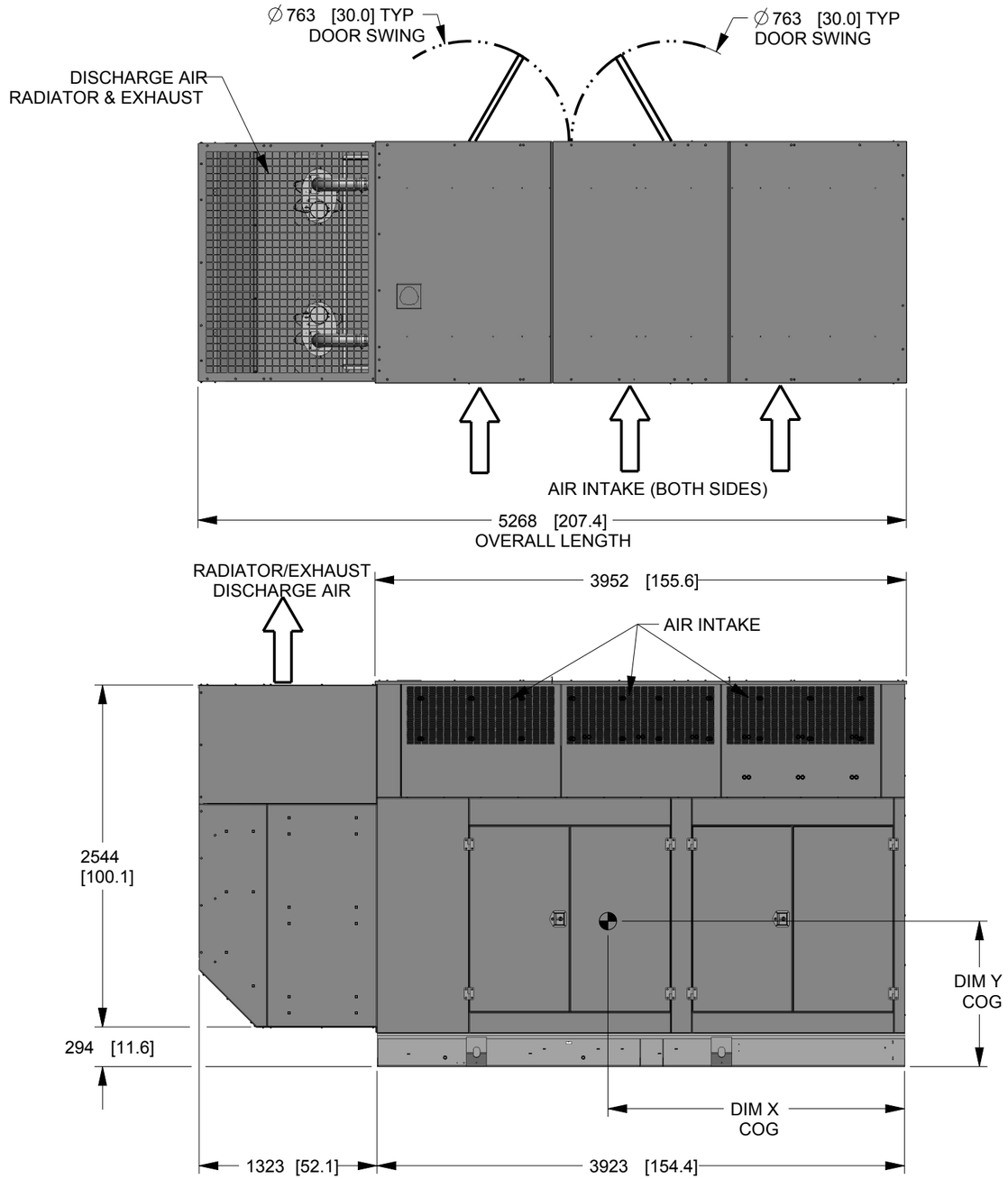
ISSUE DATE: 11/14/18

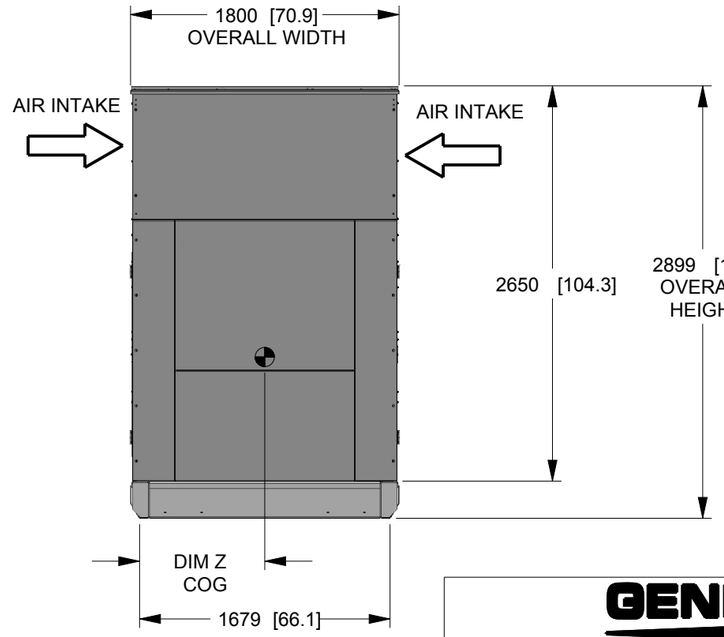
SIZE	CAGE NO	DWG NO	REV
B	N/A	10000037155	E

SCALE 1.000 | WT-KG 0.000 | SHEET 4 of 4

SH	REV	WINDCHILL VERSION	
1/1	C	C.1	

FOR ALL STUB-UP, WEIGHT, AND COG DETAILS, SEE CORRESPONDING OPEN SET DRAWING PER UNIT CONFIGURATION.





DRAWING CREATED FROM PRO/ENGINEER 3D FILE. ECO MODIFICATION TO BE APPLIED TO SOLID MODEL ONLY.

DIMENSIONS ARE IN MILLIMETERS [INCHES]

INSTALLATION DRAWING

ELECTRONICALLY APPROVED
INSIDE WINDCHILL

GENERAC

TITLE
L2A ENCLOSURE G21.9L
60HZ: SG/MG 350,400,450, PG/WG 315,360,405
50HZ: SG/MG 280,320,360, PG/WG 252,288,324

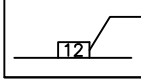
ISSUE DATE: 04/04/14

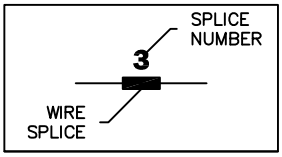
SIZE	CAGE NO	DWG NO	REV
B	N/A	0K6048C	C
SCALE 0.025	WT-KG	SHEET 1 of 1	

LEGEND

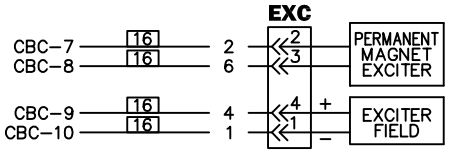
AC_ – AVR CONNECTOR	GA1 – GOVERNOR ACTUATOR	SM – STARTER MOTOR
AFS – AIR/FUEL SOLENOID	GC_ – GOVERNOR CONNECTOR	ST – SHUNT TRIP
AH1 – ALARM HORN	GFCI – GROUND FAULT CURRENT INTERRUPT	SW1 – OFF/AUTO/MANUAL SWITCH
ALT – DC CHARGE ALTERNATOR	GND – GROUND BAR CONNECTION	TB_ – TERMINAL BLOCK
AVR – AUTOMATIC VOLTAGE REGULATOR	GOV – GOVERNOR	TR – CAN BUS TERMINATING RESISTOR
BC_ – BATTERY CHARGER CONNECTOR (20A)	IC_ – IGNITION COIL	VSC – VOLTAGE SENSING CONNECTOR
BCC – BATTERY CHARGER CONNECTOR (10A)	ICM – IGNITION CONTROL MODULE	WLS – COOLANT LEVEL SENDER
BCH – BATTERY CHARGER	IGP – IGNITION POWER CONNECTOR	WTS1 – COOLANT TEMPERATURE SENDER
BPC – BATTERY CHARGER POWER CONNECTOR	LFP – LOW FUEL PRESSURE SWITCH	XMFR1– TRANSFORMER
BS – POWERZONE BASE STATION	MLCB – MAIN LINE CIRCUIT BREAKER	
BS_ – BASE STATION CONNECTOR	MPU1 – MAGNETIC PICKUP (FLYWHEEL)	
BSE_ – BASE STATION ETHERNET CONNECTOR	MPU2 – MAGNETIC PICKUP (CAMSHAFT)	
BSG – BASE STATION CHASSIS GROUND	NEU – NEUTRAL BUS	
BTP – BATTERY CHARGER TEMP PROBE	OPS – OIL PRESSURE SENDER	
CB – CIRCUIT BREAKER PME	OS – OXYGEN SENSOR	
CBC – (MLCB) CIRCUIT BREAKER CONNECTOR	OTS – OIL TEMPERATURE SENDER	
CON – CONTACTOR	PWR – POWER ZONE POWER CONNECTOR	
CT_ – CURRENT TRANSFORMER	PZC – MAIN POWER ZONE CONNECTOR	
CTC – CURRENT TRANSFORMER CONNECTOR	PZ P&L– POWER ZONE PERMISSIVE & LOAD SHED	
CVH – CRANKCASE VENT HEATER	R1 – RESISTOR	
DB – DIODE BRIDGE	RB_ – RELAY BOARD	
DIS – POWER ZONE TOUCH SCREEN DISPLAY	RB_A – RELAY BOARD CONNECTOR	
ES1 – EMERGENCY STOP SWITCH	RCC – RELAY CONTACTOR CLOSE COIL	
EXC – EXCITER	ROB – RELAY OPEN BREAKER	
FB_ – FUSE BLOCK	RUR – RELAY UNDERVOLTAGE RELEASE	
FS_ – FUEL SOLENOID	SC – START CONTACTOR	

