

**TOWN OF DUNDEE
PRICE QUOTE SHEET**



DATE: 4-18-2024

DEPARTMENT: Public Utilities

NAME OF PERSON SECURING THE QUOTE: Raymond Morales

GENERAL DESCRIPTION OF ITEM: Required Emergency Generators Inspections & Preventative Maintenance

Vendor Selected:

VENDOR #1

COMPANY NAME: Mid Florida Diesel Generator

CONTACT NUMBER: 07262023 NAME OF REPRESENTATIVE: Suzanns McCoy

PRICE: \$10,730.00 SHIPPING: _____

COMMENTS: _____

Vendor Selected:

VENDOR #2

COMPANY NAME: Ring Power - CAT

CONTACT NUMBER: 769970 NAME OF REPRESENTATIVE: Tyler Harden

PRICE: \$41,484.86 SHIPPING: _____

COMMENTS: _____

Vendor Selected:

VENDOR #3

COMPANY NAME: TWA Tampa Armature Works

CONTACT NUMBER: No Bid NAME OF REPRESENTATIVE: _____

PRICE: _____ SHIPPING: _____

COMMENTS: Failed to Make Site Visit - NO RESPONSE

DEPARTMENT DIRECTOR/SUPERVISOR: Tracy Mercer *Tracy Mercer* DATE: 4-18-2024

FINANCE DIRECTOR APPROVAL: _____ DATE: _____

TOWN MANAGER APPROVAL: _____ DATE: _____

ADDITIONAL COMMENTS: _____

SOLE SOURCE JUSTIFICATION: _____

TOWN OF DUNDEE PM SERVICE AGREEMENT 2024-2025

UNIT	LEVEL I	LEVEL II	FUEL TANK INSPECTION	TANK CAPACITY
350KW BLUE STAR 122995-1-1 WALDEN VISTA	\$250.00	\$1,200.00	\$145.00	710
100KW BLUE STAR 120149-1-1 SOL VISTA	\$250.00	\$650.00		250
30KW BLUE STAR 121519-1-1 HILLTOP	\$250.00	\$500.00		140
600KW CAT 9EP03701 WWTP	\$250.00	\$1,500.00	\$145.00	2250
600KW CAT EKW00866 HICKORY	\$250.00	\$1,500.00	\$145.00	1500
150KW GENERAC 3002361870 WWTP <i>Fire Dept</i>	\$250.00	\$700.00	Natural Gas	NOT DISPLAYED
230KW GENERAC 2084042 RINER PLANT	\$250.00	\$750.00	\$145.00	500
150KW GENERAC 3002349593 TOWN HALL	\$250.00	\$650.00	Natural Gas	NOT DISPLAYED
200KW OLYMPIAN NNS02565 RILEY'S GROVE	\$250.00	\$700.00	\$145.00	1000
	\$2,000.00	\$8,150.00	\$580.00	\$10,730.00

MID FLORIDA DIESEL GENERATOR MAINTENANCE CHECK LIST

863-519-0107

CUSTOMER: _____
DATE: _____
MODEL: _____
ARR NO. _____
GEN S/N : _____

UNIT No. _____
LOCATION: _____
SPEC. No. _____
Service Type: <input type="checkbox"/> (LEVEL I) ; (LEVEL II) <input type="checkbox"/>
KW: _____ HOURS: _____

VISUAL CHECKS			VISUAL CHECKS Cont.		
ENGINE	O.K.	NEEDS SERVICE	CONTROL	O.K.	NEEDS SERVICE
Oil Level			Controller (fault indications)		
Fuel Injection System (leaks, condition)			Gauges and Indicators (operation, condition)		
Fuel Priming Pump (operation, condition, leaks)			ENCLOSURE / CABINET	O.K.	NEEDS SERVICE
Vee Belts, Balancer (proper tension, condition)					
Crankcase Breather			Overall Appearance (paint, etc.)		
Engine Mounts (condition)			Clean dust & Dirt From Unit		
Electrical Wiring (engine)			Safety Devices (operation, condition) X = needs attention OK = operational		
Alternator 12/24 Volt			Oil pressure () Water Temp () overspeed ()		
Starter (cranking ability, operating)			Overcrank () Water Level () Others ()		
Lubrication System (leaks)			SERVICE (Included in level 2 PM)	O.K.	NEEDS SERVICE
Lubrication System (PSI) High Idle ()					
Governor (operation, stability, response)			Change Oil & Filter		
Turbocharger (operation)			Change Fuel Filters		
Aftercooler (condition, leaks)			Change Air Filters (as needed)		
COOLING SYSTEM	O.K.	NEEDS SERVICE	S.O.S.		
Test Coolant Yes <input type="checkbox"/> No <input type="checkbox"/>			Service Batteries		
Water Level/Antifreeze			Inspect & Lubricate Air Flow Louvers		
Radiator, Cap, Air Flow (leaks, damage, blockage)			TRANSFER SWITCH(ES)	O.K.	NEEDS SERVICE
Water Hoses (condition, leaks)					
Fan Assembly (cracks, bent blades, bearings)			The Delays		
EXHAUST SYSTEM	O.K.	NEEDS SERVICE	Exerciser		
Air Cleaner Assembly (leak, cracks)			Cabinet Clean		
Inlet Manifold and Piping, Rain Cap (condition)			Operation, Alarms, Condition		
Exhaust Manifold and Piping (condition)			Comments/Suggested Repairs: _____		
Engine Smoke (Critical System Indicator)					
FUEL SYSTEM	O.K.	NEEDS SERVICE			
Fuel System (day tank operation-lines, leaks, condition)					
Fuel Transfer Pump (condition, leaks)					
Interstitial Space Alarm Test (Tank Basin Leak Detection)					
Test High Fuel Level Alarm @ 90%					
BATTERY / CHARGER	O.K.	NEEDS SERVICE	Customer Approval For Additional Repairs: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Battery(s) _____ / DOM			Customer Signature: _____		
Battery Charger-Voltage [_____]			Date: _____		
Battery Charge Rate, Voltage [_____] Amps [_____]			Tech: _____		
GENERATOR	O.K.	NEEDS SERVICE	Filters: Oil Qty Air Fuel Coolant		
Generator Stator-Armature (visual condition)					
Rotating Fields (condition)					
Generator Operation [_____]Volts, [_____]Amps, [_____]Hz					