NOTE: ALL WIRES 18 AWG 300V UL LISTED UNLESS SHOWN OTHERWISE





ALTERNATOR EXCITATION

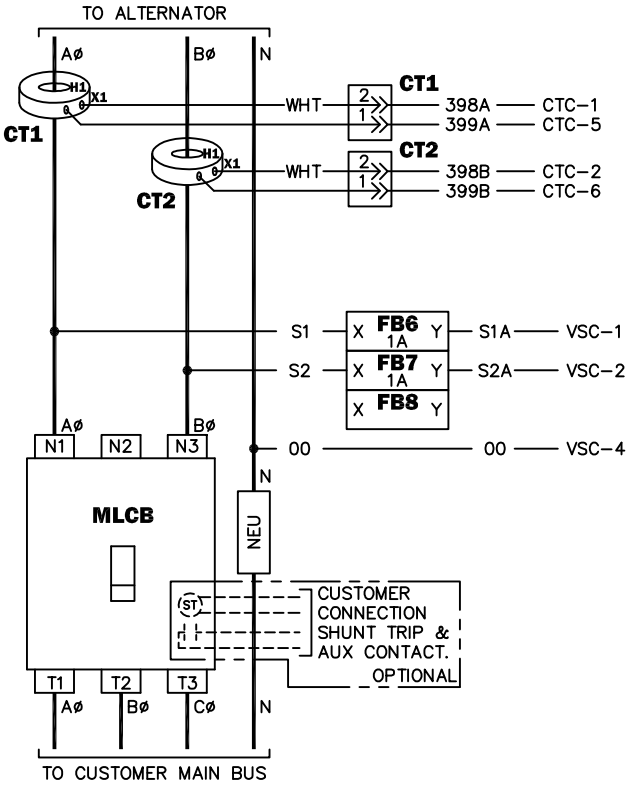


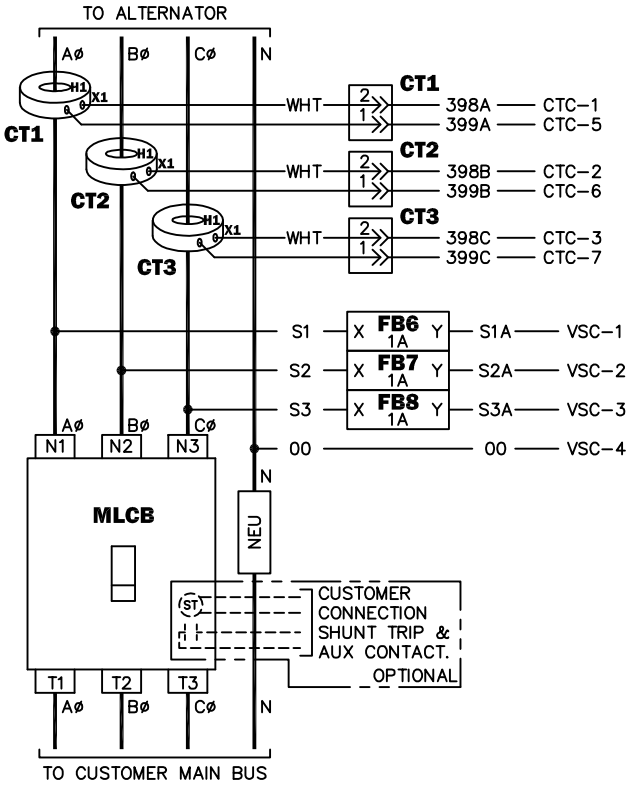
COMPONENTS LOCATED IN HIGH VOLTAGE CUSTOMER CONNECTION MODULE

CONNECTIONS FOR 1Ø UNIT

NOTE: ALL WIRES IN THIS SECTION ARE 600V RATED

CONNECTIONS FOR 3Ø UNIT





WIRING - DIAGRAM

REVISION: CN-0035042-F

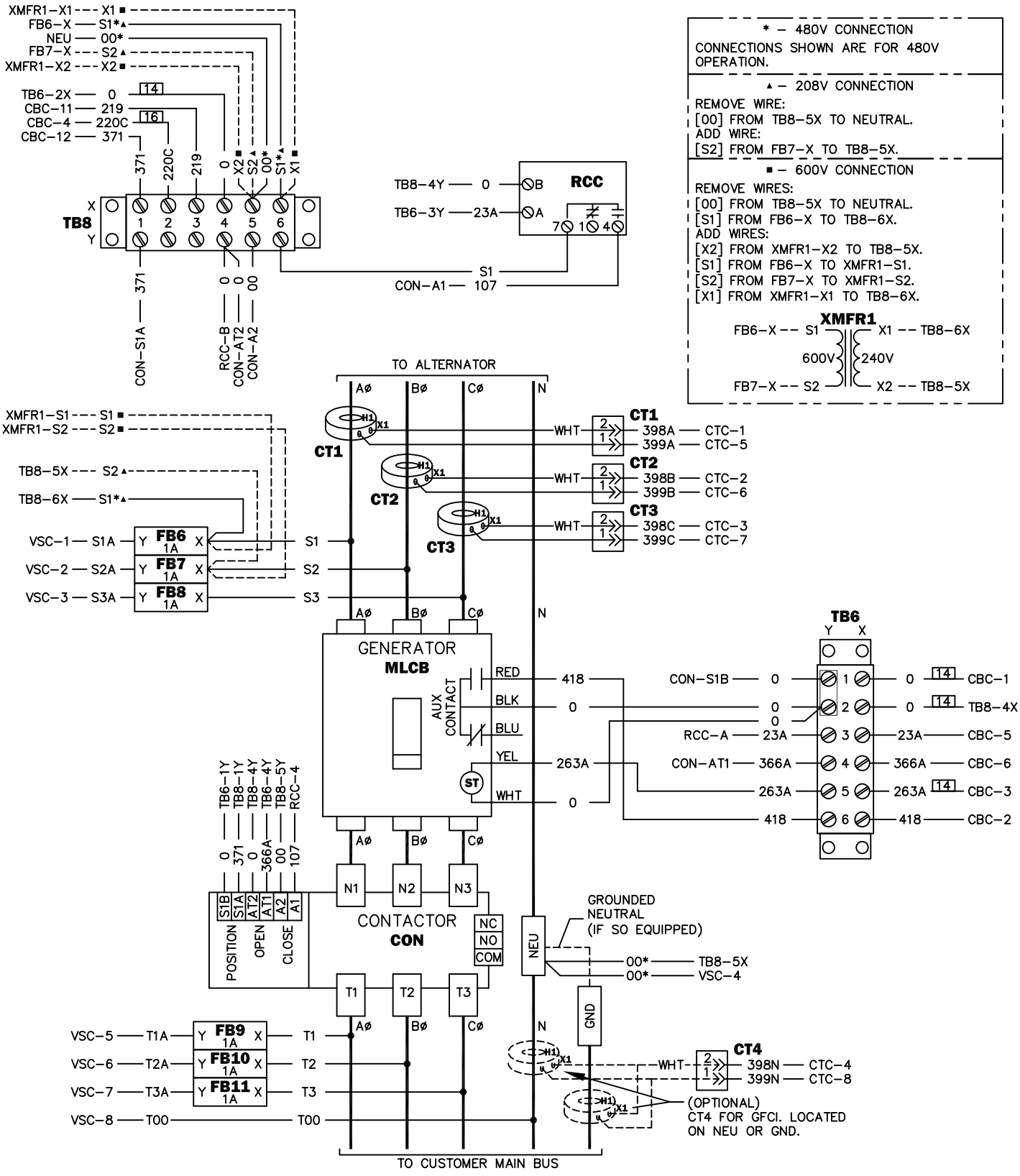
DATE: 6/2/20

G21.9L G30 POWER ZONE

DRAWING #: 10000022859

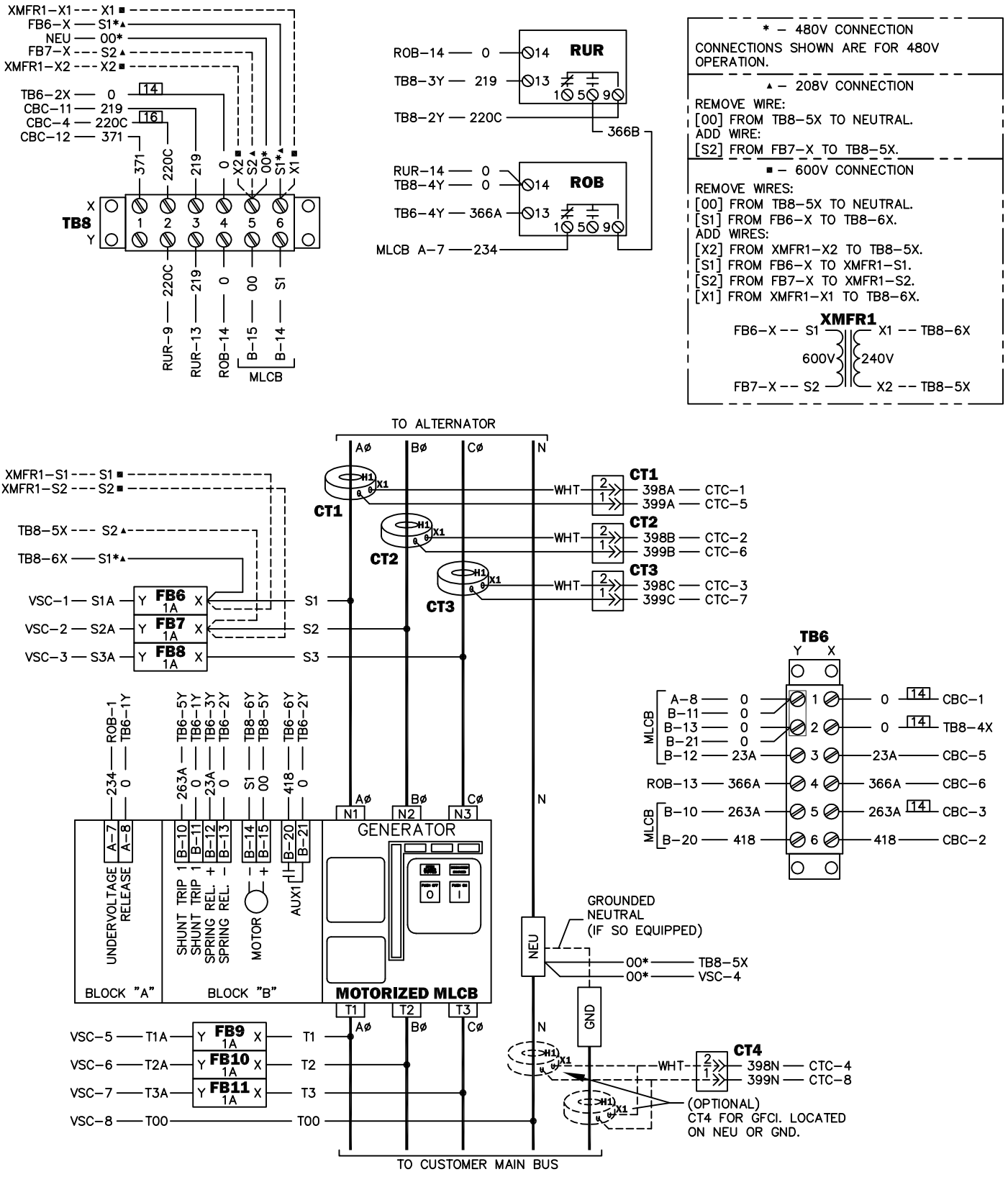
COMPONENTS LOCATED IN HIGH VOLTAGE CUSTOMER CONNECTION MODULE

WIRING FOR MPS CONTACTOR WITH MLCB OPTION



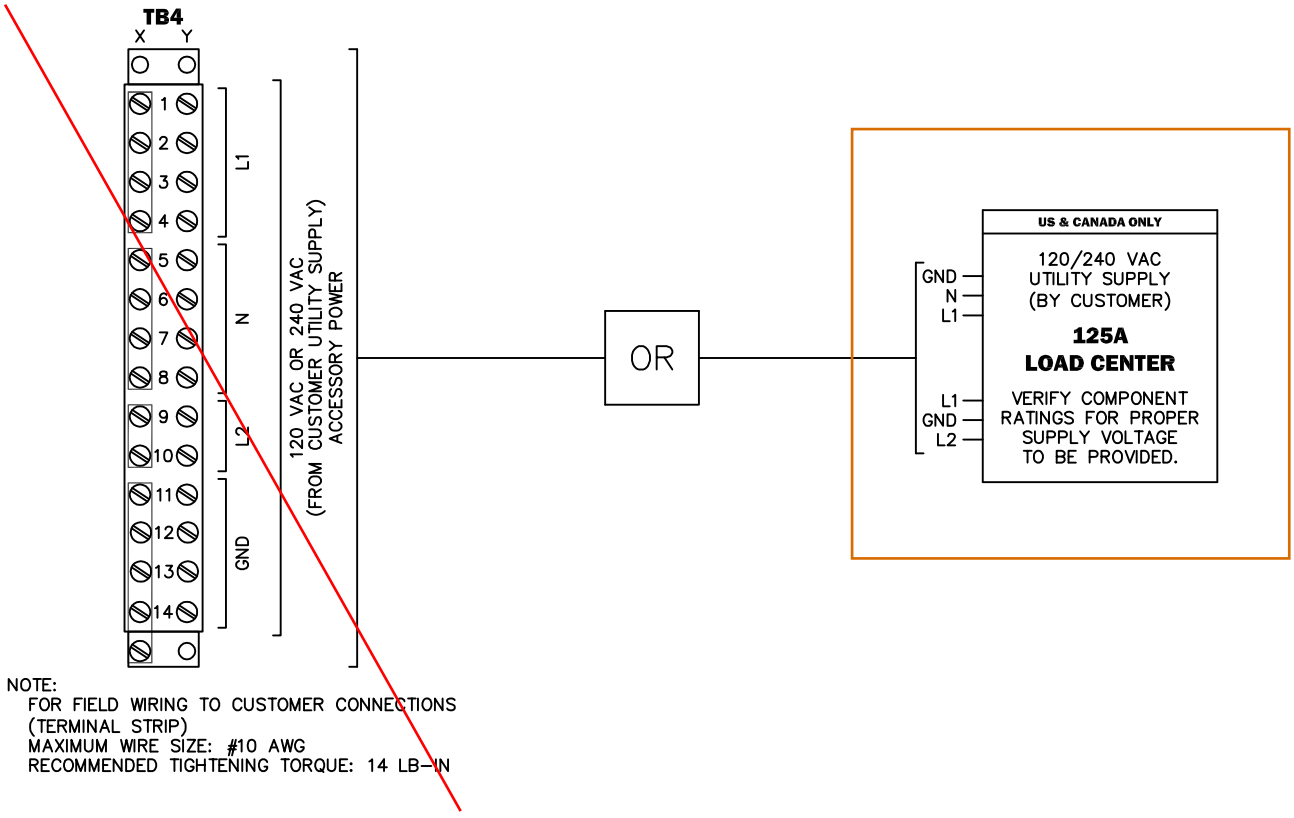
COMPONENTS LOCATED IN HIGH VOLTAGE CUSTOMER CONNECTION MODULE

WIRING FOR MPS MOTORIZED MLCB OPTION



COMPONENTS LOCATED IN HIGH VOLTAGE CUSTOMER CONNECTION MODULE

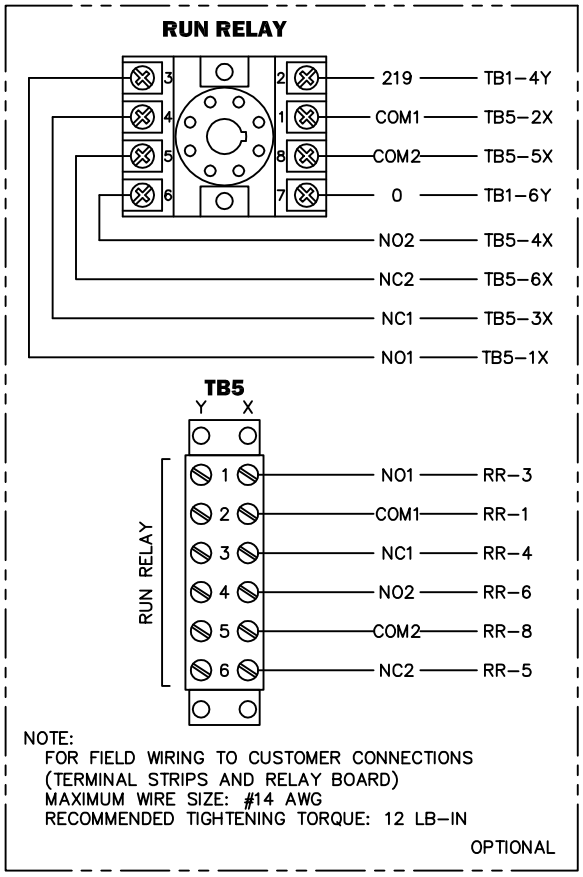
NOTE: ALL WIRES ON THIS PAGE ARE 600V RATED

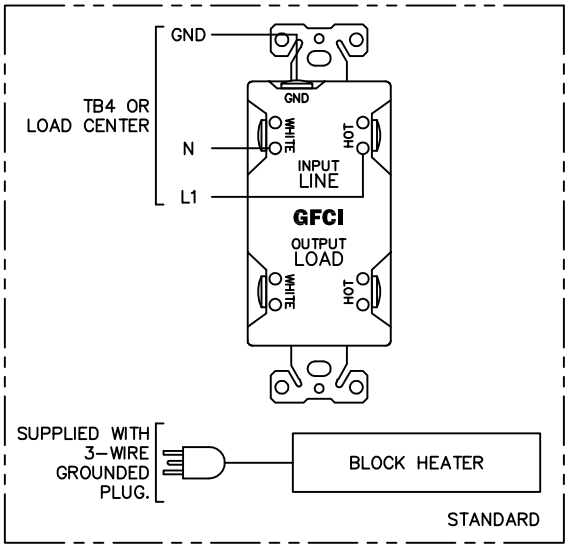


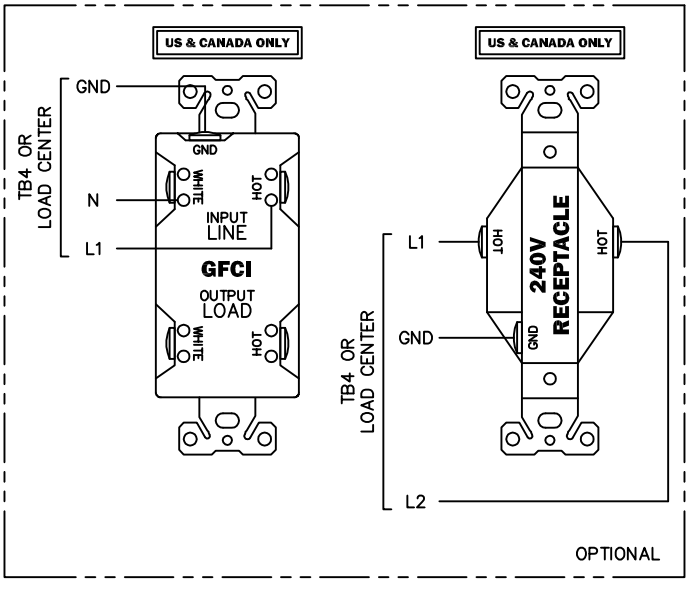
NOTE:
FOR FIELD WIRING TO CUSTOMER CONNECTIONS (TERMINAL STRIP)
MAXIMUM WIRE SIZE: #10 AWG
RECOMMENDED TIGHTENING TORQUE: 14 LB-IN

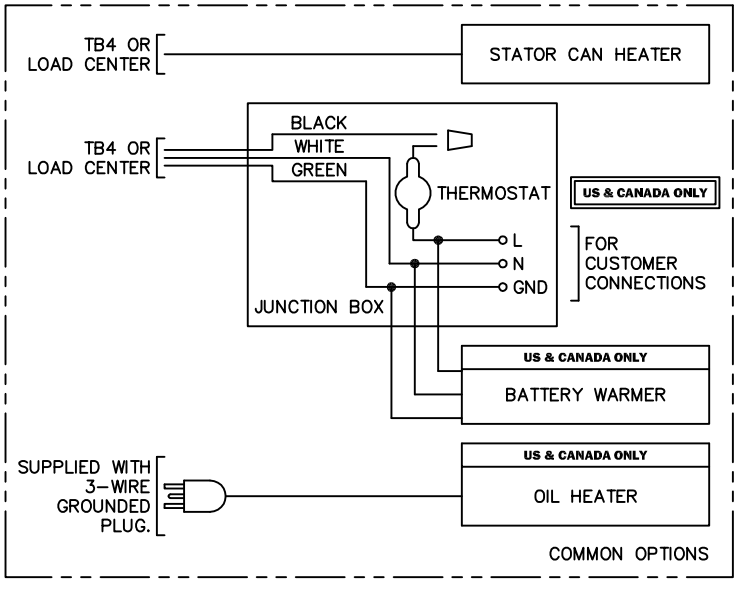
COMPONENTS LOCATED IN HIGH VOLTAGE CUSTOMER CONNECTION MODULE

NOTE: ALL WIRES ON THIS PAGE ARE 600V RATED









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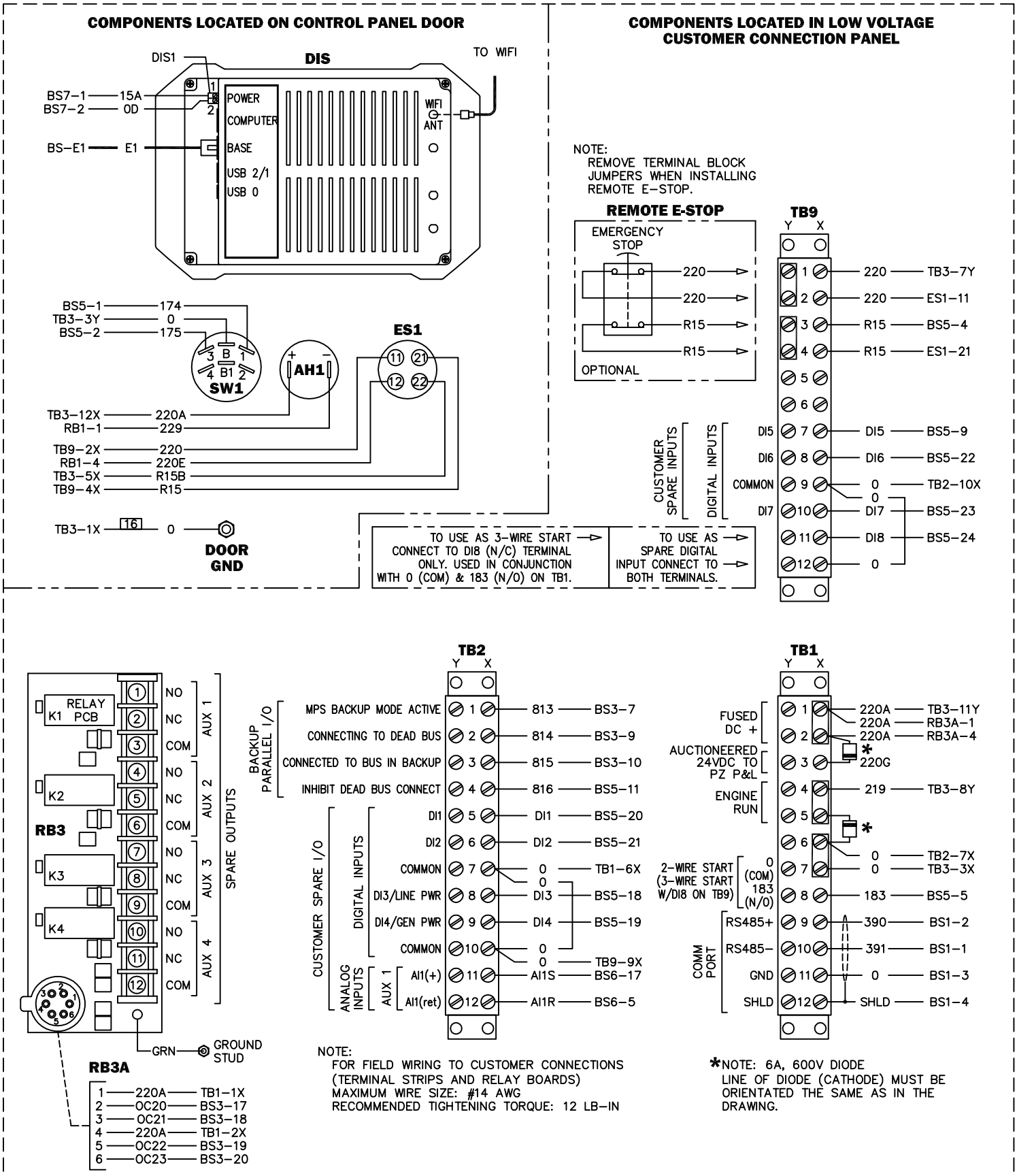


WIRING - DIAGRAM

REVISION: CN-0035042-F

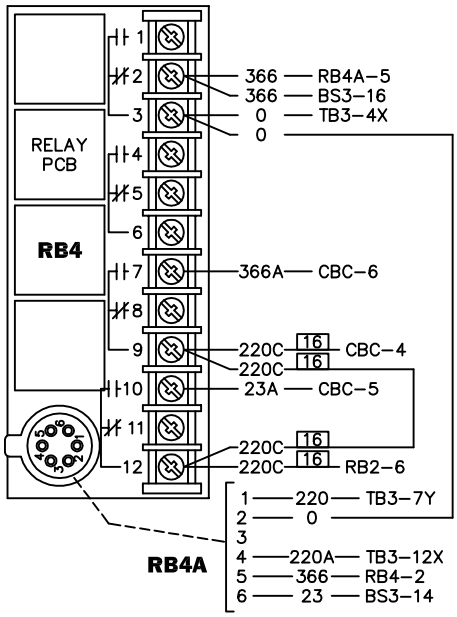
G21.9L G30 POWER ZONE

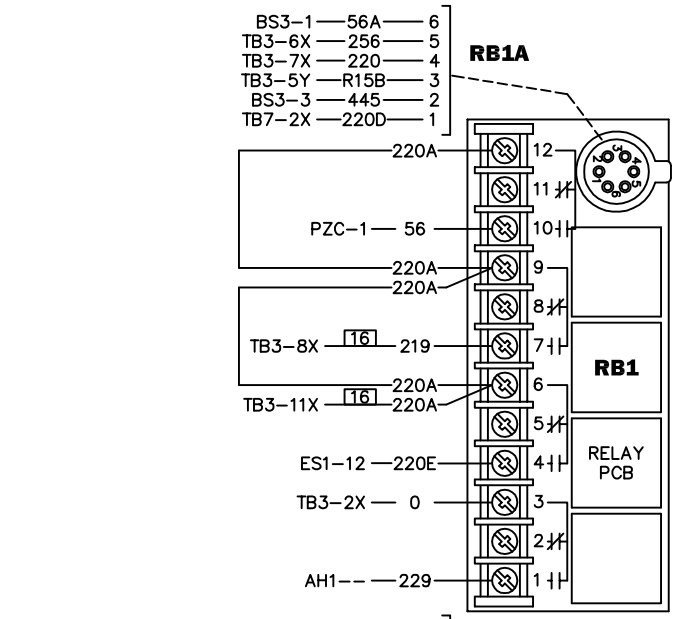
DATE: 6/2/20

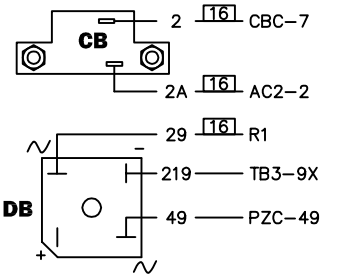
PAGE 6 OF 14

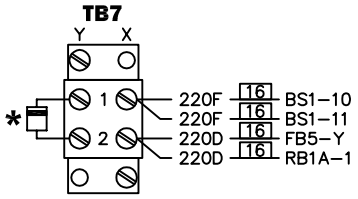
DRAWING #: 10000022859

COMPONENTS LOCATED IN CONTROL PANEL
LEFT SIDE

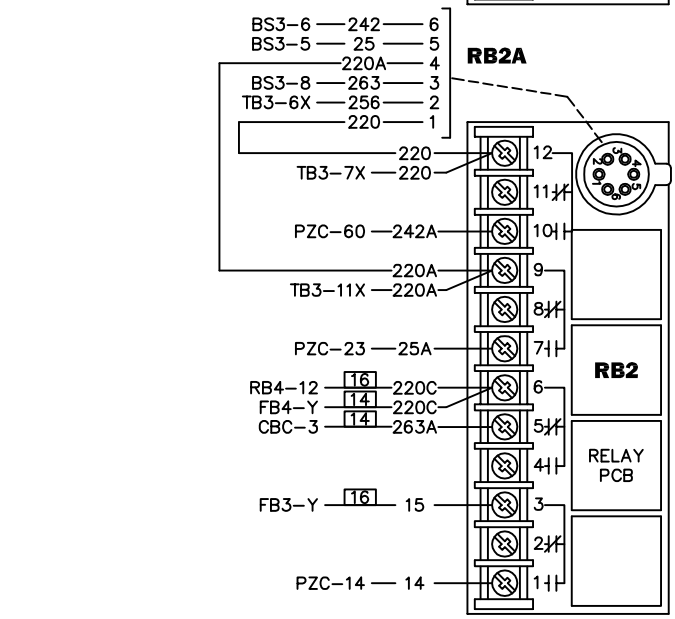


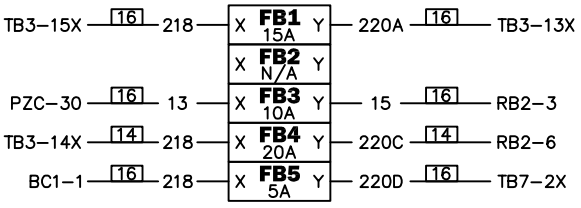




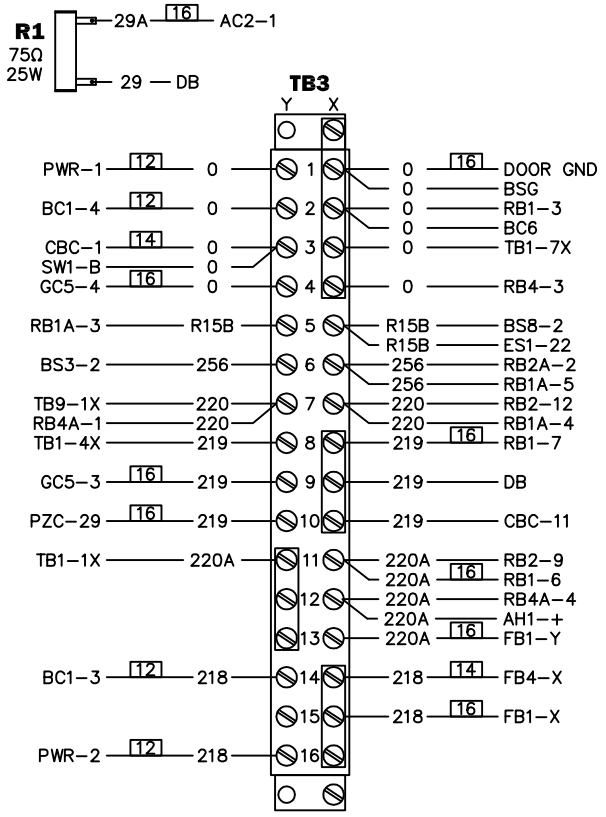


*NOTE: 6A, 600V DIODE LINE OF DIODE (CATHODE) MUST BE ORIENTATED THE SAME AS IN THE DRAWING.



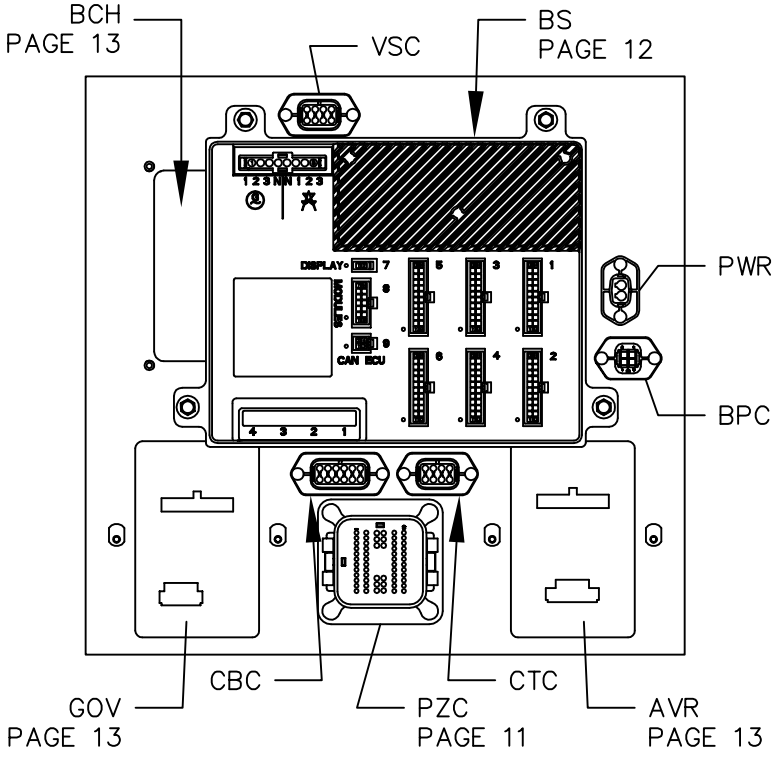


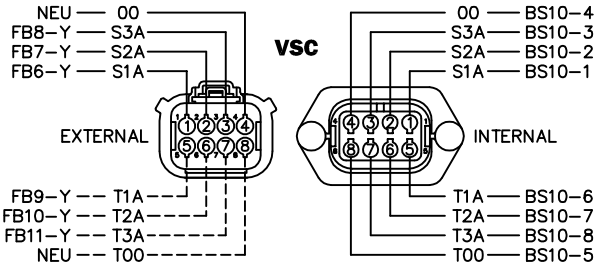
COMPONENTS LOCATED IN CONTROL PANEL
RIGHT SIDE

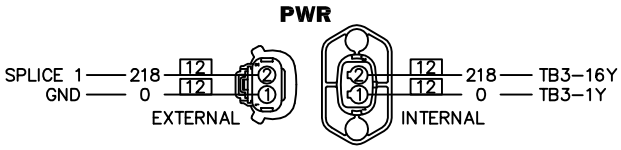


COMPONENTS LOCATED IN CONTROL PANEL

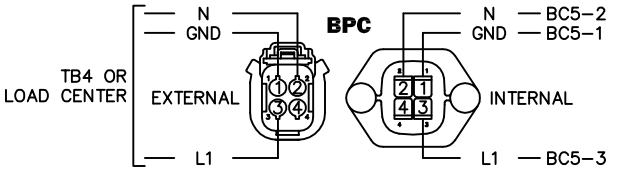
INTERNAL CONNECTORS SHOWN

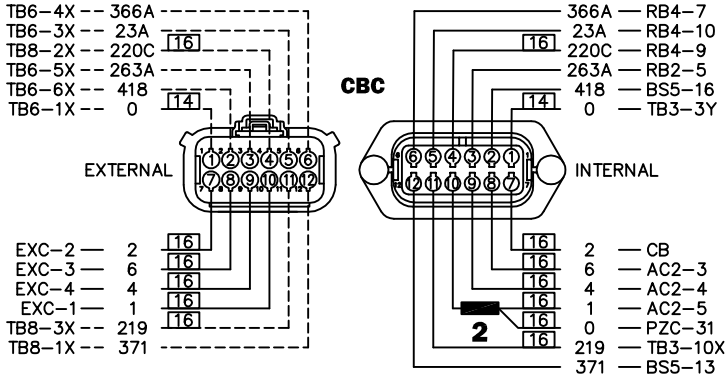


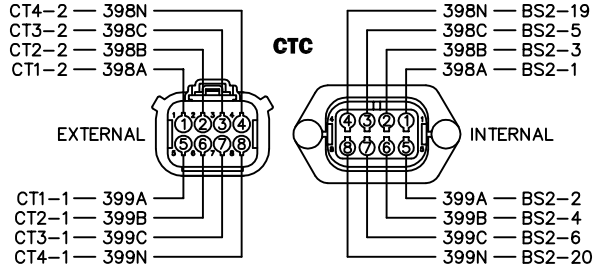


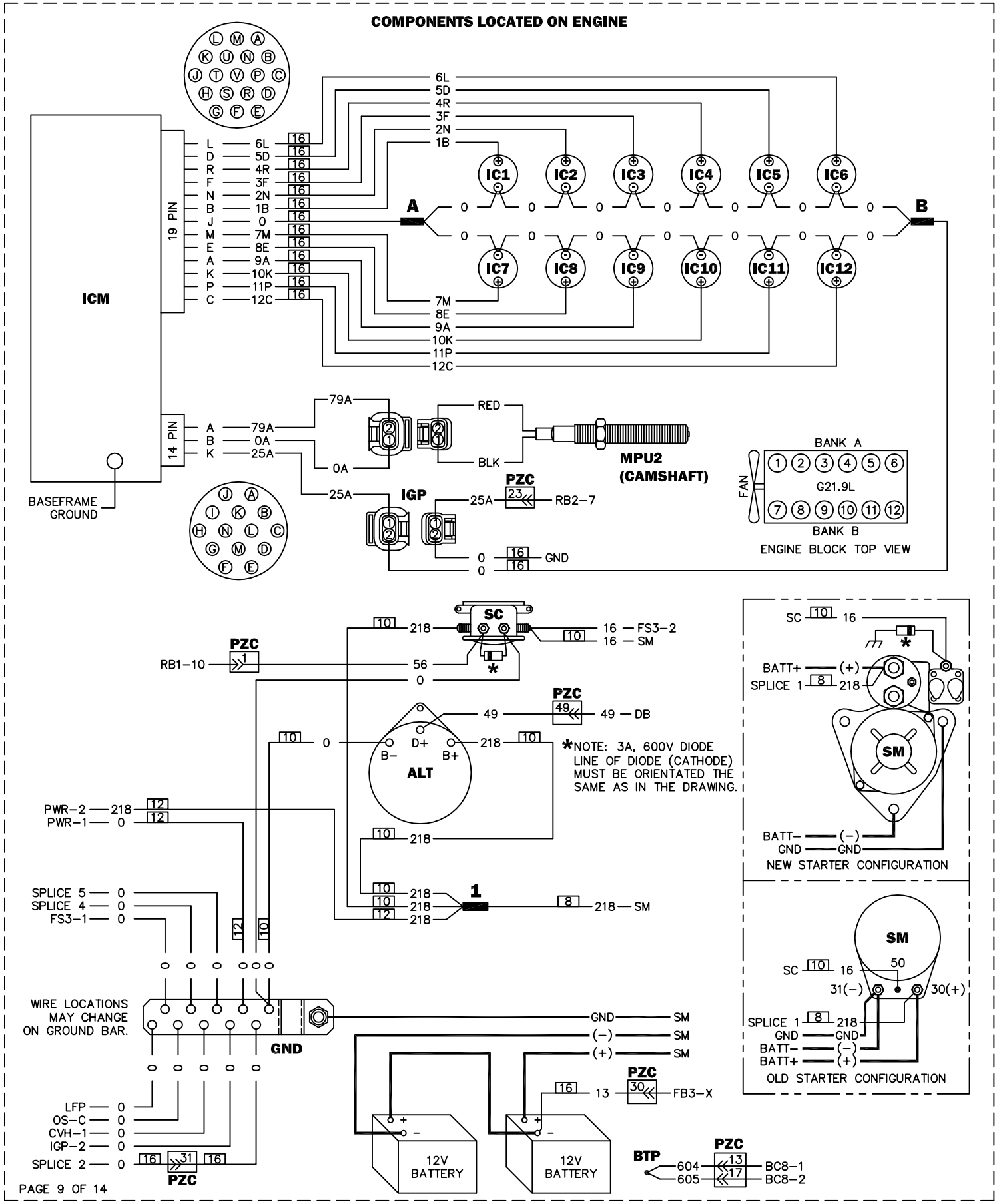


NOTE: THE DASHED WIRES IN CONNECTORS VSC AND CBC ARE POPULATED PER MPS APPLICATION.

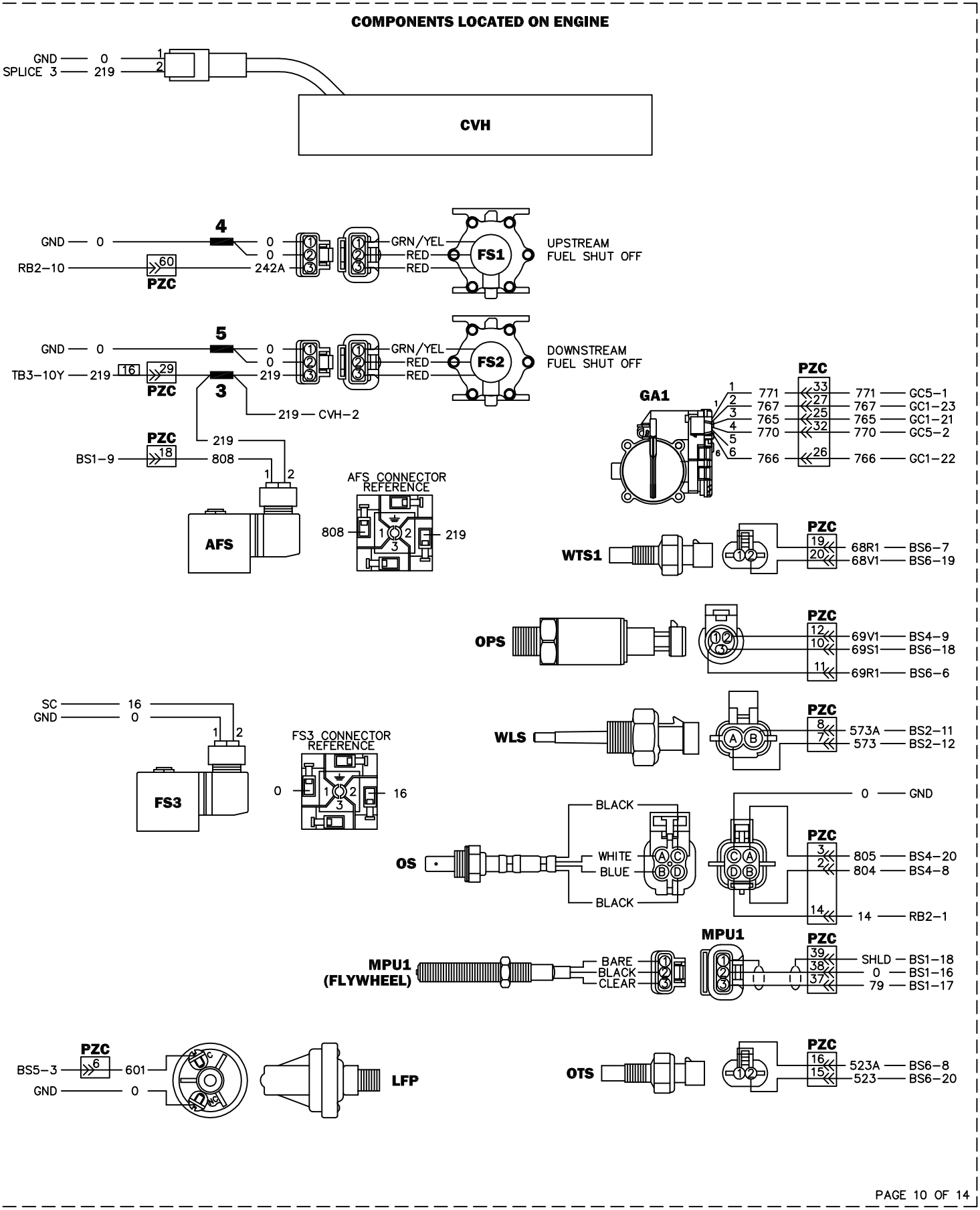







COMPONENTS LOCATED ON ENGINE
ICM
19 PIN
14 PIN
L 6L
D 5D
R 4R
F 3F
N 2N
B 1B
J 0
M 7M
E 8E
A 9A
K 10K
P 11P
C 12C
A
B
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
BASEFRAME GROUND
79A
0A
25A
RED
BLK
MPU2 (CAMSHAFT)
IGP
PZC
25A
RB2-7
GND
BANK A
BANK B
G21.9L
FAN
ENGINE BLOCK TOP VIEW
SC
RB1-10
56
FS3-2
SM
ALT
D+
B-
B+
49
49 — DB
*NOTE: 3A, 600V DIODE LINE OF DIODE (CATHODE) MUST BE ORIENTATED THE SAME AS IN THE DRAWING.
PWR-2 — 218
PWR-1 — 0
SPLICE 5 — 0
SPLICE 4 — 0
FS3-1 — 0
WIRE LOCATIONS MAY CHANGE ON GROUND BAR.
GND
LFP — 0
OS-C — 0
CVH-1 — 0
IGP-2 — 0
SPLICE 2 — 0
12V BATTERY
12V BATTERY
BTP
604
605
BC8-1
BC8-2
FB3-X
NEW STARTER CONFIGURATION
OLD STARTER CONFIGURATION
BATT+
BATT-
SPLICE 1
SM
50
31(-)
30(+)

PAGE 9 OF 14


COMPONENTS LOCATED ON ENGINE
GND 0
SPLICE 3 219
CVH
4
GND 0
RB2-10
PZC
60
242A
GRN/YEL
RED
RED
FS1
UPSTREAM
FUEL SHUT OFF
5
GND 0
TB3-10Y 219
PZC
16
29
3
219 CVH-2
FS2
DOWNSTREAM
FUEL SHUT OFF
PZC
BS1-9
18
219
808
AFS
AFS CONNECTOR
REFERENCE
808
219
GA1
PZC
771 33 771 GC5-1
767 27 767 GC1-23
765 25 765 GC1-21
770 32 770 GC5-2
766 26 766 GC1-22
WTS1
PZC
19 68R1 BS6-7
20 68V1 BS6-19
OPS
PZC
12 69V1 BS4-9
10 69S1 BS6-18
11 69R1 BS6-6
SC 16
GND 0
FS3
FS3 CONNECTOR
REFERENCE
0
16
WLS
PZC
8 573A BS2-11
7 573 BS2-12
0 GND
BLACK
WHITE
BLUE
BLACK
OS
PZC
3 805 BS4-20
2 804 BS4-8
14 14 RB2-1
MPU1
MPU1
(FLYWHEEL)
BARE
BLACK
CLEAR
PZC
39 SHLD BS1-18
38 0 BS1-16
37 79 BS1-17
PZC
BS5-3
6
601
GND 0
LFP
OTS
PZC
16 523A BS6-8
15 523 BS6-20

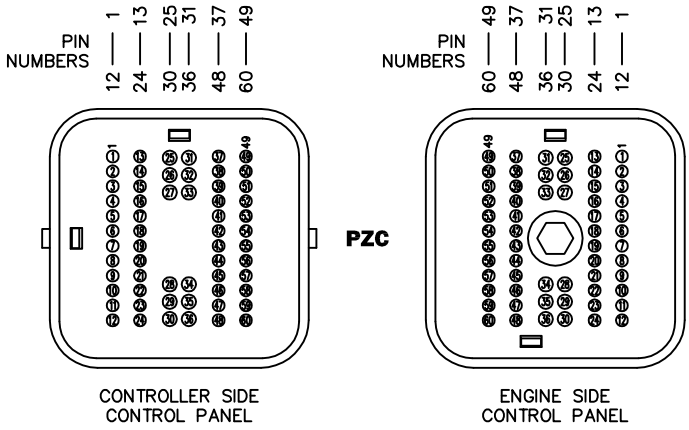
COMPONENTS LOCATED IN CONTROL PANEL

PIN	WIRE	FROM	TO
1	56	RB1–10	SC
2	804	BS4–8	OS–B
3	805	BS4–20	OS–A
4	–	–	–
5	–	–	–
6	601	BS5–3	LFP–C
7	573	BS2–12	WLS–A
8	573A	BS2–11	WLS–B
9	–	–	–
10	69S1	BS6–18	OPS–3
11	69R1	BS6–6	OPS–1
12	69V1	BS4–9	OPS–2

PIN	WIRE	FROM	TO
13	604	BC8–1	BTP
14	14	RB2–1	OS–D
15	523	BS6–20	OTS–2
16	523A	BS6–8	OTS–1
17	605	BC8–2	BTP
18	808	BS1–9	AFS–1
19	68R1	BS6–7	WTS1–1
20	68V1	BS6–19	WTS1–2
21	754V	BS4–15	N/A
22	754R	BS4–3	N/A
23	25A	RB2–7	IGP–1
24	–	–	–

PIN	WIRE	FROM	TO
25	765	GC1–21	GA1–3
26	766	GC1–22	GA1–6
27	767	GC1–23	GA1–2

PIN	WIRE	FROM	TO
28	–	–	–
29	219	TB3–10Y	SPLICE 3
30	13	FB–3X	BATTERY



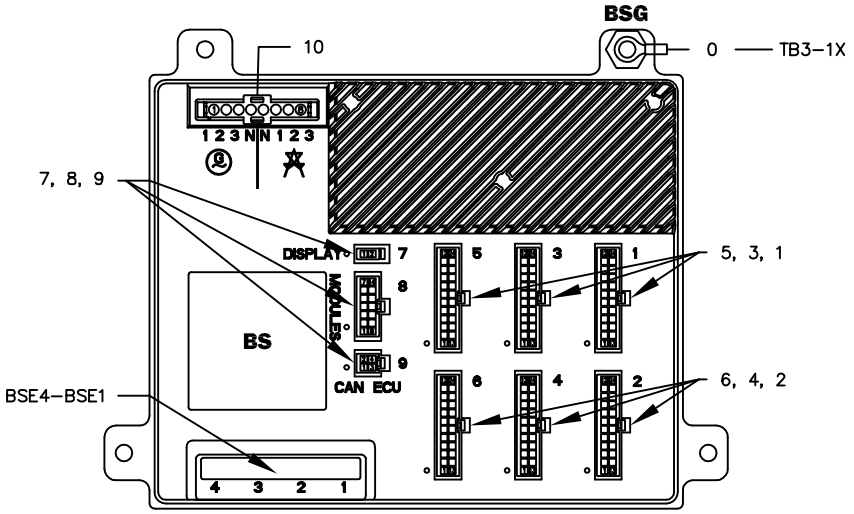
PIN	WIRE	FROM	TO
31	0	SPLICE 2	GND
32	770	GC5–2	GA1–4
33	771	GC5–1	GA1–1

PIN	WIRE	FROM	TO
34	–	–	–
35	–	–	–
36	–	–	–

PIN	WIRE	FROM	TO
37	79	BS1–17	MPU1–3
38	0	BS1–16	MPU1–2
39	SHLD	BS1–18	MPU1–1
40	–	–	–
41	–	–	–
42	–	–	–
43	–	–	–
44	–	–	–
45	–	–	–
46	–	–	–
47	–	–	–
48	–	–	–

PIN	WIRE	FROM	TO
49	49	DB	ALT
50	–	–	–
51	–	–	–
52	–	–	–
53	–	–	–
54	–	–	–
55	–	–	–
56	–	–	–
57	–	–	–
58	–	–	–
59	–	–	–
60	242A	RB2–10	FS1–3

COMPONENTS LOCATED IN CONTROL PANEL



BS5

FROM	WIRE	PIN	PIN	WIRE	FROM
–	–	12	24	DI8	TB9–11X
TB2–4X	816	11	23	DI7	TB9–10X
–	–	10	22	DI6	TB9–8X
TB9–7X	DI5	9	21	DI2	TB2–6X
–	–	8	20	DI1	TB2–5X
–	–	7	19	DI4	TB2–9X
BCC–8	505	6	18	DI3	TB2–8X
TB1–8X	183	5	17	–	–
TB9–3X	R15	4	16	418	CBC–2
PZC–6	601	3	15	–	–
SW1–3	175	2	14	–	–
SW1–1	174	1	13	371	CBC–12

BS3

FROM	WIRE	PIN	PIN	WIRE	FROM
–	–	12	24	–	–
–	–	11	23	–	–
TB2–3X	815	10	22	–	–
TB2–2X	814	9	21	–	–
RB2A–3	263	8	20	OC23	RB3A–6
TB2–1X	813	7	19	OC22	RB3A–5
RB2A–6	242	6	18	OC21	RB3A–3
RB2A–5	25	5	17	OC20	RB3A–2
–	–	4	16	366	RB4–2
RB1A–2	445	3	15	–	–
TB3–6Y	256	2	14	23	RB4A–6
RB1A–6	56A	1	13	–	–

BS1

FROM	WIRE	PIN	PIN	WIRE	FROM
–	–	12	24	–	–
TB7–1X	220F	11	23	–	–
TB7–1X	220F	10	22	0	BC1–2
PZC–18	808	9	21	–	–
–	–	8	20	–	–
–	–	7	19	–	–
–	–	6	18	SHLD	PZC–39
–	–	5	17	79	PZC–37
TB1–12X	SHLD	4	16	0	PZC–38
TB1–11X	0	3	15	–	–
TB1–9X	390	2	14	–	–
TB1–10X	391	1	13	–	–

BS6

FROM	WIRE	PIN	PIN	WIRE	FROM
–	–	12	24	–	–
–	–	11	23	–	–
–	–	10	22	–	–
–	–	9	21	–	–
PZC–16	523A	8	20	523	PZC–15
PZC–19	68R1	7	19	68V1	PZC–20
PZC–11	69R1	6	18	69S1	PZC–10
TB2–12X	AI1R	5	17	AI1S	TB2–11X
–	–	4	16	–	–
–	–	3	15	–	–
–	–	2	14	–	–
–	–	1	13	–	–

BS4

FROM	WIRE	PIN	PIN	WIRE	FROM
–	–	12	24	–	–
–	–	11	23	–	–
–	–	10	22	–	–
PZC–12	69V1	9	21	–	–
PZC–2	804	8	20	805	PZC–3
–	–	7	19	–	–
–	–	6	18	–	–
–	–	5	17	–	–
–	–	4	16	–	–
PZC–22	754R	3	15	754V	PZC–21
–	–	2	14	–	–
BCC–6	803V	1	13	–	–

BS2

FROM	WIRE	PIN	PIN	WIRE	FROM
PZC–7	573	12	24	–	–
PZC–8	573A	11	23	–	–
–	–	10	22	–	–
–	–	9	21	–	–
–	–	8	20	399N	CTC–8
–	–	7	19	398N	CTC–4
CTC–7	399C	6	18	–	–
CTC–3	398C	5	17	–	–
CTC–6	399B	4	16	–	–
CTC–2	398B	3	15	–	–
CTC–5	399A	2	14	–	–
CTC–1	398A	1	13	–	–

BS7

FROM	WIRE	PIN	PIN	WIRE	FROM
DIS1–1	15A	1	2	0D	DIS1–2

BS8

FROM	WIRE	PIN	PIN	WIRE	FROM
–	–	7	14	–	–
–	–	6	13	–	–
–	–	5	12	–	–
AC1–10	0F	4	11	15F	AC1–11
–	–	3	10	15E	GC1–24
TB3–5X	R15B	2	9	744G	BC2–4
BC2–3	SHLD	1	8	743G	BC2–5

BS9

FROM	WIRE	PIN	PIN	WIRE	FROM
–	–	2	4	–	–
–	–	1	3	–	–

BS10

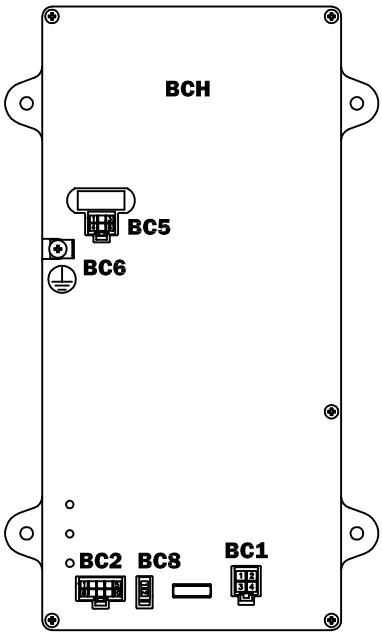
	PIN	WIRE	FROM
GEN 1	1	S1A	VSC–1
GEN 2	2	S2A	VSC–2
GEN 3	3	S3A	VSC–3
GEN N	4	00	VSC–4
UTIL N	5	T00	VSC–8
UTIL 1	6	T1A	VSC–5
UTIL 2	7	T2A	VSC–6
UTIL 3	8	T3A	VSC–7

ETHERNET CONNECTIONS

PORT	WIRE	FROM
BSE1	E1	DISPLAY
BSE2	E2	GEN BUS OR PERIPHERAL DEVICE
BSE3	E3	GEN BUS OR PERIPHERAL DEVICE
BSE4	E4	PERIPHERAL DEVICE

COMPONENTS LOCATED IN CONTROL PANEL
BATTERY CHARGER

OPTIONAL 20 AMP BATTERY CHARGER



BCH

BC1

PIN	WIRE	FROM
1	218	FB5–X
2	0	BS1–22

PIN	WIRE	FROM
3	218	TB3–14Y
4	0	TB3–2Y

BC2

PIN	WIRE	FROM
1	–	–
2	–	–
3	SHLD	BS8–1
4	744G	BS8–9
5	743G	BS8–8

PIN	WIRE	FROM
6	–	–
7	–	–
8	SHLD	AC1–4
9	744G	AC1–5
10	743G	AC1–6

BC5

PIN	WIRE	FROM
1	GND	BPC–1
2	N	BPC–2
3	L1	BPC–3

PIN	WIRE	FROM
4	–	–
5	–	–
6	–	–

BC8

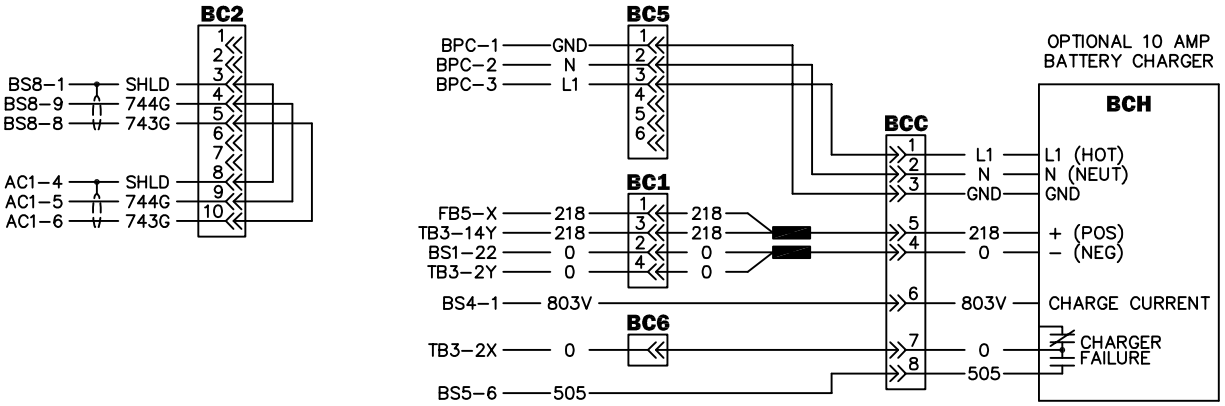
PIN	WIRE	FROM
1	604	PZC–13

PIN	WIRE	FROM
2	605	PZC–17

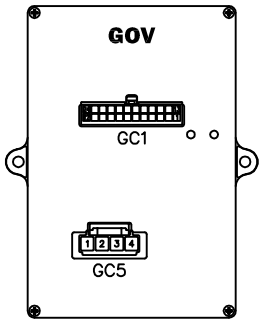
BC6

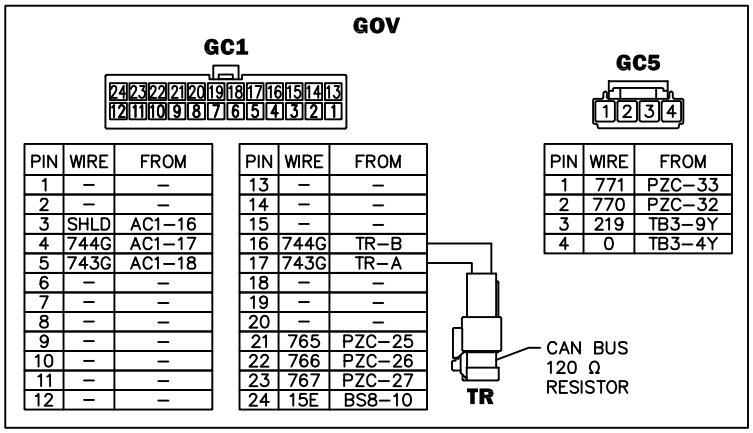
PIN	WIRE	FROM
–	0	TB3–2X

BATTERY CHARGER



COMPONENTS LOCATED IN CONTROL PANEL
GOVERNOR CONTROLLER



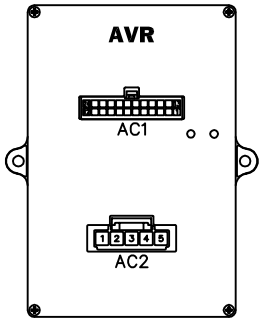


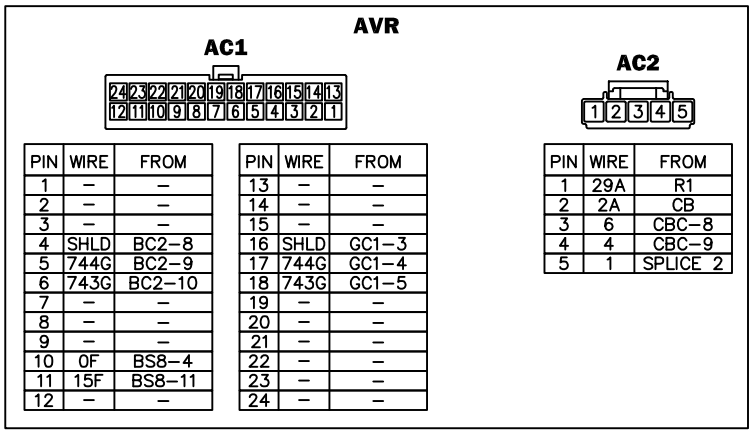
PIN	WIRE	FROM
1	–	–
2	–	–
3	SHLD	AC1–16
4	744G	AC1–17
5	743G	AC1–18
6	–	–
7	–	–
8	–	–
9	–	–
10	–	–
11	–	–
12	–	–

PIN	WIRE	FROM
13	–	–
14	–	–
15	–	–
16	744G	TR–B
17	743G	TR–A
18	–	–
19	–	–
20	–	–
21	765	PZC–25
22	766	PZC–26
23	767	PZC–27
24	15E	BS8–10

PIN	WIRE	FROM
1	771	PZC–33
2	770	PZC–32
3	219	TB3–9Y
4	0	TB3–4Y

AVR CONTROLLER

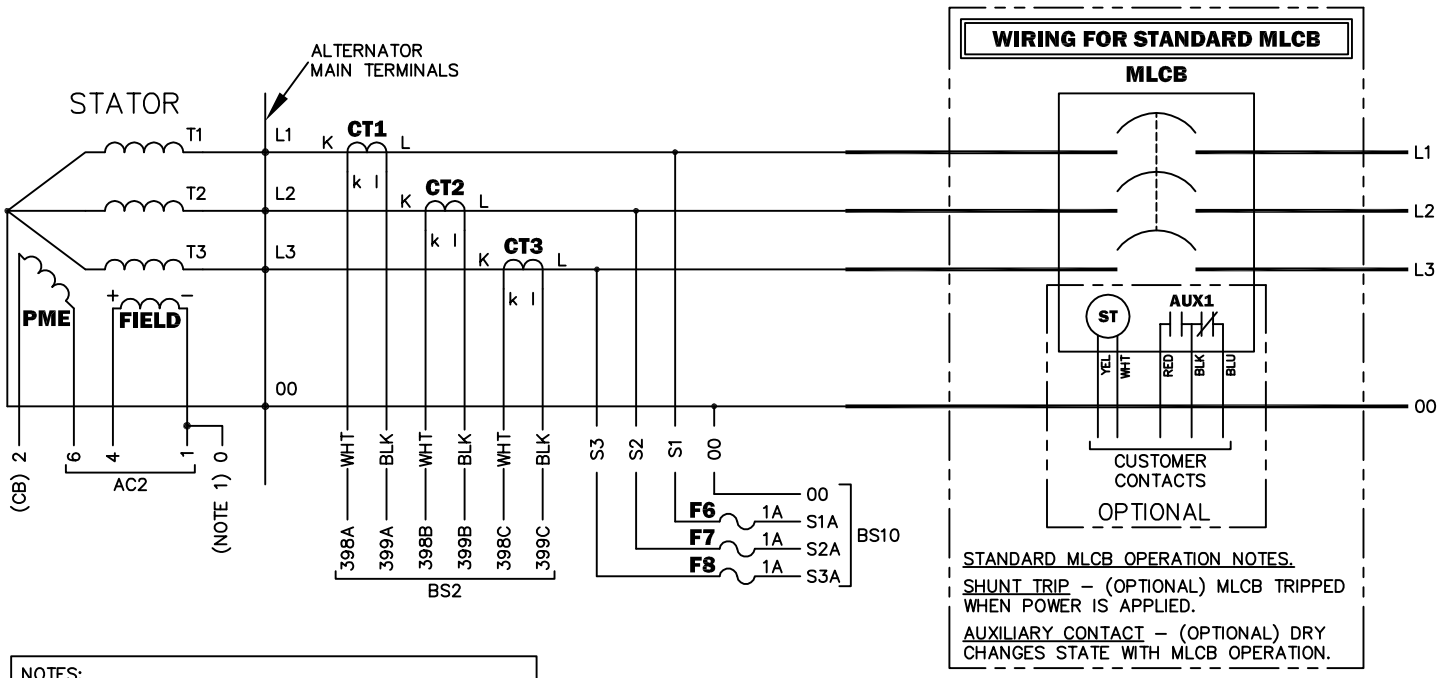




PIN	WIRE	FROM
1	–	–
2	–	–
3	–	–
4	SHLD	BC2–8
5	744G	BC2–9
6	743G	BC2–10
7	–	–
8	–	–
9	–	–
10	0F	BS8–4
11	15F	BS8–11
12	–	–

PIN	WIRE	FROM
13	–	–
14	–	–
15	–	–
16	SHLD	GC1–3
17	744G	GC1–4
18	743G	GC1–5
19	–	–
20	–	–
21	–	–
22	–	–
23	–	–
24	–	–

PIN	WIRE	FROM
1	29A	R1
2	2A	CB
3	6	CBC–8
4	4	CBC–9
5	1	SPLICE 2



NOTES:

1) WIRE# 0 IS CHASSIS GROUND (BATTERY–) UNLESS NOTED OTHERWISE.
2) WIRE# 218 IS UNFUSED +24VDC (BATTERY+).
3) WIRE# 219 IS FUSED +24VDC POWER WHEN ENGINE IS CRANKING OR RUNNING.
4) WIRE# 220 IS FUSED +24VDC POWER WHEN E–STOP IS NOT ACTIVATED.
5) WIRE# 220A IS FUSED +24VDC POWER FOR GENERAL USE.
6) WIRE# 220C IS FUSED +24VDC POWER FOR THE MOTORIZED CIRCUIT BREAKER AND AVR.
7) WIRE# 220D IS FUSED +24VDC POWER FOR BASE STATION AND FUEL SOLENOID RELAYS.
8) WIRE# 220E IS FUSED +24VDC POWER CONTROLLED BY BASE STATION FOR SHUT DOWN ALARM.
9) WIRE# 220F IS FUSED +24VDC POWER TO BASE STATION WITH POLARITY PROTECTION.
10) WIRE# 13 IS UNFUSED +12VDC FROM THE BATTERY CENTER TAP.
11) WIRE# 14 IS FUSED +12VDC WHEN ENGINE IS CRANKING OR RUNNING.
12) WIRE# 15 IS FUSED +12VDC.
13) WIRE# 220G IS FUSED AUCTIONEERED +24VDC FOR POWER ZONE PERMISSIVE & LOAD SHED.

LEGEND

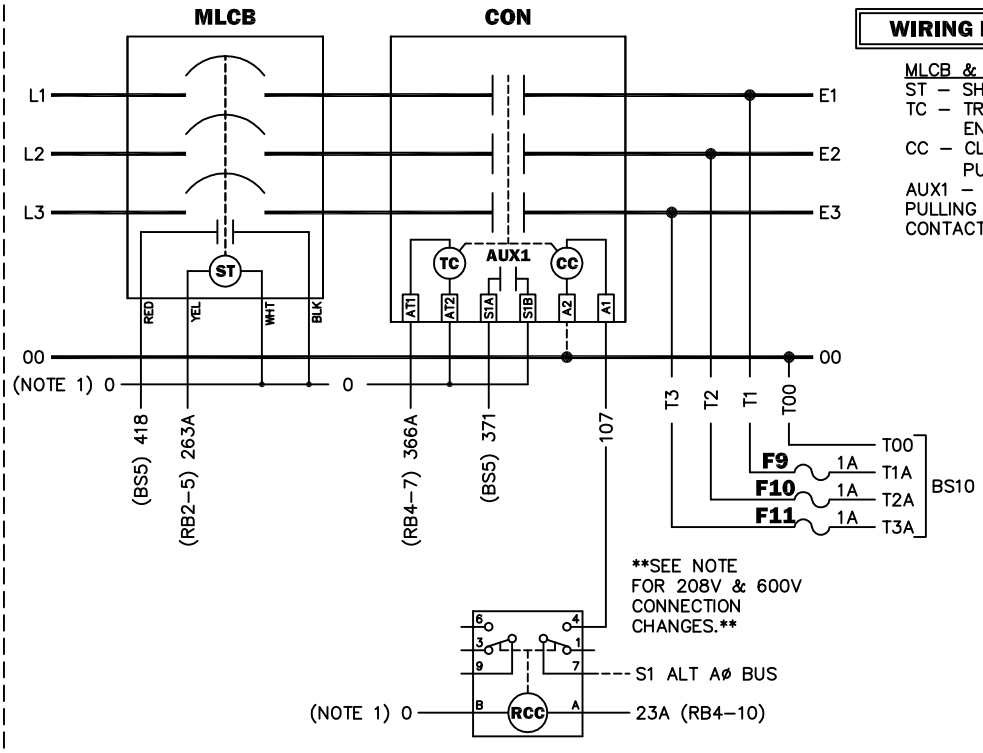
00 – NEUTRAL
AC_ – AVR CONNECTOR
AFS – AIR/FUEL SOLENOID
AH1 – ALARM HORN
ALT – DC CHARGE ALTERNATOR
AUX_ – AUXILIARY CONTACT
AVR – AUTOMATIC VOLTAGE REGULATOR
BAT – BATTERY
BC_ – BATTERY CHARGER CONNECTOR
BCH – BATTERY CHARGER
BS – POWER ZONE BASE STATION
BS_ – BASE STATION CONNECTOR
CB – CIRCUIT BREAKER
CC – CLOSE COIL
CON – CONTACTOR
CT_ – CURRENT TRANSFORMER
CVH_ – CRANKCASE VENT HEATER
D1 – DIODE
DB – DIODE BRIDGE
DIS – POWERZONE DISPLAY
ES1 – EMERGENCY STOP SWITCH
F_ – FUSE BLOCK
FS_ – FUEL SOLENOID
GA1 – GOVERNOR ACTUATOR
GC_ – GOVERNOR CONNECTION
GOV – GOVERNOR MODULE
GFCI – GROUND FAULT CURRENT INTERRUPT
GND – GROUND BAR CONNECTION
IC_ – IGNITION COIL
ICM – IGNITION CONTROL MODULE
LFP – LOW FUEL PRESSURE SWITCH
MLCB – MAIN LINE CIRCUIT BREAKER
MPU1 – MAGNETIC PICKUP (FLYWHEEL)
MPU2 – MAGNETIC PICKUP (CAMSHAFT)
OPS – OIL PRESSURE SENDER
OS – OXYGEN SENSOR
OTS – OIL TEMPERATURE SENDER
PME – PERMANENT MAGNET EXCITER
R1 – RESISTOR
RB_ – RELAY BOARD
RB_A – RELAY BOARD CONNECTOR
RCC – RELAY CLOSE COIL
ROB – RELAY OPEN BREAKER
RUR – RELAY UNDERVOLTAGE RELEASE
SC – START CONTACTOR
SM – STARTER MOTOR
SW1 – OFF/AUTO/MANUAL SWITCH
TR – TERMINATING RESISTOR
WLS – COOLANT LEVEL SENDER
WTS1 – COOLANT TEMPERATURE SENDER
XMFR1 – TRANSFORMER

SCHEMATIC - DIAGRAM

REVISION: CN-0035042-E
DATE: 6/3/20

G21.9L G30 MPS POWER ZONE

DRAWING #: 10000022920



WIRING FOR MLCB & CONTACTOR

MLCB & CON OPERATION NOTES.
ST – SHUNT TRIP, OPENS MLCB WHEN RB2–K2 DROPS OUT.
TC – TRIP COIL, OPENS CONTACTOR WHEN RB4–K3 IS ENERGIZED.
CC – CLOSE COIL, CLOSES CONTACTOR WHEN RCC IS PULSED. (PULSING PREVENTS COIL FROM OVERHEATING)
AUX1 – SIGNALS CONTACTOR OPEN OR CLOSED STATUS. PULLING FB4 TO WIRE 220C WILL DISABLE MLCB & CONTACTOR FUNCTIONS.

WIRING NOTE

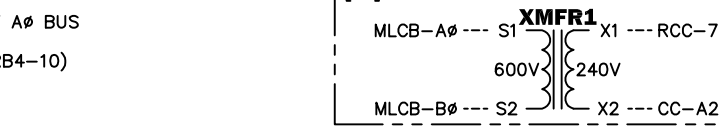
CONNECTIONS SHOWN ARE FOR 480V OPERATION.

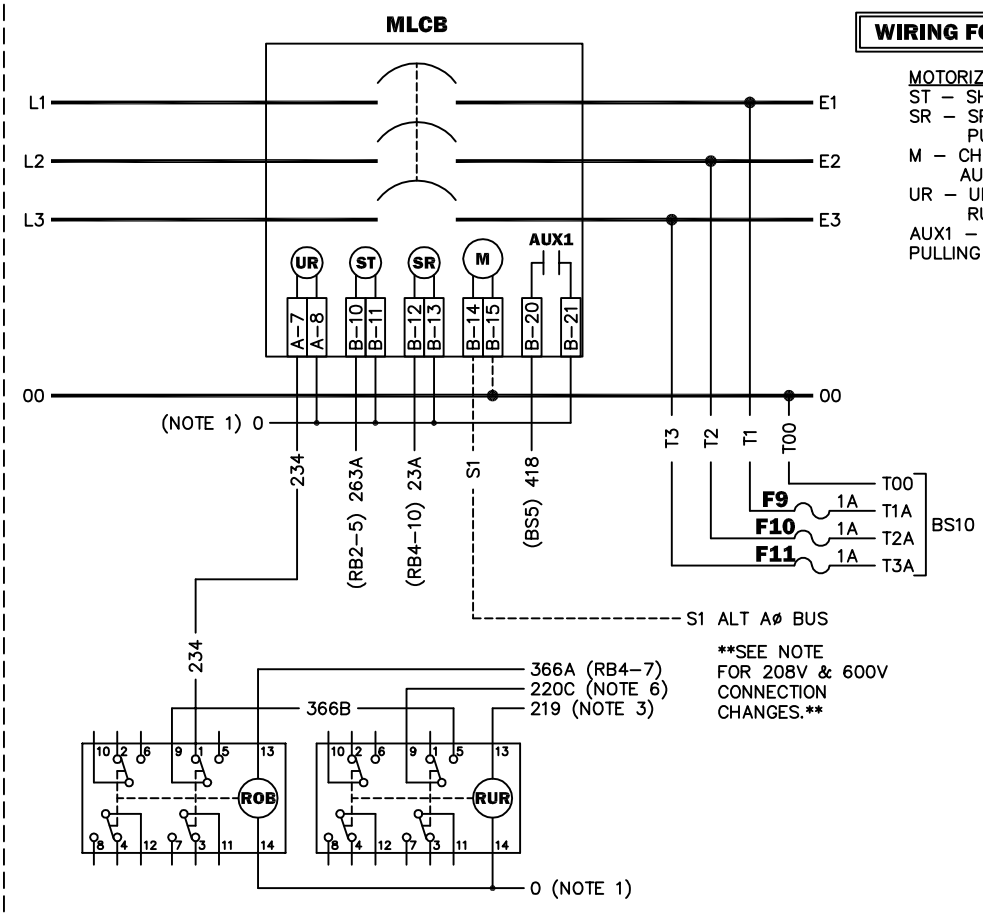
208V CONNECTION

REMOVE WIRE:
[00] FROM CC–A2 TO NEUTRAL.
ADD WIRE:
[S2] FROM ALT–Bø TO CC–A2.

600V CONNECTION

REMOVE WIRES:
[00] FROM CC–A2 TO NEUTRAL.
[S1] FROM ALT–Aø TO RCC–7.
ADD WIRES:
[X2] FROM XMFR1–X2 TO CC–A2.
[S1] FROM ALT–Aø TO XMFR1–S1.
[S2] FROM ALT–Bø TO XMFR1–S2.
[X1] FROM XMFR1–X1 TO RCC–7.





WIRING FOR MOTORIZED MLCB OPTION

MOTORIZED MLCB OPERATION NOTES.
ST – SHUNT TRIP, OPENS MLCB WHEN RB2–K2 DROPS OUT.
SR – SPRING RELEASE, CLOSES MLCB WHEN RB4–K4 IS PULSED.
M – CHARGING MOTOR, CHARGES MLCB CLOSING SPRING AUTOMATICALLY AS LONG AS GENERATOR IS RUNNING.
UR – UNDERVOLTAGE RELEASE, OPENS MLCB WHEN ENGINE RUN SIGNAL IS LOST OR WHEN ROB IS ENERGIZED.
AUX1 – SIGNALS MLCB OPEN OR CLOSED STATUS
PULLING FB4 TO WIRE 220C WILL DISABLE MLCB FUNCTIONS.

WIRING NOTE

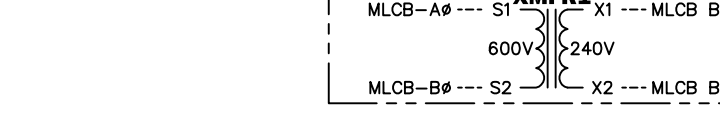
CONNECTIONS SHOWN ARE FOR 480V OPERATION.

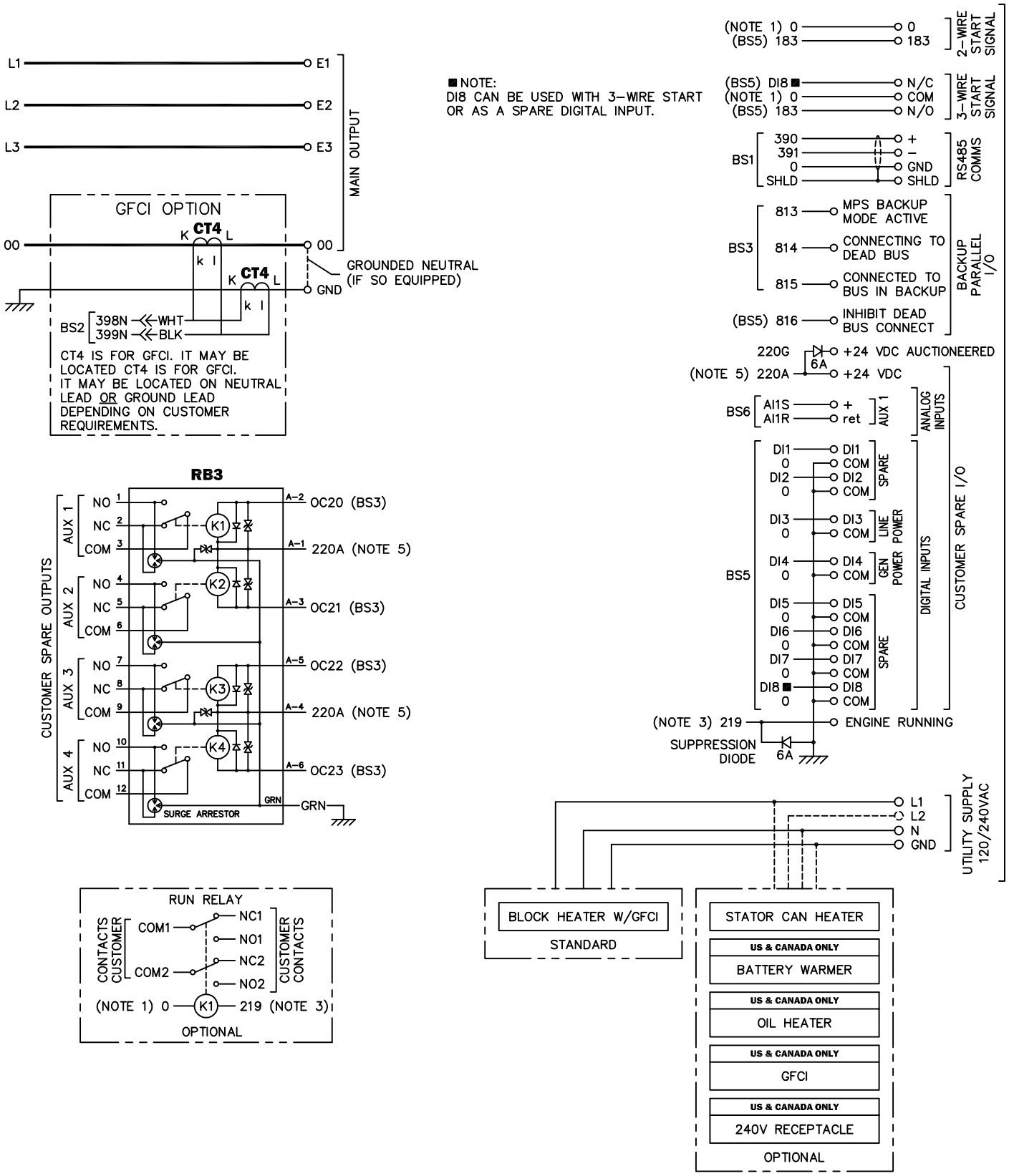
208V CONNECTION

REMOVE WIRE:
[00] FROM MLCB B–15 TO NEUTRAL.
ADD WIRE:
[S2] FROM ALT–Bø TO MLCB B–15.

600V CONNECTION

REMOVE WIRES:
[00] FROM MLCB B–15 TO NEUTRAL.
[S1] FROM ALT–Aø TO MLCB B–14.
ADD WIRES:
[X2] FROM XMFR1–X2 TO MLCB B–15.
[S1] FROM ALT–Aø TO XMFR1–S1.
[S2] FROM ALT–Bø TO XMFR1–S2.
[X1] FROM XMFR1–X1 TO MLCB B–14.





SCHEMATIC - DIAGRAM

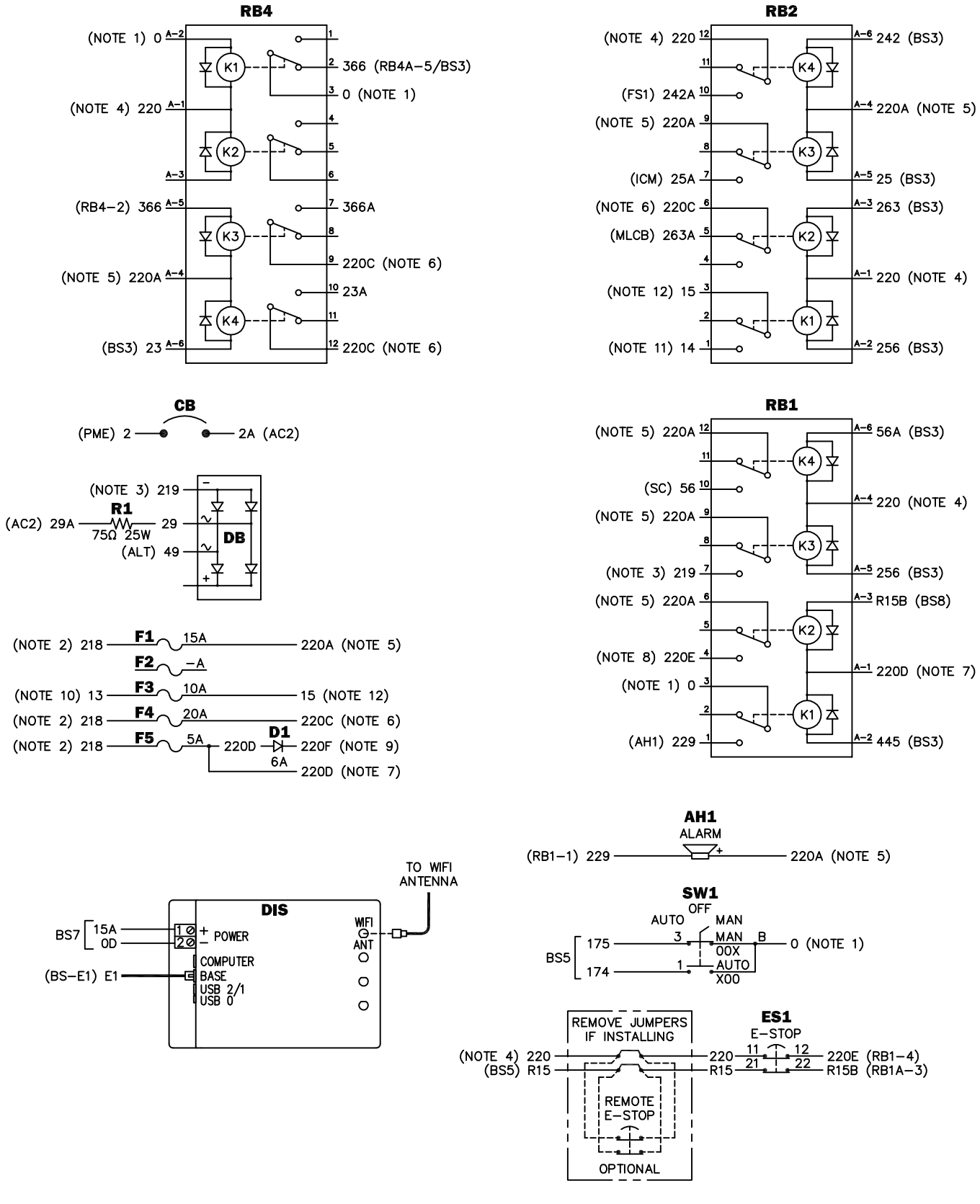
REVISION: CN-0035042-E

G21.9L G30 MPS POWER ZONE

DATE: 6/3/20

PAGE 3 OF 10

DRAWING #: 10000022920



SCHEMATIC - DIAGRAM

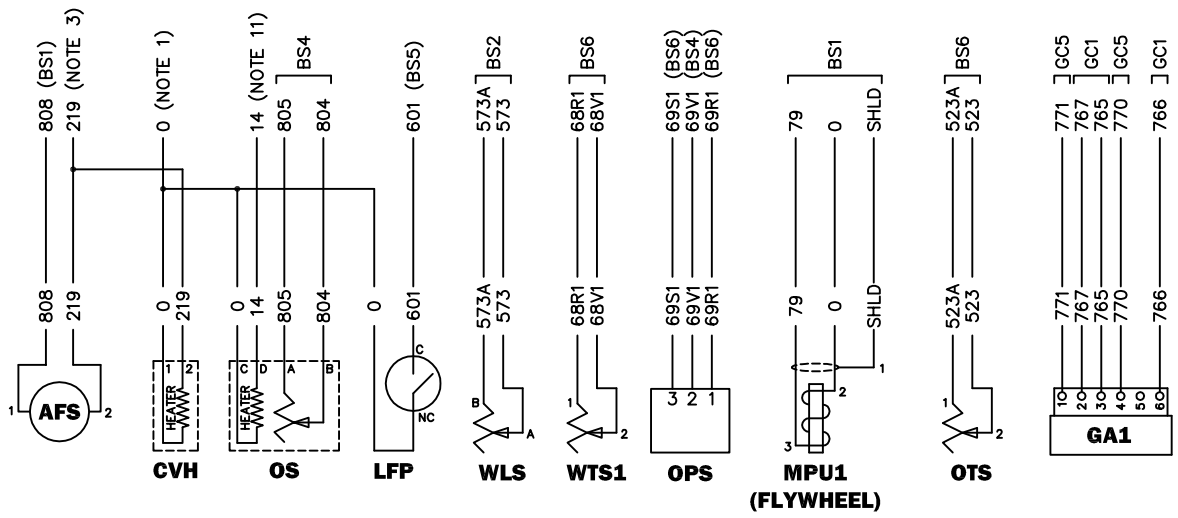
REVISION: CN-0035042-E

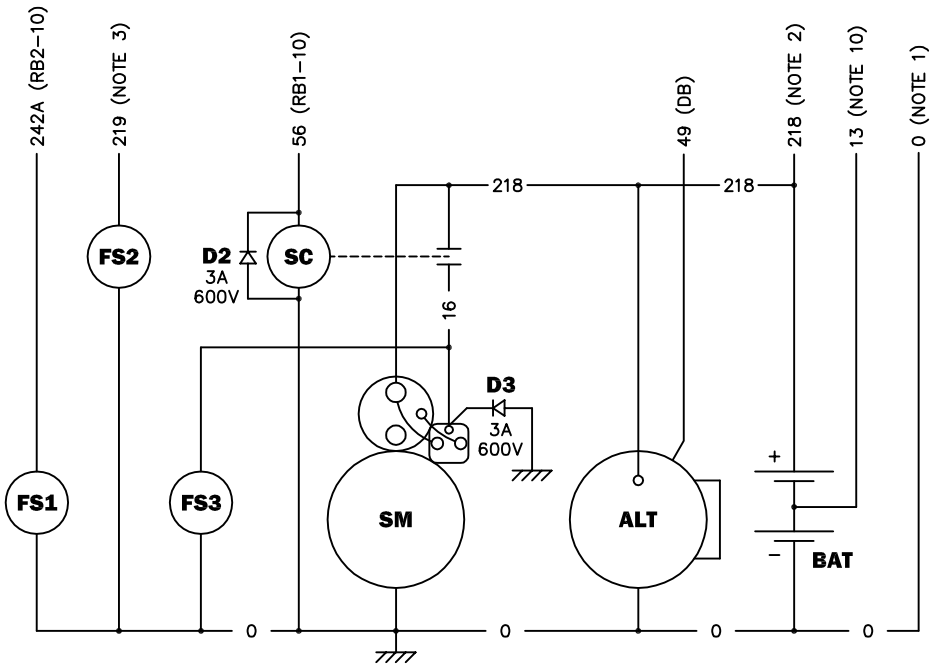
G21.9L G30 MPS POWER ZONE

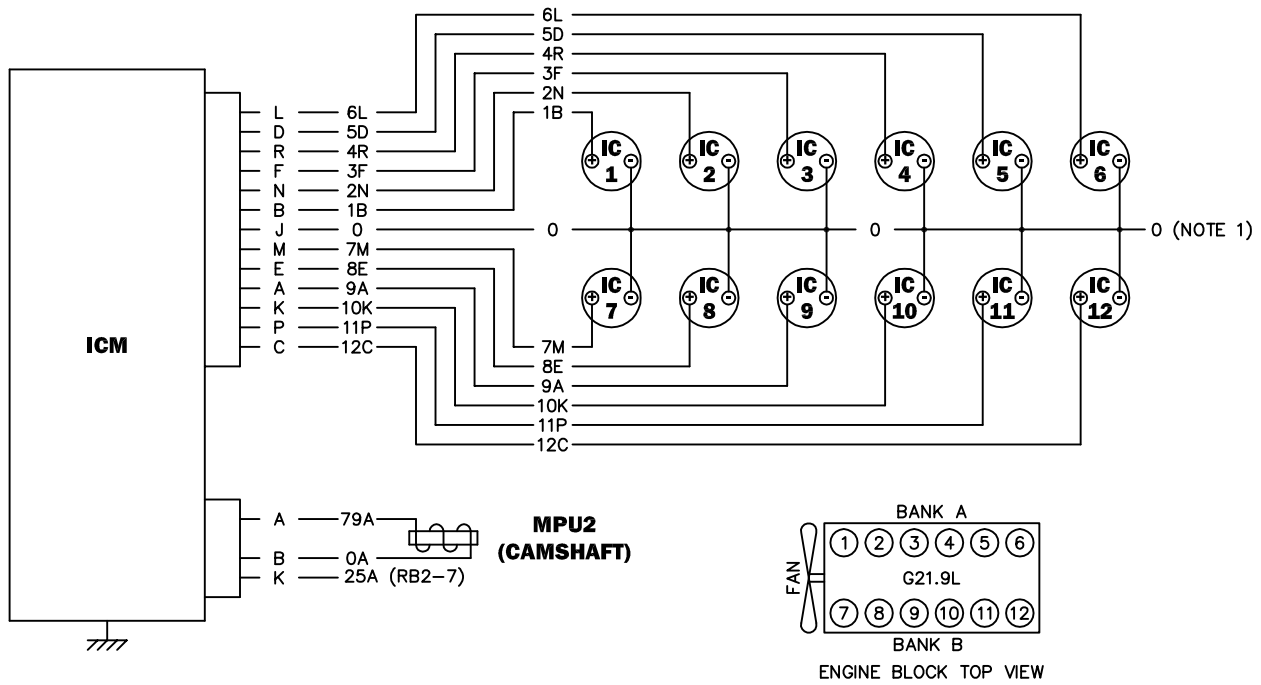
DATE: 6/3/20

PAGE 4 OF 10

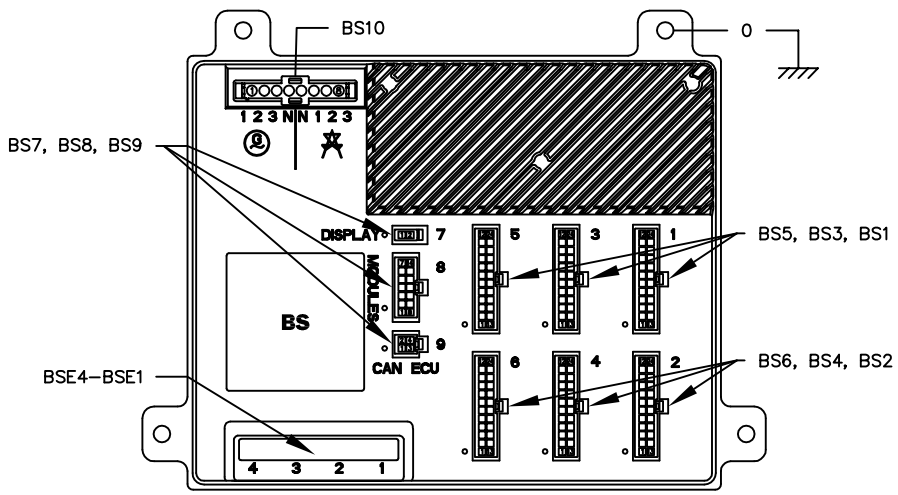
DRAWING #: 10000022920


808 (BS1)
219 (NOTE 3)
0 (NOTE 1)
14 (NOTE 11)
BS4
805
804
601 (BS5)
573A
573
BS2
68R1
68V1
BS6
69S1 (BS6)
69V1 (BS4)
69R1 (BS6)
79
0
SHLD
BS1
523A
523
BS6
771
767
765
770
766
GC5
GC1
GC5
GC1
AFS
HEATER
CVH
OS
LFP
WLS
WTS1
OPS
MPU1
(FLYWHEEL)
OTS
GA1


242A (RB2-10)
219 (NOTE 3)
56 (RB1-10)
49 (DB)
218 (NOTE 2)
13 (NOTE 10)
0 (NOTE 1)
218
218
FS2
D2
3A
600V
SC
16
D3
3A
600V
FS1
FS3
SM
ALT
BAT
0
0
0
0


ICM
L 6L
D 5D
R 4R
F 3F
N 2N
B 1B
J 0
M 7M
E 8E
A 9A
K 10K
P 11P
C 12C
6L
5D
4R
3F
2N
1B
IC 1
IC 2
IC 3
IC 4
IC 5
IC 6
0
0
0 (NOTE 1)
IC 7
IC 8
IC 9
IC 10
IC 11
IC 12
7M
8E
9A
10K
11P
12C
A 79A
B 0A
K 25A (RB2-7)
MPU2
(CAMSHAFT)
BANK A
1 2 3 4 5 6
FAN
G21.9L
7 8 9 10 11 12
BANK B
ENGINE BLOCK TOP VIEW

BASE STATION



BS1

PIN	WIRE	TO	FUNCTION
1	391	CUST CONN	RS485– (TRANSFER SWITCH)
2	390	CUST CONN	RS485+ (TRANSFER SWITCH)
3	0	CUST CONN	RS485 GND (TRANSFER SWITCH)
4	SHLD	CUST CONN	RS485 DRAIN (TRANSFER SWITCH)
9	808	AFS–1	AIR/FUEL SOLENOID
10	220F	F5	NOTE 9
11	220F	F5	NOTE 9
16	0	MPU1–2	ENGINE RPM (–)
17	79	MPU1–3	ENGINE RPM (+)
18	SHLD	MPU1–1	ENGINE RPM SHIELD
22	0	GND	NOTE 1

BS2

PIN	WIRE	TO	FUNCTION
1	398A	CT1–2	GEN PHASE A CURRENT (+)
2	399A	CT1–1	GEN PHASE A CURRENT (–)
3	398B	CT2–2	GEN PHASE B CURRENT (+)
4	399B	CT2–1	GEN PHASE B CURRENT (–)
5	398C	CT3–2	GEN PHASE C CURRENT (+)
6	399C	CT3–1	GEN PHASE C CURRENT (–)
11	573A	WLS–B	COOLANT LEVEL (–)
12	573	WLS–A	COOLANT LEVEL (+)
19	398N	CT4–2	GEN PHASE C CURRENT (+)
20	399N	CT4–1	GEN PHASE C CURRENT (–)

BS3

PIN	WIRE	TO	FUNCTION
1	56A	RB1A–6	START RELAY
2	256	RB1A–5/RB2A–2	PRIMARY FUEL SOLENOID RELAY
3	445	RB1A–2	ALARM RELAY
5	25	RB2A–5	IGNITION ENABLE
6	242	RB2A–6	SECONDARY FUEL SOLENOID RELAY
7	813	CUST CONN	BACKUP MODE ACTIVE (MPS)
8	263	RB2A–3	SHUNT TRIP RELAY
9	814	CUST CONN	CONNECTING TO DEAD BUS (MPS)
10	815	CUST CONN	CONNECTED TO BUS IN BACKUP (MPS)
14	23	RB4A–6	CLOSE GENERATOR TO BUS (MPS)
16	366	RB4–2	OPEN GENERATOR FROM BUS (MPS)
17	0C20	RB3A–2	SPARE RELAY 1
18	0C21	RB3A–3	SPARE RELAY 2
19	0C22	RB3A–5	SPARE RELAY 3
20	0C23	RB3A–6	SPARE RELAY 4

BS4

PIN	WIRE	TO	FUNCTION
1	803V	BCH	BATTERY CHARGER CURRENT
8	804	OS–B	OXYGEN SENSOR (+)
9	69V1	OPS–2	OIL PRESSURE (+)
20	805	OS–A	OXYGEN SENSOR (–)

BSE1-BSE4

PORT	WIRE	TO	FUNCTION
BSE1	E1	DIS	DISPLAY TO BASE COM
BSE2	E2	GEN BUS	MPS GENERATOR TO GENERATOR COM
BSE3	E3	GEN BUS	MPS GENERATOR TO GENERATOR COM
BSE4	E4	AUX DEVICE	AUX OPTION COM

BS5

PIN	WIRE	TO	FUNCTION
1	174	SW1	AUTO START
2	175	SW1	MANUAL START
3	601	LFP–C	LOW FUEL PRESSURE
4	R15	ES1–21	EMERGENCY STOP
5	183	CUST CONN	REMOTE START
6	505	BCH	BATTERY CHARGER FAIL
9	DI5	CUST CONN	AUXILIARY DIGITAL INPUT 5
11	816	CUST CONN	INHIBIT DEAD BUS CONNECT (MPS)
13	371	CON–S1A	GENERATOR CONTACTOR POSITION
16	418	MLCB AUX	MLCB STATUS
18	DI3	CUST CONN	AUXILIARY DI3/LINE POWER
19	DI4	CUST CONN	AUXILIARY DI4/GENERATOR POWER
20	DI1	CUST CONN	AUXILIARY DIGITAL INPUT 1
21	DI2	CUST CONN	AUXILIARY DIGITAL INPUT 2
22	DI6	CUST CONN	AUXILIARY DIGITAL INPUT 6
23	DI7	CUST CONN	AUXILIARY DIGITAL INPUT 7
24	DI8	CUST CONN	AUXILIARY DIGITAL INPUT 8

BS6

PIN	WIRE	TO	FUNCTION
5	AI1R	CUST CONN	ANALOG INPUT 1 (–)
6	69R1	OPS–1	OIL PRESSURE (–)
7	68R1	WTS1–1	COOLANT TEMPERATURE (–)
8	523A	OTS–1	OIL TEMPERATURE (–)
17	AI1S	CUST CONN	ANALOG INPUT 1 (+)
18	69S1	OPS–3	OIL PRESSURE (SUPPLY)
19	68V1	WTS1–2	COOLANT TEMPERATURE (+)
20	523	OTS–2	OIL TEMPERATURE (+)

BS7

PIN	WIRE	TO	FUNCTION
1	15A	DIS1–1	DISPLAY POWER (+)
2	0D	DIS1–2	DISPLAY POWER (–)

BS8

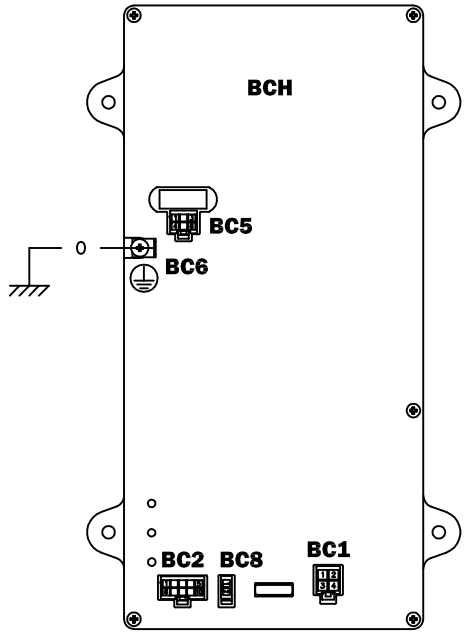
PIN	WIRE	TO	FUNCTION
1	SHLD	BC2–3	CAN BUS 1 SHIELD
2	R15B	RB1A–3/ES1–22	OVERSPEED/WATCHDOG TO E–STOP
4	0F	AC1–10	AVR MODULE POWER (–)
8	743G	BC2–5	CAN BUS 1 HIGH
9	744G	BC2–4	CAN BUS 1 LOW
10	15E	GC1–24	GOVERNOR MODULE POWER (+)
11	15F	AC1–11	AVR MODULE POWER (+)

BS10

PIN	WIRE	TO	FUNCTION
1	S1A	FB6–Y	GENERATOR VOLTAGE SENSE Aø
2	S2A	FB7–Y	GENERATOR VOLTAGE SENSE Bø
3	S3A	FB8–Y	GENERATOR VOLTAGE SENSE Cø
4	00	NEUTRAL	GENERATOR VOLTAGE SENSE NEU
5	T00	NEUTRAL	UTILITY VOLTAGE SENSE NEU (MPS)
6	T1A	FB9–Y	UTILITY VOLTAGE SENSE Aø (MPS)
7	T2A	FB10–Y	UTILITY VOLTAGE SENSE Bø (MPS)
8	T3A	FB11–Y	UTILITY VOLTAGE SENSE Cø (MPS)

BATTERY CHARGERS

OPTIONAL 20 AMP POWER ZONE BATTERY CHARGER



BC1

PIN	WIRE	TO	FUNCTION	
1	218	F5	BASE STATION SUPPLY POWER (+)	SEE NOTE
2	0	BS1–22	BASE STATION SUPPLY POWER (–)	
3	218	SM	BATTERY CHARGING (+)	
4	0	GND	BATTERY CHARGING (–)	

BC2

PIN	WIRE	TO	FUNCTION
1	–	–	–
2	–	–	–
3	SHLD	BS8–1	CAN BUS 1 SHIELD (IN)
4	744G	BS8–9	CAN BUS 1 LOW (IN)
5	743G	BS8–8	CAN BUS 1 HIGH (IN)
6	–	–	–
7	–	–	–
8	SHLD	AC1–4	CAN BUS 1 SHIELD (OUT)
9	744G	AC1–5	CAN BUS 1 LOW (OUT)
10	743G	AC1–6	CAN BUS 1 HIGH (OUT)

BC5

PIN	WIRE	TO	FUNCTION
1	GND	UTILITY	UTILITY AC GROUND
2	N	UTILITY	UTILITY AC NEUTRAL
3	L1	UTILITY	UTILITY AC POWER
4	–	–	–
5	–	–	–
6	–	–	–

BC6

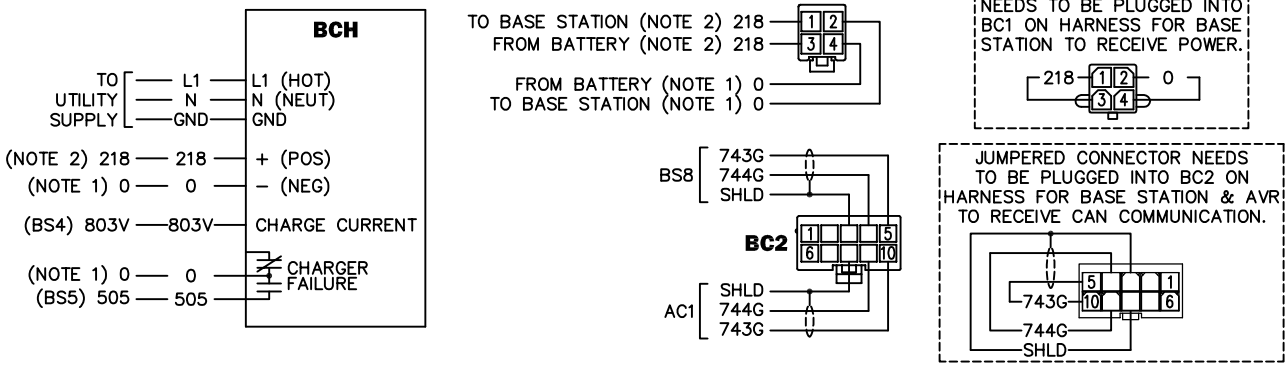
PIN	WIRE	TO	FUNCTION
–	0	GND	CHASSIS GROUND

BC8

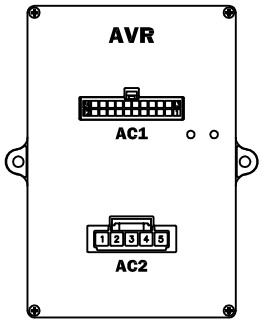
PIN	WIRE	TO	FUNCTION
1	604	BAT	BATTERY TEMP (THERMISTOR +)
2	605	BAT	BATTERY TEMP (THERMISTOR –)

NOTE:
THE BATTERY CHARGER CONTAINS A REGULATED POWER SUPPLY FOR THE BASE STATION. IF UTILITY POWER TO THE CHARGER IS LOST THE SUPPLY AUTOMATICALLY CONNECTS TO THE CHARGER LEADS. THIS ALLOWS THE BASE STATION TO RECIEVE POWER FROM THE BATTERIES.

OPTIONAL 10 AMP BATTERY CHARGER (NON–POWER ZONE)



AVR MODULE



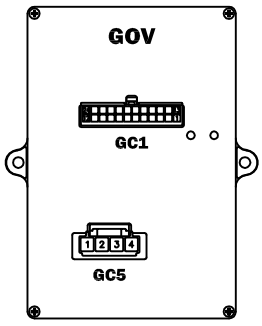
AC1

PIN	WIRE	TO	FUNCTION
4	SHLD	BC2-8	CAN BUS 1 SHIELD (IN)
5	744G	BC2-9	CAN BUS 1 LOW (IN)
6	743G	BC2-10	CAN BUS 1 HIGH (IN)
10	0F	BS8-4	AVR MODULE POWER (-)
11	15F	BS8-11	AVR MODULE POWER (+)
16	SHLD	GC1-3	CAN BUS 1 SHIELD (OUT)
17	744G	GC1-4	CAN BUS 1 LOW (OUT)
18	743G	GC1-5	CAN BUS 1 HIGH (OUT)

AC2

PIN	WIRE	TO	FUNCTION
1	29A	R1	EXCITER FIELD BOOST POWER INPUT
2	2A	CB	PME PHASE A INPUT (AFTER CB)
3	6	EXC-3	PME PHASE B INPUT
4	4	EXC-4	EXCITER FIELD POWER OUTPUT (+)
5	1	EXC-1	EXCITER FIELD POWER OUTPUT (-)

GOVERNOR CONTROLLER



GC1

PIN	WIRE	TO	FUNCTION
3	SHLD	AC1-16	CAN BUS 1 SHIELD (IN)
4	744G	AC1-17	CAN BUS 1 LOW (IN)
5	743G	AC1-18	CAN BUS 1 HIGH (IN)
16	744G	TR-B	TERMINATING RESISTOR
17	743G	TR-A	TERMINATING RESISTOR
21	765	GA1-3	THROTTLE POSITION (-)
22	766	GA1-6	THROTTLE POSITION (SUPPLY)
23	767	GA1-2	THROTTLE POSITION (+)
24	15E	BS8-10	GOVERNOR MODULE POWER (+)

GC5

PIN	WIRE	TO	FUNCTION
1	771	GA1-1	EXCITER FIELD BOOST POWER INPUT
2	770	GA1-4	PME PHASE A INPUT (AFTER CB)
3	219	DB	(NOTE 3)
4	0	GND	(NOTE 1)

PAGE 9 OF 10

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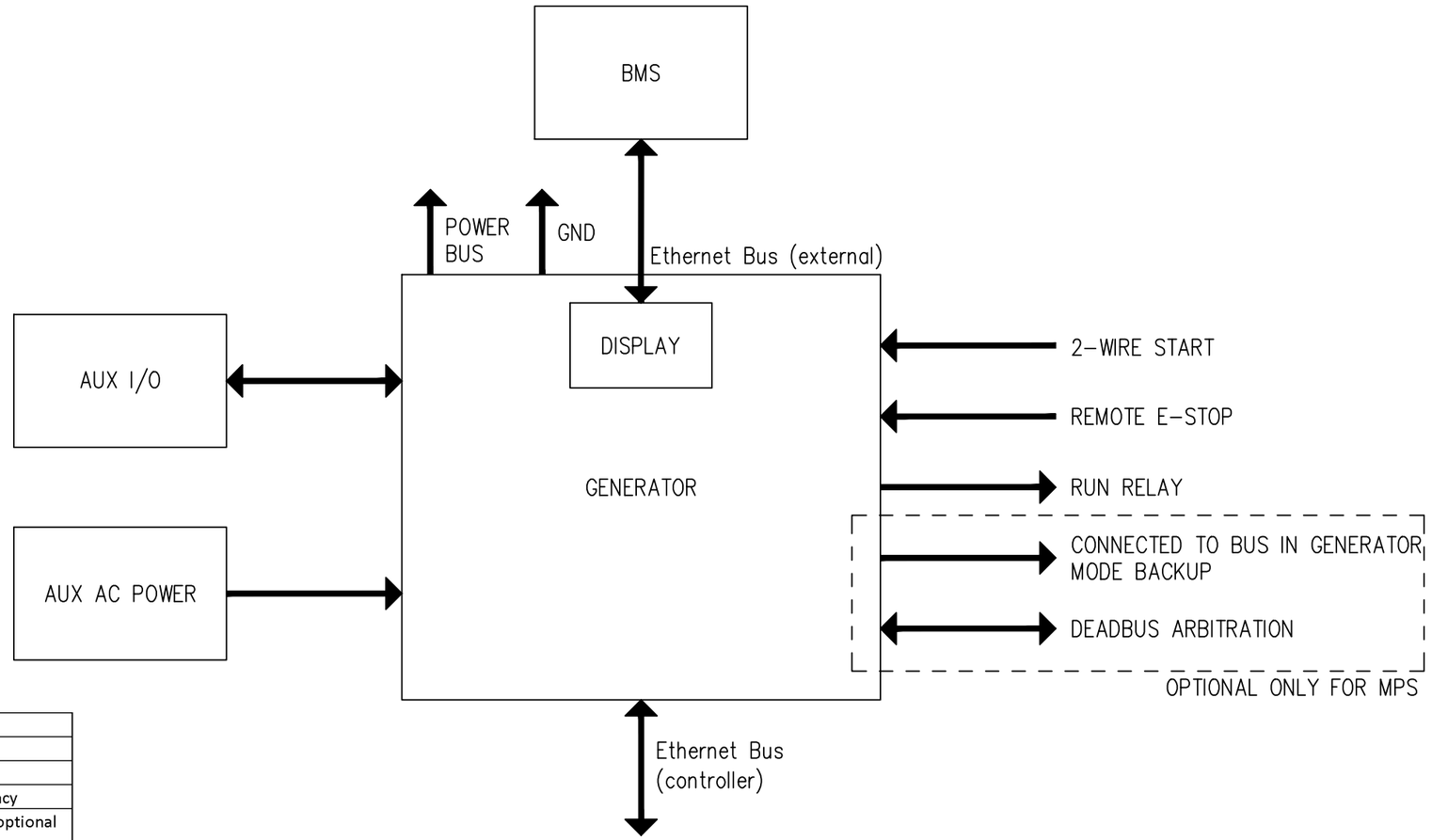


Reference	
MPS	Modular Power System. Parallel generator system.
BMS	Building Management System using Modbus TCP/IP.
Remote E-Stop	Remote Emergency Stop to shutdown the generator incase of emergency
Run Relay	This is an optional wiring used by the customer to activate/deactivate optional features based on generator running status.
2-Wire Start	Transfer switches sense loss of normal power and initiate a system start through this function.
Connected to bus in Backup	Output from generator to P&L to indicate that the generator is connected to power bus.
Deadbus Arbitration	This function ensures that only one generator is closing into the dead bus when operating with failed communications.
Aux I/O	Each generator has 4 configurable relay outputs, 4 configurable inputs and 2 configurable analog inputs for customer special use.
Aux AC Power	Generator utilizes load center to power the block heater, battery charger etc. (refer to generator Specs for wiring details).
Ethernet Bus	Not indicated in the above picture, but the Ethernet Bus is used to connect a wide range of devices to the generator, like RAP/RRP, P&L and other generators. There are two networks - controller and external
Display	It can be accessed through PC/Tablet/Smartphone using Wifi/Bluetooth.

INSTALLATION DRAWING

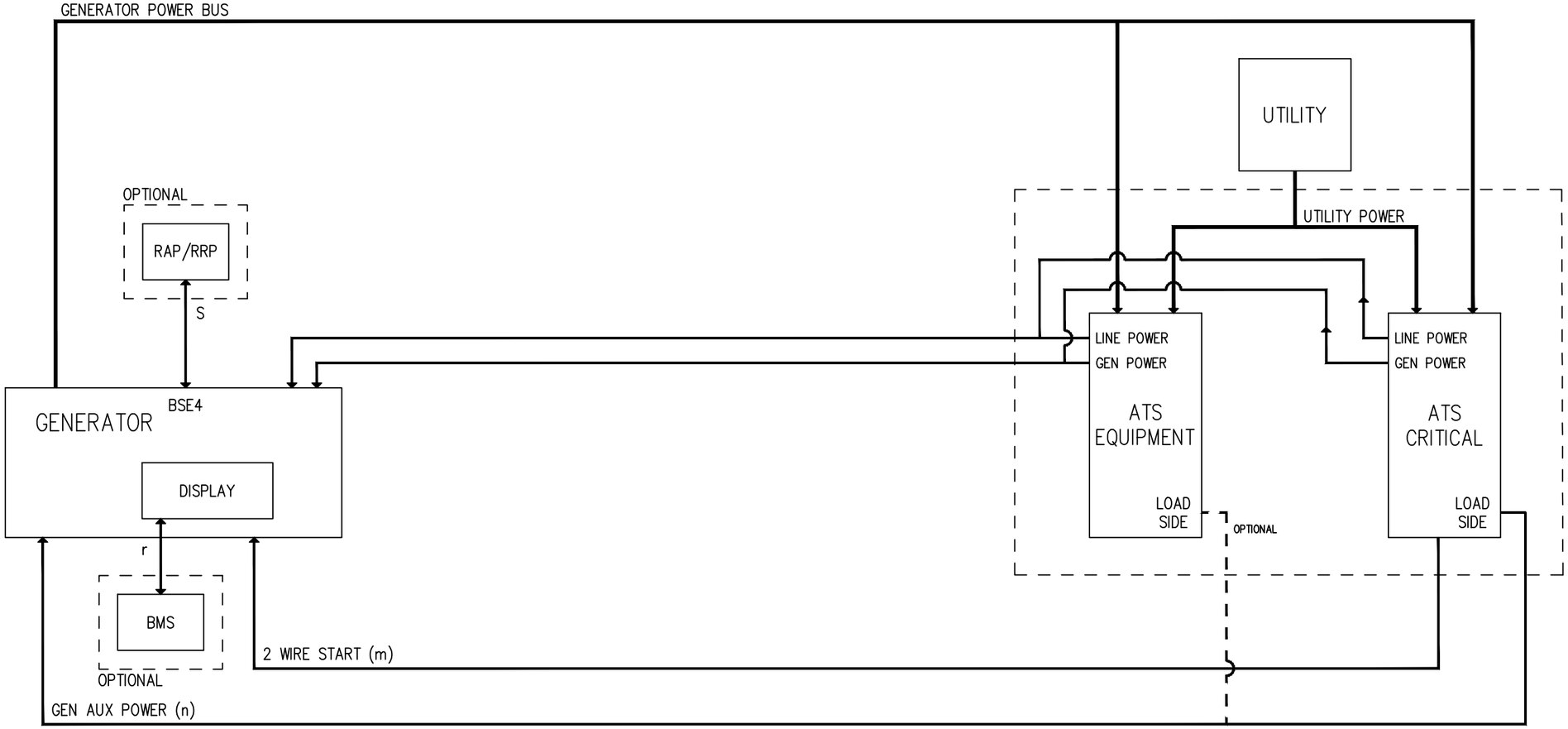
ELECTRONICALLY APPROVED
INSIDE WINDCHILL

GENERAC

TITLE
INTERCONNECT DRAWING
POWER ZONE PRO SYNC

ISSUE DATE: 05/22/18			
SIZE B	CAGE NO N/A	DWG NO 10000034013	REV C
SCALE N/A	WT-KG N/A	SHEET 1 of 8	

INTERCONNECT DRAWING SINGLE GENERATOR



NOTES:
- DISPLAY IS CONNECTED TO ETHERNET PORT 1 OF MAIN CONTROLLER

INSTALLATION DRAWING

ELECTRONICALLY APPROVED
INSIDE WINDCHILL

GENERAC

TITLE
INTERCONNECT DRAWING
POWER ZONE PRO SYNC

ISSUE DATE: 05/22/18					
SIZE B	CAGE NO N/A	DWG NO 10000034013			REV C
SCALE N/A	WT-KG N/A	SHEET 2 of 8			

Reference	
Single RAP/RRP	When a RAP/RRP (Remote Annunciator Panel/Remote Relay Panel) is configured as singleRAP/RRP, it receives data from only the configured generator and annunciates alarms and warnings of that generator.
System RAP/RRP	If configured as System RAP/RRP, receives data from every generator and announces alarms and warnings occuring on any of the generators.
P&L	Permissive and Loadshed panel controls the Permissives and Loadsheds of ATS .
Gen	Generator
Ethernet Switch	Used to forward data packets from one ethernet port to the other ethernet port.
ATS Critical	Automatic Transfer Switch used to connect Critical Loads
ATS Equipment	Automatic Transfer Switch used to connect regular non critical Loads
BSEx	Base Station Ethernet Port x
ESWx	Ethernet Switch Port x
ETx	P&L Ethernet Port x

Reference	Function	Cable	From	To	Class
a	Communication from generator to all peripherals in controller network	Shielded CAT 5E	BSE2 on Gen1	ESW1 on Ethernet Switch	2
b	Remote Annunciator communication in controller network	Shielded CAT 5E	Eth(J12) on RAP/RRP Gen 1	ESW2 on Ethernet Switch	2
c	Remote Annunciator communication in controller network	Shielded CAT 5E	Eth(J12) on RAP/RRP Gen 2	ESW3 on Ethernet Switch	2
d	Remote Annunciator communication in controller network	Shielded CAT 5E	Eth(J12) on RAP/RRP Gen 3	ESW4 on Ethernet Switch	2
e	Close loop connecting P&L in controller network	Shielded CAT 5E	ESW6 on Ethernet Switch	Eth 3 on P&L	2
f	P&L connection to Generator 3 or the last generator in the controller network.	Shielded CAT 5E	Eth 2 on P&L	BSE3 on Gen 3	2
g	Communication between generators in controller network	Shielded CAT 5E	BSE2 on Gen 3	BSE3 on Gen 2	2
h	Communication between generators in controller network	Shielded CAT 5E	BSE2 on Gen 2	BSE3 on Gen 1	2
i	Up to 6 Permissive relay outputs to ATS	18 AWG,300V AC	P&L Panel	ATS Equipment	2
j	Up to 6 Loadshed relay outputs to ATS	18 AWG,300V AC	P&L Panel	ATS Equipment	2
k	Remote Annunciator communication in controller network	Shielded CAT 5E	Eth(J12) on System RAP/RRP	ESW5 on Ethernet Switch	2
l	Excercise with load transfer	18 AWG,300V AC	P&L Panel	ATS Equipment	2
m	2 Wire Start	18 AWG,300V AC	ATS Critical/ATS Equipment	All Generators and P&L	2
n	Generator Auxiliary Power	Custom cable based on generator auxiliary	ATS Critical/ATS Equipment loadside	All Generators	POWER
o	Generator power bus connections to ATS Critical & ATS Equipment	Custom cable proportional to ATS specifications	Generator power bus connecting all	ATS Critical and ATS Equipment	POWER
p	Utility power bus connections for ATS	Custom cable proportional to ATS specifications	Utility power bus	ATS Critical and ATS Equipment	POWER
q	Deadbus Arbitration -2 signals. Can be setup for any 2 Gens (optional for MPS only)	18 AWG,300V AC	Gen 1	Gen 2	2
r	Bus communication in external network (optional)	Shielded CAT 5E	Any generator	All generators	2
s	Local generator Remote Annunciator communication in controller network	Shielded CAT 5E	Any generator	P & L	2
1d	ATS Contractor Position (Utility and Gen) Signal	18 AWG,300V AC	ATS Critical / ATS Equipment	P & L	2
1a	Gen status connected to bus in Generator backup mode (optional)	18 AWG,300V AC	Gen 1	P & L	2
1b	Gen status connected to bus in Generator backup mode (optional)	18 AWG,300V AC	Gen 2	BMS	2
1c	Gen status connected to bus in Generator backup mode (optional)	18 AWG,300V AC	Gen 3	Local gen RAP / RRP	2

INSTALLATION DRAWING

ELECTRONICALLY APPROVED
INSIDE WINDCHILL

GENERAC

TITLE
INTERCONNECT DRAWING
POWER ZONE PRO SYNC

ISSUE DATE: 05/22/18

SIZE	CAGE NO	DWG NO	REV
B	N/A	10000034013	C

SCALE N/A | WT-KG N/A | SHEET 8 of 8

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2019 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: **Generac Power Systems, Inc.**
(U.S. Manufacturer or Importer)

Certificate Number: KGNXB21.92C1-019

Effective Date: 10/15/2018

Expiration Date: 12/31/2019

Byron J. Bunker, Division Director
Compliance Division

Issue Date: 10/15/2018

Revision Date: N/A

Manufacturer: Generac Power Systems, Inc.
Engine Family: KGNXB21.92C1
Mobile/Stationary Certification Type: Stationary
Fuel : Natural Gas (CNG/LNG)
Emission Standards :
Part 60 Subpart JJJJ Table 1
VOC (g/Hp-hr) : 1.0
CO (g/Hp-hr) : 4.0
NOx (g/Hp-hr) : 2.0
Emergency Use Only : Y

Pursuant to Section 213 of the Clean Air Act (42 U.S.C. section 7547) and 40 CFR Part 60, 1065, 1068, and 60 (stationary only and combined stationary and mobile) and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following nonroad engines, by engine family, more fully described in the documentation required by 40 CFR Part 60 and produced in the stated model year.

This certificate of conformity covers only those new nonroad spark-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 60. This certificate of conformity does not cover nonroad engines imported prior to the effective date of the certificate.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068.20 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 60.

This certificate does not cover large nonroad engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2020 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: **Generac Power Systems, Inc.**
(U.S. Manufacturer or Importer)

Certificate Number: LGNXB21.92C1-026

Effective Date: 07/01/2019

Expiration Date: 12/31/2020

Byron J. Bunker, Division Director
Compliance Division

Issue Date: 07/01/2019

Revision Date: N/A

Manufacturer: Generac Power Systems, Inc.
Engine Family: LGNXB21.92C1
Mobile/Stationary Certification Type: Stationary
Fuel : Natural Gas (CNG/LNG)
Emission Standards :
Part 60 Subpart JJJJ Table 1
NOx (g/Hp-hr) : 2.0
CO (g/Hp-hr) : 4.0
VOC (g/Hp-hr) : 1.0
Emergency Use Only : Y

Pursuant to Section 213 of the Clean Air Act (42 U.S.C. section 7547) and 40 CFR Part 60, 1065, 1068, and 60 (stationary only and combined stationary and mobile) and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following nonroad engines, by engine family, more fully described in the documentation required by 40 CFR Part 60 and produced in the stated model year.

This certificate of conformity covers only those new nonroad spark-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 60. This certificate of conformity does not cover nonroad engines imported prior to the effective date of the certificate.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068.20 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 60.

This certificate does not cover large nonroad engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2021 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: **Generac Power Systems, Inc.**
(U.S. Manufacturer or Importer)

Certificate Number: MGNXB21.92C1-059

Effective Date: 10/16/2020

Expiration Date: 12/31/2021

Byron J. Bunker, Division Director
Compliance Division

Issue Date: 10/16/2020

Revision Date: N/A

Manufacturer: Generac Power Systems, Inc.
Engine Family: MGNXB21.92C1
Mobile/Stationary Certification Type: Stationary
Fuel : Natural Gas (CNG/LNG)
Emission Standards :
Part 60 Subpart JJJJ Table 1
VOC (g/Hp-hr) : 1.0
CO (g/Hp-hr) : 4.0
NOx (g/Hp-hr) : 2.0
Emergency Use Only : Y

Pursuant to Section 213 of the Clean Air Act (42 U.S.C. section 7547) and 40 CFR Part 60, 1065, 1068, and 60 (stationary only and combined stationary and mobile) and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following nonroad engines, by engine family, more fully described in the documentation required by 40 CFR Part 60 and produced in the stated model year.

This certificate of conformity covers only those new nonroad spark-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 60. This certificate of conformity does not cover nonroad engines imported prior to the effective date of the certificate.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068.20 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 60.

This certificate does not cover large nonroad engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

United States Environmental Protection Agency Warranty Statement (Stationary Emergency Spark-Ignited Generators)

Warranty Rights, Obligations and Coverage

The United States Environmental Protection Agency (EPA) and Generac Power Systems, Inc. (Generac) are pleased to explain the Emission Control System Warranty on your new stationary emergency engine. If during the warranty period, any emission control system or component on your engine is found defective in materials or workmanship, Generac will repair your engine at no cost to you for diagnosis, replacement parts and labor provided it be done by a Generac Authorized Warranty Service Facility. Your emission control system may include parts such as the fuel metering, ignition, and exhaust systems and other related emission related components listed below. Generac will warrant the emissions control systems on your 2009 and later model year engines provided there has been no abuse, neglect, unapproved modification, or improper maintenance of your engine. For engines less than 130 HP the warranty period is two years from the date of sale to the ultimate purchaser. For engines greater than or equal to 130 HP the warranty period is three years or 2500 hours of operation, whichever comes first, from the date of the engine being placed into service. For high-cost warranted components, the Emission Control System warranty is valid for 5 years or 3500 hours of operation, whichever comes first.

Purchaser's/Owner's Warranty Responsibilities

As the engine purchaser/owner you are responsible for the following: 1) The engine must be installed and configured in accordance to Generac's installation specifications. 2) The completion of all maintenance requirements listed in your Owner's Manual. 3) Any engine setting adjustment must be done in accordance and consistent with the instructions in the Owner's Manual. 4) Any emission control system or component must be maintained and operated appropriately in order to ensure proper operation of the engine and control system to minimize emissions at all times.

Generac may deny any/or all Emission Control System Warranty coverage or responsibility of the engine, or an emission control system or component on your engine thereof, if it has failed due to abuse, neglect, unapproved modification or improper maintenance, or the use of counterfeit and/or “gray market” parts not made, supplied or approved by Generac. Warranty service can be arranged by contacting either your selling dealer or a Generac Authorized Warranty Service dealer, 1-800-333-1322 for the dealer nearest you. The purchaser/owner shall be responsible for any expenses or other charges incurred for service calls and/or transportation of the product to/from the inspection or repair facilities. The purchaser/owner shall be responsible for any and/or all damages or losses incurred while the engine is being transported/shipped for inspection or warranty repairs. Contact Generac Power Systems Inc. for additional Emission Control System Warranty related information, Generac Power Systems, Inc., PO. Box 8, Waukesha, WI 53187, or call 1-800-333-1322 or www.generac.com.

Important Note

This warranty statement explains your rights and obligations under the Emission Control System Warranty, which is provided to you by Generac pursuant to federal law. Note that this warranty shall not apply to 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). This warranty is in place of 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.

Emission Related Parts Include the Following (if so equipped)

1) Fuel Metering System

1.1) Gasoline Carburetor Assembly and Internal Components
A) Fuel Filter, B) Carburetor, C) Fuel Pump

1.2) Carburetion Assembly and Its Components
A) Fuel Controller, B) Carburetor and Its Gaskets, C) Mixer and Its Gaskets, D) Primary Gas Regulator, E) Liquid Vaporizer

1.3) Fuel Regulator

2) Air Induction System Including A) Intake Pipe/Manifold, B) Air Cleaner

3) Ignition System Including A) Spark Plug, B) Ignition Module, C) Ignition Coil, D) Spark Plug Wires

4) Exhaust System
A) Catalyst Assembly*, B) Exhaust Manifold, C) Muffler, D) Exhaust Pipe, E) Muffler Gasket

5) Crankcase Breather Assembly Including
A) Breather Connection Tube, B) PCV Valve

6) Oxygen Sensor

7) Diagnostic Emission-Control System

*High-Cost Warranted Component

United States Environmental Protection Agency Compliance Requirements (Stationary Emergency Spark-Ignited Generators)

Purchaser's/Owner's Record Keeping Responsibilities

The United States Environmental Protection Agency (EPA) and Generac Power Systems, Inc. (Generac) are pleased to explain your record keeping requirements for compliance with Subpart JJJJ- Standards of Performance for Stationary Spark Ignition Internal Combustion Engines as listed in the Electronic Code of Federal Regulations Title 40 Part 60. As the engine purchaser/owner who operates and maintains their certified emergency stationary engine and emission control system according to applicable emission related guidelines as specified in this Owner's Manual, you are required to meet the following notification and record keeping requirements to demonstrate compliance: 1) Maintain documentation that the engine is certified to meet emission standards. 2) Record keeping of maintenance conducted. 3) Record keeping of the provision allowing natural gas engines to operate using propane for a maximum of 100 hours per year as an alternate fuel solely during emergency operations provided the engine is not certified to operate on propane. 4) Meet all compliance notifications submitted to the purchaser/owner and maintain all supporting documentation. 5) Record keeping of hours of operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. For emergency engines greater than or equal to 130 HP, record keeping of hours of operation begins January 1, 2011. For emergency engines less than 130 HP, record keeping of hours of operation begins January 1, 2009; engines are equipped with non-resettable hour meters to facilitate record keeping.

Specific Air Quality Management or Air Pollution Control Districts may have different and additional record keeping/reporting requirements. Your permit to construct and/or operate the engine may be contingent upon compliance with those requirements. Check with your local Air Quality Management or Air Pollution Control District for specific requirements.

Emergency stationary internal combustion engines (ICE) may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, Generac, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The purchaser/owner may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing.

The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. For purchaser/owner of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section is prohibited.

If you operate and maintain your certified emergency stationary SI internal combustion engine and emissions control systems in accordance to the specifications and guidelines in this Owner’s Manual, EPA will not require engine performance testing. If not, your engine will be considered non-certified and you must demonstrate compliance according to Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines as listed in the Electronic Code of Federal Regulations Title 40 Part 60.

Emission-Related Installation Instructions

Your certified emergency stationary engine has pre-set emission control systems or components that require no adjustment. Inspection and replacement of an emissions related component is required to be done so in accordance with the requirements cited in the United States Environmental Protection Agency Warranty Statement or can be arranged by contacting either your selling dealer or a Generac Authorized Warranty Service dealer, 1-800-333-1322 for the dealer nearest you. Failing to follow these instructions when installing a certified engine in a piece of non-road equipment violates federal law 40 CFR 1068.105 (b), subject to fines or penalties as described in the Clean Air Act.

CERTIFICATE

This is to certify that

Generac Power Systems, Inc.

S45 W29290 Hwy. 59
Waukesha, WI 53189
United States of America

with the organizational units/sites as listed in the annex

has implemented and maintains a **Quality Management System**.

Scope:
Design, Manufacture, and Distribution of Power Products and Solutions.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

ISO 9001 : 2015

Certificate registration no.	10012920 QM15
Date of original certification	2013-12-09
Date of revision	2021-06-25
Date of certification	2021-07-16
Valid until	2024-07-15

DQS Inc.

Brad McGuire
Managing Director

Annex to certificate
Registration No. 10012920 QM15

Generac Power Systems, Inc.

S45 W29290 Hwy. 59
Waukesha, WI 53189
United States of America

Location	Scope
10012920 **Generac Power Systems, Inc.** **S45 W29290 Hwy. 59** **Waukesha, WI 53189** **United States of America**	Design and Support of Power Products and Solutions.
10012922 **Generac Power Systems, Inc.** **211 Murphy Dr.** **Eagle, WI 53119** **United States of America**	Manufacture and Distribution of Power Products and Solutions.
10012923 **Generac Power Systems, Inc.** **757 N. Newcomb St.** **Whitewater, WI 53190** **United States of America**	Manufacture and Distribution of Power Products and Solutions.
10012924 **Generac Power Systems, Inc.** **900 N. Parkway** **Jefferson, WI 53549** **United States of America**	Manufacture of Power Products and Solutions.
10013528 **Generac Power Systems** **3815 Oregon St.** **Oshkosh, WI 54902** **United States of America**	Manufacture and Distribution of Power Products.
10017103 **Generac Mobile** **215 Power Drive** **Berlin, WI 54923** **United States of America**	Manufacture and Distribution of Power Products.

Annex to certificate
Registration No. 10012920 QM15

Generac Power Systems, Inc.

S45 W29290 Hwy. 59
Waukesha, WI 53189
United States of America

Remote Location	Scope
10014175 **Generac Power Systems, Inc.** **351 Collins Road** **Jefferson, WI 53549** **United States of America**	The remote location at Jefferson, WI performs the following primary functions: Parts and Components Receiving, Inventory, Return and Reconditioning of Product, and Distribution to Generac Locations.
10017439 **Generac Mobile** **745 E. Knopf St.** **Berlin, WI 54923** **United States of America**	The remote location at Berlin, WI performs the following primary functions: Warehousing and Shipping.
10018422 **Generac Power Systems, Inc.** **303 Venture Court** **Janesville, WI 53546** **United States of America**	The remote location at Janesville, WI performs the following primary functions: Parts and Components Receiving, Kitting, Warehousing, Inventory, and Distribution to Generac locations.

Generac Power Systems 5 Year (5C) Extended Limited Warranty for Industrial Standby Generators

For the period of warranty noted below, which begins upon the successful start-up and/or on-line activation of the unit, Generac Power Systems, Inc. “Generac” warrants that its Generator 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 Independent Authorized Service Dealer, is found to be defective. Any equipment that the purchaser/owner claims to be defective must be evaluated by the nearest Independent Authorized 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 in Year(s) 1-5
Parts, Labor and Limited Travel

Limited Gearbox Coverage:

Year(s): 1-5 Coverage	Year(s): 6-10 Coverage
Limited Parts and Labor	Limited Parts Only

Guidelines:

1. Unit must be registered and proof of purchase available.
2. Any and all warranty repairs and/or concerns must be performed and/or addressed by an Independent Authorized Service Dealer, or branch thereof. Repairs or diagnostics performed by individuals other than Independent Authorized Service Dealers not authorized in writing by Generac will not be covered.
3. This Warranty is transferable between ownership of original install site.
4. Generac supplied engine coolant heaters (block-heaters), heater controls and circulating pumps are only covered during the first year of the warranty provision.
5. Generac may choose to repair, replace or refund a piece of equipment in its sole discretion.
6. 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.
7. Warranty only applies to permanently wired and mounted units.
8. Damage to any covered components or consequential damages caused by the use of a non-OEM part will not be covered by the warranty.
9. Proof of performance of all required maintenance must be available.
10. Travel allowance is limited to 300 miles maximum and seven and one half (7.5) hours maximum (per occurrence, whichever is less) round trip from the nearest Independent Authorized Service Dealer. Any additional travel required will not be covered.
11. Engines, driven components and fuel tanks used in Generac’s standby power products system can carry a separate manufacturer’s (OEM) warranty (the “OEM Warranties”), unless otherwise expressly stated. OEM Warranties are in addition to this Warranty. All warranty claims for defects in material and/or workmanship on Generac product OEM components, may be directed through the OEM distributor/dealer network. OEM Warranties may vary and are subject to change. Generac shall have no liability under OEM warranties.

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 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 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, reptile, 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, snow-cats, 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 Independent Authorized 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 JURISDICTIONS 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 JURISDICTIONS 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 UNDER APPLICABLE LAW.

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 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 1986 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.

GENERAC POWER SYSTEMS, INC. • P.O. BOX 8 • Waukesha, WI, USA 53187
Ph: (888) GENERAC (436-3722) • Fax: (262) 544-4851

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

Part No. 0J4301 Revision M (2/16)

Certification of Quality

Generac Power Systems certifies that the products we manufacture have been built and tested in accordance with strict internal and external standards for quality. Our quality management system has been registered with the internationally recognized ISO 9001:2008 standard and our products comply with external standards that include, but are not limited to, CSA, NEMA, EGSA, ISO, and UL.

The Generac Quality Management System (GQMS) ensures the highest standards of quality at every level of production, from raw materials to the finished product. This includes receiving inspection, in-process checks, product and process audits, testing, final inspections, and shipping standards.

Tests of our products are performed in accordance with our internal procedures and controlled through the GQMS to ensure accuracy and effectiveness. The testing process and product designs comply with external standards which may include, but are not limited to: ISO 8528-5, ISO 3046, NFPA 99, NFPA 110, BS 5514, SAE J1349, and DIN 6271.

Generac Power Systems has over one million square feet of manufacturing space and over 2000 employees dedicated to designing and manufacturing power generation equipment in our multiple State of Wisconsin, USA factories. All of our installed and mobile generators are built with pride by our skilled American workforce to ensure our customers receive the quality that they expect from Generac.

We are committed to producing quality products for both our internal and external customers. We will continuously improve our processes and diligently measure all aspects of our business.

Daniel Waschow

Vice President of Quality
Generac Power Systems, Inc.
Waukesha, Wisconsin USA

Part No. 0184520SSD
Rev. B 03/01/12

Power Series Transfer Switch

100 – 1,600 Amps

Contactor Type · Open and Delayed Transition

GENERAC | INDUSTRIAL POWER

- Automatic Transfer Switch
- 100 – 1,600 A, up to 600 VAC, 50/60 Hz
- 2, 3 or 4 Poles
- NEMA 1, 3R or 4X
- Open with Inphase and Delayed Transition
- UL 1008 Listed
- CSA C22.2 No. 178 Certified

800A, 3 Pole, 277/280V, 3 Phase, NEMA 3R, Open, Contactor-Based Design

Image used for illustration purposes only

Codes and Standards

Not all codes and standards apply to all configurations. Contact factory for details.

- UL 1008 Listed
- CSA C22.2 No. 178 Certified
- NFPA 37, 70, 99, 110
- NEC 700, 701, 702, 708
- ISO 3046, 7637, 8528, 9001, Pluses #2b, 4
- NEMA ICS10, MG1, 250, ICS6, AB1
- ANSI C62.41
- IEC 61000 EMC Testing and Measuring
- IBC 2009, CBC 2010, IBC 2012, ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012)

Description

Generac's Contactor Type Transfer Switches are double-throw and interlocked with an over center design to ensure safe, positive transfer between power sources. The switches are 3 cycle rated to ease breaker selection and coordination. The mechanism is field proven and operated via a reliable, compact solenoid for high speed transfer of loads between power sources. The contacts are silver composite for long life, resisting pitting or burning. The switches are rated for full load transfers in critical operating, emergency, legally required, and optional power systems.

The microprocessor based controller is flexible with extensive programmable options. The standard product offers both open with inphase and delayed transition. The 2 line – 32 character LCD displays real time and historical information with time-stamped events. The integrated plant exerciser is configurable in off, daily, 7, 14, 28 day intervals with user configurable run time. With the standard features of pretransfer contacts, three phase sensing on utility and generator sources, phase unbalance, phase reversal, load shed/emergency inhibit and communications (Modbus® RTU).

Power Series Transfer Switch

100 – 1,600 Amps

Contactor Type · Open and Delayed Transition

STANDARD FEATURES

GENERAL

- Double-Throw, Solenoid-Operated Transfer Mechanism
- LCD-Based Display for Programming, System Diagnostics and Help Menu Display
- Mimic Diagram with Source Available and Connected LED Indicator
- Time-Stamped History Log
- System TEST Pushbutton
- Programmable Plant Exerciser - OFF, Daily, 7, 14, 28 Day Interval Selectable Run Time 0-600 Minutes No Load/Load with Failsafe
- Methods of Transfer Include: Open with Inphase Transition Only, Time Delay in Neutral Transition, or Inphase with a Default to Time Delay in Neutral Transfer
- Mechanically Interlocked to Prevent Connection of Both Sources
- Field-Selectable Multi-Tap Transformer Panel Permits Operation on a Wide Range of System Voltages
- Modbus® RTU
- ATC-300+ Controller
- Operating Temperature -4 ° to 158 °F (-20 ° to 70 °C)

VOLTAGE AND FREQUENCY SENSING

- Three Phase Under and Over Voltage Sensing on Normal and Emergency Sources
- Under and Over Frequency Sensing on Normal and Emergency
- Selectable Settings: Single or Three Phase Voltage Sensing on Normal, Emergency and Load 50 or 60 Hz
- Phase Sequence Sensing for Phase Sensitive Loads

CONTACTS

- Source Available:
  - Source-1 Present, 2-N.O. and 2-N.C.
  - Source-2 Present, 2-N.O. and 2-N.C.
- Switch Position:
  - Source-1 Position, 1-N.O. and 1-N.C.
  - Source-2 Position, 1-N.O. and 1-N.C.
- Pre-Transfer Signal Contacts 1-N.O. and 1-N.C.

CONFIGURABLE OPTIONS

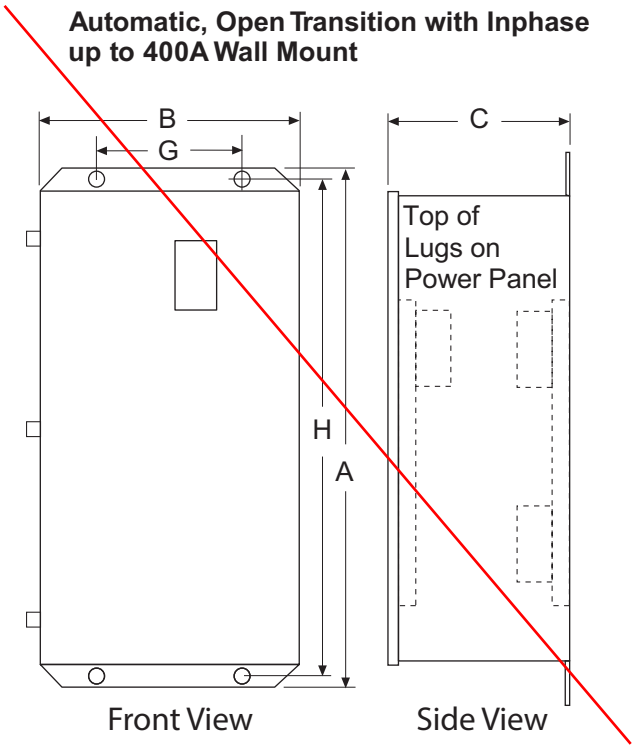
- ATC-900 Controller
- Digital Multi-Function Power Quality Metering
- Ethernet Connectivity
- Remote Annunciator Panel with Control
- Remote Multi-Switch Annunciator Panel with Control
- Maintenance Selector Switch
- General Alarm Indication
- Transient Voltage Surge Suppression (TVSS)
- Padlockable Cover for Controller
- Padlockable Cover for Device Panel
- Emergency Inhibit
- Selectable Retransfer
- Manual Generator Retransfer

Power Series Transfer Switch

100 – 1,600 Amps

Contactor Type · Open and Delayed Transition

UNIT DIMENSIONS*



Contactor Type, Open and Delayed Transition, 100 – 600 A, Wall Mount

Voltage	Amperes	Transition	Enclosure Type (NEMA)	in (mm)					Cu/Al		lbs (kg)
				A (Height)	B (Width)	C (Depth)	G (Horizontal)	H (Vertical)	Load Side, Normal and Standby Source	Neutral Connection	Weight
480 and below	100	Open with Inphase	1, 3R	38.7 (983)	18.3 (465)	13.3 (334)	10.3 (260)	37.4 (950)	(1) #14-2/0	(3) #14-1/0	156 (71)
			4X	37.5 (953)	17.5 (445)	14.3 (364)	11.5 (292)	36.3 (921)	(1) #14-2/0	(3) #14-1/0	156 (71)
		Open with Inphase and Delayed	1, 3R	52.0 (1,321)	19.8 (503)	16.8 (426)	13.0 (330)	47.8 (1,215)	(1) #14-2/0	(3) #14-1/0	250 (113)
			4X	52.0 (1,321)	21.0 (533)	16.8 (426)	15.0 (381)	50.8 (1,289)	(1) #14-2/0	(3) #14-1/0	250 (113)
	150-200	Open with Inphase	1, 3R	38.7 (983)	18.3 (465)	13.3 (334)	10.3 (260)	37.4 (950)	(1) #6-250 MCM	(3) 1/0-250 MCM	160 (73)
			4X	37.5 (953)	17.5 (445)	14.3 (364)	11.5 (292)	36.3 (921)	(1) #6-250 MCM	(3) 1/0-250 MCM	160 (73)
		Open with Inphase and Delayed	1, 3R	52.0 (1,321)	19.8 (503)	16.8 (426)	13.0 (330)	47.8 (1,215)	(1) #6-250 MCM	(3) 1/0-250 MCM	250 (113)
			4X	52.0 (1,321)	21.0 (533)	16.8 (426)	15.0 (381)	50.8 (1,289)	(1) #6-250 MCM	(3) 1/0-250 MCM	250 (113)
	225-400	Open with Inphase	1, 3R	52.0 (1,321)	19.8 (503)	16.8 (426)	13.0 (330)	47.8 (1,215)	(2) 1/0-250 MCM or (1) 1/0-750 MCM	(6) 250-500 MCM	250 (113)
			4X	52.0 (1,321)	21.0 (533)	16.8 (426)	15.0 (381)	50.8 (1,289)	(2) 1/0-250 MCM or (1) 1/0-750 MCM	(6) 250-500 MCM	250 (113)
		Open with Inphase and Delayed	1, 3R	52.0 (1,321)	19.8 (503)	16.8 (426)	13.0 (330)	47.8 (1,215)	(2) 1/0-250 MCM or (1) 1/0-750 MCM	(6) 250-500 MCM	250 (113)
			4X	52.0 (1,321)	21.0 (533)	16.8 (426)	15.0 (381)	50.8 (1,289)	(2) 1/0-250 MCM or (1) 1/0-750 MCM	(6) 250-500 MCM	250 (113)
600	100	Open with Inphase	1, 3R	38.7 (983)	19.8 (503)	13.3 (339)	10.3 (260)	37.4 (950)	(1) #6-250 MCM	(3) #14-1/0	164 (74)
			4X	37.5 (953)	21.0 (533)	14.3 (364)	11.5 (292)	36.3 (921)	(1) #6-250 MCM	(3) #14-1/0	164 (74)
	150-200	Open with Inphase	1, 3R	52.0 (1,321)	19.8 (503)	16.8 (426)	13.0 (330)	47.8 (1,215)	(1) #6-250 MCM	(3) 1/0-250 MCM	260 (118)
			4X	52.0 (1,321)	21.0 (533)	16.8 (426)	15.0 (381)	50.8 (1,289)	(1) #6-250 MCM	(3) 1/0-250 MCM	260 (118)
		Open with Inphase and Delayed	1, 3R	52.0 (1,321)	19.8 (503)	16.8 (426)	13.0 (330)	47.8 (1,215)	(1) #6-250 MCM	(3) 1/0-250 MCM	260 (118)
			4X	52.0 (1,321)	21.0 (533)	16.8 (426)	15.0 (381)	50.8 (1,289)	(1) #6-250 MCM	(3) 1/0-250 MCM	260 (118)

* All measurements are approximate and for estimation purposes only. Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.

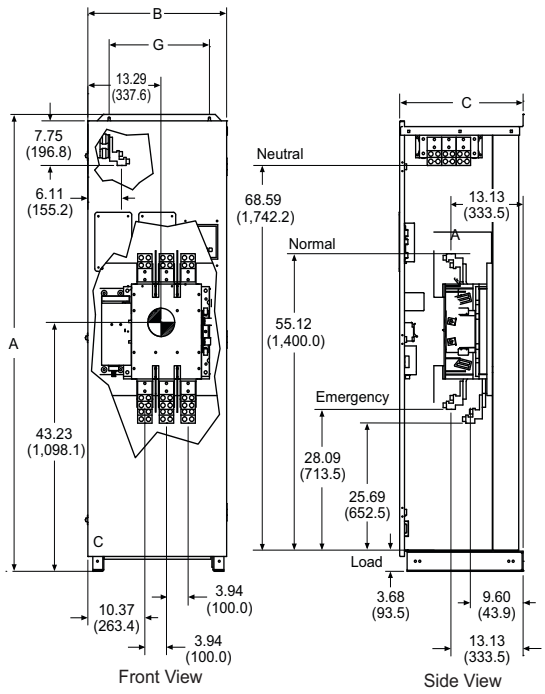
Power Series Transfer Switch

100 – 1,600 Amps

Contactor Type · Open and Delayed Transition

UNIT DIMENSIONS*

Automatic, 600–1,200A Open and Delayed Transition, Floor Standing, Wall Secured



Contactor Type, Open and Delayed Transition, 600 – 1,200A, Floor Standing, Wall Secured

Voltage	Amperes	Transition	Enclosure Type (NEMA)	in (mm)					Cu/Al		lbs (kg)
				A (Height)	B (Width)	C (Depth)	G (Horizontal)	H (Vertical)	Load Side, Normal and Standby Source	Neutral Connection	Weight
480 and below	600-1,200	Open with Inphase and Delayed	1, 3R	79.4 (2,017)	25.3 (641) 3-pole 29.20 (741) 4-pole	22.5 (571)	N/A	N/A	(4) 1/0-750 MCM	(12) 1/0-750 MCM	600 (272) 3-pole 650 (295) 4-pole
			4X	84.8 (2,153)	29.0 (737) 3-pole	24.3 (616)	N/A	N/A	(4) 1/0-750 MCM	(12) 1/0-750 MCM	700 (318) 3-pole 750 (340) 4-pole
600	225-1,200	Open with Inphase and Delayed	1, 3R	79.4 (2,017)	29.2 (741)	22.5 (571)	N/A	N/A	(2) 1/0-250 MCM or (1) 1/0-750 MCM	(6) 250-500 MCM	600 (272) 3-pole 650 (295) 4-pole
			4X	84.8 (2,153)	29.0 (737) 3-pole	24.3 (616)	N/A	N/A	(2) 1/0-250 MCM or (1) 1/0-750 MCM	(6) 250-500 MCM	700 (318) 3-pole 750 (340) 4-pole

* All measurements are approximate and for estimation purposes only. Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.

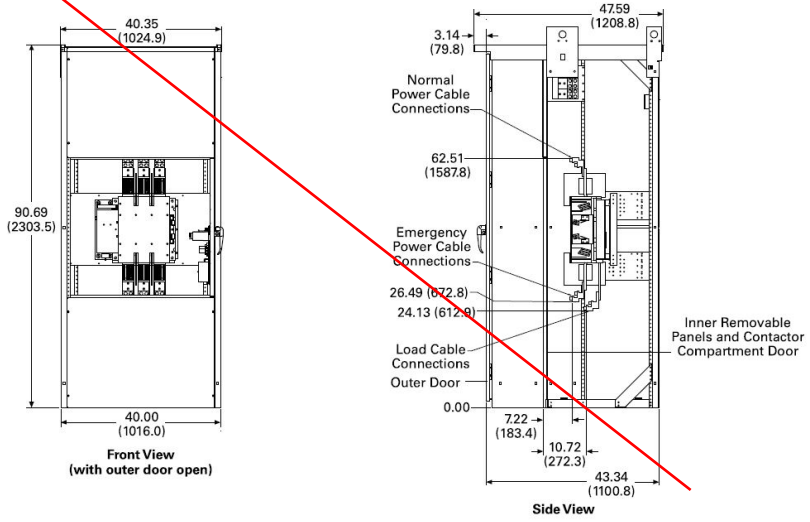
Power Series Transfer Switch

100 – 1,600 Amps

Contactor Type · Open and Delayed Transition

UNIT DIMENSIONS*

Automatic, 1,600A, Open and Delayed Transition, Freestanding



Contactor Type, Open and Delayed Transition, 1,600A, Freestanding

Voltage	Amperes	Transition	Enclosure Type (NEMA)	in (mm)			G (Horizontal)	H (Vertical)	Cu/Al		lbs (kg)
				A (Height)	B (Width)	C (Depth)			Load Side, Normal and Standby Source	Neutral Connection	Weight
480 and below	1,600	Open with Inphase and Delayed	1	90.0 (2,286)	40.0 (1,016)	29.0 (737)	N/A	N/A	(4) 1/0-750 MCM	(12) 1/0-750 MCM	480 (218) 3-pole 500 (227) 4-pole
			3R	90.7 (2,304)	40.4 (1,025)	47.6 (1,209)	N/A	N/A	(4) 1/0-750 MCM	(12) 1/0-750 MCM	530 (241) 3-pole 550 (250) 4-pole

* All measurements are approximate and for estimation purposes only. Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.

Power Series Transfer Switch

100 – 1,600 Amps

Contactor Type · Open and Delayed Transition

SPECIFICATIONS

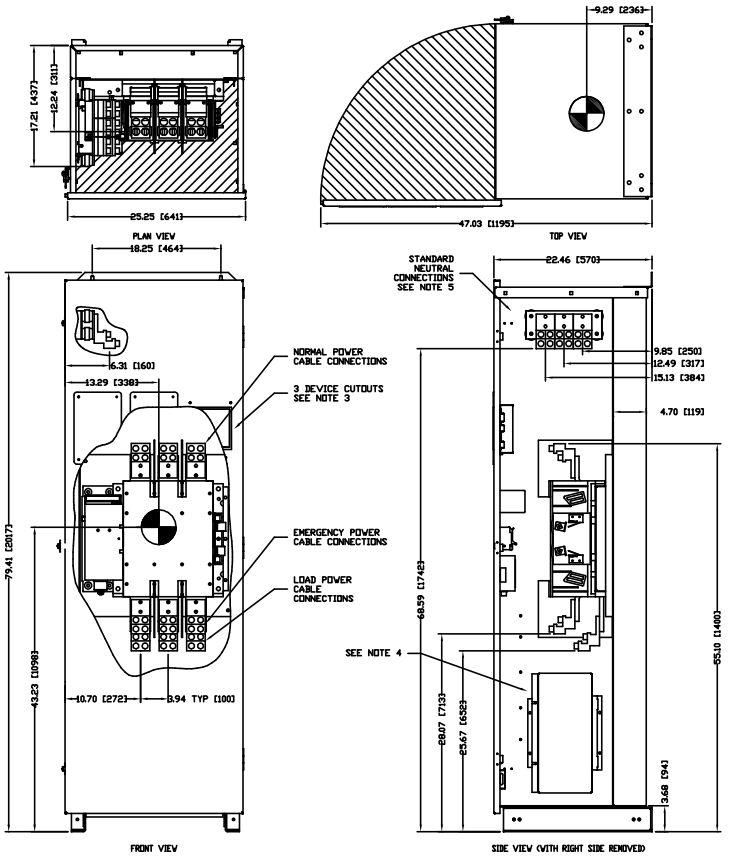
UL 1008 Withstand and Closing Ratings

Ampere Rating	Transition	Any Breaker (0.05 sec)		Specific Breaker[1]		Specific Fuse					
		480 V and Below Max (kA)	600 V Max (kA)	480 V and Below Max (kA)	600 V Max (kA)	480 V and Below Max (kA)	Fuse Class	Max Fuse	600 V Max (kA)	Fuse Class	Max Fuse
100	Open with Inphase Only	10	10	30	22	100	K5, RK5	200	100	K5, RK5	200
							K1, RK1	400		K1, RK1	400
							J, T	450		J, T	450
	Open with Inphase and Delayed	30	22	50	35	200	RK1, RK5, J, C, K1, K5	600	200	RK1, RK5, J, C, K1, K5	600
							L	800		L	800
							T	1,200		T	1,200
150-200	Open with Inphase Only	10	22	30	35	100	K5, RK5	400	200	RK1, RK5, J, C, K1, K5	600
							J, K1, RK1	600		L	800
							T	800		T	1,200
	Open with Inphase and Delayed	30	22	50	35	200	RK1, RK5, J, C, K1, K5	600	200	RK1, RK5, J, C, K1, K5	600
							L	800		L	800
							T	1,200		T	1,200
225-400	Open with Inphase Only	30	50	50	65	200	RK1, RK5, J, C, K1, K5	600	200	J, T, L, RK5	600
							L	800		L	1,600
							T	1,200			
	Open with Inphase and Delayed	30	50	50	65	200	RK1, RK5, J, C, K1, K5	600	200	J, T, L, RK5	600
							L	800		L	1,600
							T	1,200			
600-1,200	Open with Inphase and Delayed	50	50	65	65	200	J, T, L, RK5	600	200	J, T, L, RK5	600
							L	1,600		L	1,600
1,600	Open with Inphase and Delayed	50	–	65	–	200	J, T, L, RK5	600	–	–	–
							L	2,000			

[1] See specific breaker list available on GenConnect

Part No. 0L0187
Rev. B 08/07/19

67B8430



APPROXIMATE SHIPPING WEIGHT: 600 LBS (272 KG)

NOTES:

1. DIMENSIONS SHOWN IN INCHES [MILLIMETERS]
2. ⊕ CENTER OF GRAVITY.
3. AUTOMATIC CONTROLS PROVIDED.
4. TRANSFORMER PACK IS NOT INCLUDED WITH 240/120V, 1 PHASE OR 208/120V SYSTEMS.
5. FOR SWITCHED NEUTRAL APPLICATIONS, CONNECT TO TERMINALS MARKED 'NN', 'EN', AND 'LN'. NEUTRAL ASSEMBLY WILL NOT BE PROVIDED.

INSTALLATION DRAWING

AUTOMATIC TRANSFER SWITCH

3 POSITION CONTACTOR

208-480V 600-1200A 3POLE

NEMA 1, 3R

GENERAC POWER SYSTEMS
Waukesha
P.O. BOX 8
WAUKESHA, WIS. 53187

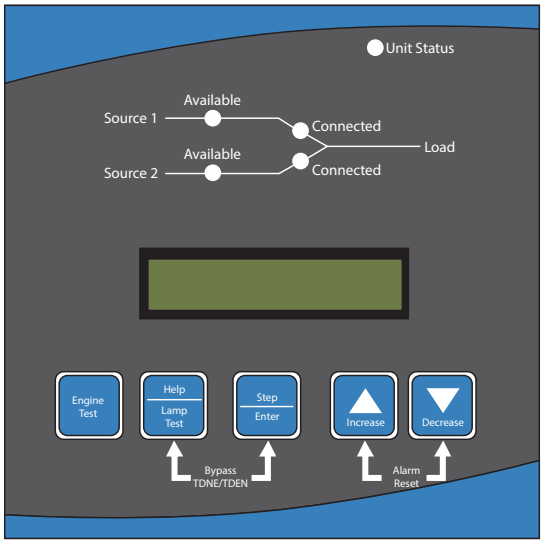
FILE NAME	67B8430.DWG	SIZE	B
SCALE	NTS	FIRST USE	
DWG NO.	67B8430	REV	-

Power Series Transfer Switch

ATC-300+

Open and Delayed Transition Controller

- Automatic Transfer Switch, Open and Delayed Transition Controller
- Up to 600 VAC, 50/60 Hz
- Single and Three Phase
- UL Recognized Component



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Codes and Standards

UL recognized component, complies with UL1008 and UL991

NFPA 37, 70, 99, 110 (complies)

Applicable for use in NEC 700, 701, 702, 708

ISO 3046, 7637, 8528, 9001, Pluses #2b, 4

ANSI C62.41

Seismic IBC 2009, CBC 2010, IBC 2012, ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012) Certified in ATS assemblies

IEC 61000-4-2, 3, 4, 5, 6, 11 EMC Testing and Measuring (complies)

FCC Part 15, Class A (complies)

CISPR 11, Class A

Description

The ATC-300+ microprocessor-based ATS controller is unmatched in performance, reliability and functionality for critical operating, emergency, legally required and optional power systems. The easy to use front LCD display panel simplifies programming, routine operation, data presentation, and setting adjustments. The mimic diagrams displays source availability and connection, providing "at a glance" indication, further simplifying users interface. Designed beyond industry EMC standards, the ATC-300+ is rock-solid for transfer control operations, monitoring and reporting.

Customer/factory established parameters are stored in non-volatile memory. The controller has field-programmable time delays, plus displays real-time and historical information with a time-stamped history log. System testing is performed via a front screen test pushbutton. Features also include programmable plant exerciser—OFF, daily, 7, 14, 28-day interval programmable run times. With the standard features of pretransfer contacts, 3 phase sensing on utility and generator source, phase unbalance, phase reversal, load shed/emergency inhibit, and communications (Modbus® RTU) the ATC-300+ is the industry benchmark for transfer switch controllers. The ATC-300+ complies with UL 1008 / CSA C22.2-178.

Power Series Transfer Switch

ATC-300+

Open and Delayed Transition Controller

STANDARD FEATURES

GENERAL

- Monitors Both Voltage and Frequency on Utility and Generator
- Provides Undervoltage and Overvoltage Protection of the Utility and Generator Power Sources
- Provides Underfrequency and Overfrequency Protection of the Utility Generator Power Source
- Permits Easy Customer Set Up
- Displays Real-time and Historical Information
- Permits System Testing
- Stores Customer/Factory Established Parameters in Nonvolatile Memory
- Provides Faceplate Source Status Indications

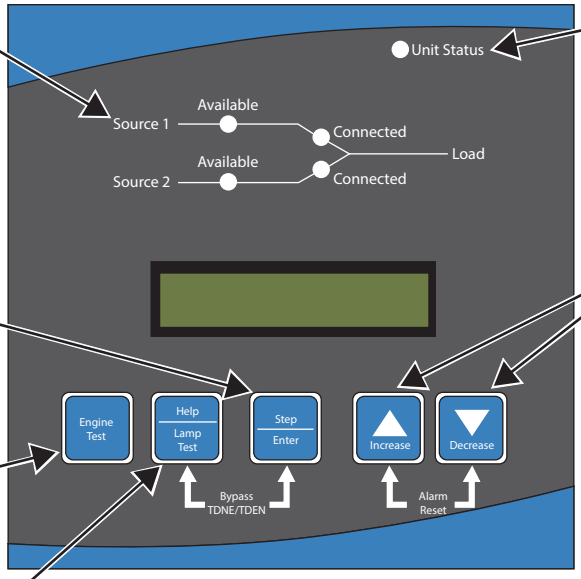
INPUT FUNCTIONS

- Help/Lamp Test
- Engine Test
- Step/Enter
- Increase
- Decrease
- Alarm Reset
- Bypass Time Delay

OUTPUT FUNCTIONS

- Unit Status
- Utility Available
- Utility Connected
- Generator Available
- Generator Connected

Source 1, Source 2, and Load LEDs:
Shows status of both Sources and Load.



Unit Status LED:
Blinks once per second while the controller is in "Run" mode to indicate the controller has completed a self-diagnostic and sytem diagnostic cycle.

Step/Enter Button:
Allows for navigation through information and setpoint displays.

Increase/Decrease Buttons:
Increase or decrease setpoint values.

Engine Test Button:
Allows for testing of the Source 2 (generator) engine.

Help/Lamp Test Button:
Displays additional information about what is on the screen or, when pressed from the Home Screen, momentarily illuminates all LEDs and displays information such as the controller serial number and firmware version.

Power Series Transfer Switch

ATC-300+

Open and Delayed Transition Controller

SPECIFICATIONS AND PROGRAMMABLE SETPOINTS

SPECIFICATIONS

System Application Voltage	Up to 600 VAC RMS	50/60 Hz
Input Control Voltage	65 to 145 VAC	50/60 Hz
Voltage Measurements of	Utility VAB	Generator VAB
	Utility VBC	Generator VBC
	Utility VCA	Generator VCA
Voltage Measurement Range	0 to 790 VAC RMS	50/60 Hz
Voltage Measurement Accuracy	± 1% of Full Scale	
Frequency Measurements of	Utility and Generator (Source 1 and Source 2)	
Frequency Measurement Range	40 Hz to 70 Hz	
Frequency Measurement Accuracy	± 0.3 Hz Over the Measurement Range	
Operating Temperature Range	-4 to +158 °F (-20 to +70 °C)	
Storage Temperature Range	-22 to +185 °F (-30 to +85 °C)	
Operating Humidity	0 to 95% Relative Humidity (Non-condensing)	
Operating Environment	Resistant to Ammonia, Methane, Nitrogen, Hydrogen, and Hydrocarbons	
Generator Start Relay	5 A, 1/6 HP @ 250 VAC 5 A @ 30 VDC with a 150 W Maximum Load	
K1, K2 Relays	10 A, 1-3 HP @ 250 VAC	
	10 A @ 30 VDC	

PROGRAMMABLE SETPOINTS

Undervoltage Dropout Range	Breaker/Switch Style ATS	50% to 97% of the Nominal System Voltage
	Contactor Style ATS	78% to 97% of the Nominal System Voltage
Undervoltage Pickup Range	Breaker/Switch Style ATS	(Dropout +2%) to 99% of the Nominal System Voltage
	Contactor Style ATS	(Dropout +2%) to 99% of the Nominal System Voltage
Overvoltage Dropout Range	Breaker/Switch Style ATS	105% to 120% of the Nominal System Voltage
	Contactor Style ATS	105% to 110% of the Nominal System Voltage
Overvoltage Pickup Range	Breaker/Switch Style ATS	103% to (Dropout -2%) of the Nominal System Voltage
	Contactor Style ATS	103% to (Dropout -2%) of the Nominal System Voltage
Underfrequency Dropout Range	Breaker/Switch Style ATS	90% to 97% of the Nominal System Frequency
	Contactor Style ATS	90% to 97% of the Nominal System Frequency
Underfrequency Pickup Range	Breaker/Switch Style ATS	(Dropout +1Hz) to 99% of the Nominal System Frequency
	Contactor Style ATS	(Dropout +1Hz) to 99% of the Nominal System Frequency
Overfrequency Dropout Range	Breaker/Switch Style ATS	103% to 110% of the Nominal System Frequency
	Contactor Style ATS	103% to 105% of the Nominal System Frequency
Overfrequency Pickup Range	Breaker/Switch Style ATS	101% to (Dropout -1Hz) of the Nominal System Frequency
	Contactor Style ATS	101% to (Dropout -1Hz) of the Nominal System Frequency

SPECIFICATIONS AND PROGRAMMABLE SETPOINTS

ADDITIONAL PROGRAMMABLE SETPOINTS

Time Delay Nml to Emr	0 to 1,800 seconds
Time Delay Emr to Nml	0 to 1,800 seconds
Time Delay Engine Cool	0 to 1,800 seconds
Time Delay Engine Start	0 to 120 seconds
Time Delay Neutral[1]	0 to 120 seconds
Time Delay Source 2 Fail	0 to 6 seconds
Time Delay Volt Unbal	10 to 30 seconds
Volt Unbal 3-Phase	0 or 1 (1 = Enable)
% of Unbal Volt Dropout	5% to 20% (DO)
	Dropout -2% to 3% (PU)
Nominal Voltage	120 to 600 Volts
Nominal Frequency	50 or 60Hz
Baud Rate	9,600 or 19,200
Phase Reversal 3-Phase	OFF, ABC, or CBA
In-Phase[2]	0 or 1 (1 = Enable)
Pre-Transfer Signal	1 to 120 seconds
Manual/Retransfer	0 or 1 (1 = Enable)
Plant Exerciser	Off, Daily, 7-Day, 14-Day, 28-Day Intervals
	0 to 600 minutes
	Load or No Load
Daylight Svgs Time Adj	0 or 1 (1 = Enable)
System Selection	Utility/Generator or Dual Utility
Modbus Address	1 to 247
Communications	Modbus® RTU
	Ethernet and/or Remote Annunciator (Optional)
Applicable Testing	UL Recognized Component
	UL 1008, UL 991 Environmental
	IEC 61000-4-2, 61000-4-3, 61000-4-4, 61000-4-5, 61000-4-6, 61000-4-11
	CISPR 11, Class A
	FCC Part 15, Class A
Enclosure Compatibility	NEMA 1, NEMA 3R, NEMA 4X, and NEMA 12
	UV Resistant ATC-300+ Faceplate

1. Not available on open transition with inphase only switches
2. Not available on molded case type switches

Generac Power Systems, Inc. | P.O. Box 8 | Waukesha, WI 53189

P: (262) 544-4811

Part No. 0192670SBY

Rev. D 12/02/19

Generac Power Systems 5 Year (5C) Limited Warranty Extension for Industrial Transfer Switch Systems

Generac and purchaser hereby amend ("Amendment") the term of the original warranty for the transfer switch ("Original Warranty") from the term originally stated in the Original Warranty to a term of five (5) years ("Term Extension"). If purchaser's Original Warranty had already expired, this Amendment revives the Original Warranty and replaces its term with the Term Extension. This Amendment also amends warranty coverage in the Original Warranty to the coverage listed below from years 1-5 ("Coverage Extension"). The Coverage Extension shall not retroactively apply to cover any warranty work performed before the date of the Amendment. For clarity purposes only, the amended warranty is stated below in full.

For the period of warranty noted below, which begins (or began, whichever applicable) upon the successful start-up and/or on-line activation/registration of the unit, Generac Power Systems, Inc. (Generac) warrants that its transfer switch 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 Independent Authorized Service Dealer, is found to be defective. Any equipment that the purchaser/owner claims to be defective must be evaluated by the nearest Independent Authorized Service Dealer.

Warranty Coverage in Year(s) 1-5
Parts, Labor and Limited Travel

Guidelines:

1. Unit must be registered and proof of purchase available.
2. Any and all warranty repairs and/or concerns must be performed and/or addressed by an Independent Authorized Service Dealer, or branch thereof. Repairs or diagnostics performed by individuals other than Independent Authorized Service Dealers not authorized in writing by Generac will not be covered.
3. Warranty is transferable between ownership of original installation site.
4. Generac may choose to repair, replace or refund a piece of equipment in its sole discretion.
5. Warranty only applies to permanently wired and mounted units.
6. Enclosures are warranted for the first year of ownership only. Damage caused after receipt of transfer switch 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.
7. Proof of performance of all required maintenance must be available.
8. Travel allowance is limited to 300 miles maximum or seven and one half (7.5) hours maximum (per occurrence, whichever is less) round trip from the nearest Independent Authorized Service 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. associated part(s), adjustments, installation or start-up).
2. Damage to the transfer switch system caused by accidents, shipping, handling or improper storage.
3. Damage/failures caused by operation with loads or installations other than what's recommended or specified by Generac. Unauthorized modification/misapplication will not be warranted unless authorized by Generac in writing.
4. Rental equipment used while warranty repairs are being performed and/or any extraordinary equipment used for removal and/or reinstallation of transfer switch (i.e. cranes, hoists, lifts, etc.).
5. Planes, ferries, railroad, buses, helicopters, snowmobiles, snow-cats, off-road vehicles or any other mode of transport deemed not standard by Generac.
6. Failures due to normal wear and tear, accident, misuse, abuse, neglect, improper installation, or improper sizing.
7. Damage to any covered components or consequential damages caused by the use of a non-OEM part will not be covered by this warranty.
8. Damage related to rodent, reptile, and/or insect infestation.
9. Repairs or diagnostics performed by individuals other than Independent Authorized Service Dealers not authorized in writing by Generac.
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. Fuses, light bulbs and any related labor.
12. Units sold, rated or used for "Prime Power," "Trailer Mounted" or "Rental Unit" applications as defined by Generac. Contact an Independent Authorized Service Dealer for definitions.
13. 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.
14. Shipping costs associated with expedited shipping.
15. 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).
16. Any unit built/manufactured prior to 2014 models.
17. Overtime, holiday or emergency labor.
18. Living or travel expenses of person(s) performing service, except as specifically included within the terms of a specific unit warranty period.

THIS WARRANTY SUPERSEDES ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. SPECIFICALLY, GENERAC MAKES NO OTHER WARRANTIES AS TO 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 LIMITED WARRANTY PROVIDED HEREIN. SOME JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. PURCHASER'S SOLE AND EXCLUSIVE REMEDY AND 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 JURISDICTIONS 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 COULD 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 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 1986 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.

GENERAC POWER SYSTEMS, INC. • P.O. BOX 8 • Waukesha, WI, USA 53187
Ph: (888) GENERAC (436-3722) • Fax: (262) 544-4851

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

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