MID FLORIDA DIESEL



2215 HIGHWAY 60 EAST
BARTOW, FL. 33830
(863) 519-0107
WWW.MIDFLORIDADIESEL.COM

PREVENTATIVE MAINTENANCE SERVICE AGREEMENT

February 20, 2024

Town Of Dundee
Attn: Johnathon Vice

This Preventative Maintenance Agreement is entered into by Mid Florida Diesel Services and Town Of Dundee. This Preventative Maintenance Agreement is for the purpose of inspecting, testing, and maintaining the emergency generator equipment and supporting accessories listed in the agreement.

Any additional inspections, adjustments or normal repair services will be invoiced at **\$145.00 / \$217.50** per hour straight time and overtime. All rates are port-to-port. **Mileage-No Charge**. All services will be performed during Mid Florida Diesel Services normal working hours; **8:00am – 5:00pm, Monday – Friday**, unless otherwise specified in this agreement. Mid Florida Diesel provides reliable service, 24 hours a day, 7 days a week and 365 days a year for our valued customer.

Proposed Service Rate(s) for Preventative Maintenance Services – TAXES NOT INCLUDED

Please See Attached

***Note: Pricing for Fuel Tank Inspection is based on completion at the time of L1 or L2 Services.

Mid Florida Diesel Services will not accept direct, indirect, or consequential damages caused by abuse, accidental or intentional damage to the equipment described above caused by acts of theft, acts of a third party, acts of nature, normal wear and tear, and alterations to the equipment or overloads.

The term of this agreement shall be for one (1) year, commencing on the date of signature by the authorized representative thereby giving acceptance to the conditions set herein and shall be renewed for an additional one (1) year, without further action by the parties, but may be terminated at the end of any year by either party hereto, by with not less than sixty (60) days written notice.

Authorized Representative

Town Of Dundee Representative

K. Suzanne McCoy
Date: February 20, 2024

Signed: _____
Date: _____

TOWN OF DUNDEE PM SERVICE AGREEMENT 2024

UNIT	LEVEL I	LEVEL II	FUEL TANK INSPECTION
350KW BLUE STAR 122995-1-1	\$250.00	\$1,200.00	\$145.00
100KW BLUE STAR 120149-1-1	\$250.00	\$650.00	
30KW BLUE STAR 121519-1-1	\$250.00	\$500.00	
600KW CAT 9EP03701	\$250.00	\$1,500.00	\$145.00
600KW CAT EKW00866	\$250.00	\$1,500.00	\$145.00
150KW GENERAC 3002361870	\$250.00	\$700.00	
230KW GENERAC 2084042	\$250.00	\$750.00	\$145.00
150KW GENERAC 3002349593	\$250.00	\$650.00	
200KW OLYMPIAN NNS02565	\$250.00	\$700.00	\$145.00
	\$2,000.00	\$8,150.00	\$580.00

\$ 2,000.00
 8,150.00
 580.00

 \$ 10,730.00

TANK CAPACITY

710

250

140

2250

1500

NOT DISPLAYED

500

NOT DISPLAYED

1000

MID FLORIDA DIESEL



2215 HIGHWAY 60 EAST
BARTOW, FL. 33830
(863) 519-0107 FAX (863) 519-0109
WWW.MIDFLORIDADIESEL.COM

November 2, 2023

Submittal Approval Letter For **30KW Diesel Generator & 100amp ATS**

(Quote # 07262023-JA)

Martin Paving
6039 Cypress Gardens Blvd.
Suite 135
Winter Haven, FL 33884

ATTN: Randy Martin

Mid Florida Diesel submits the following proposal for the project: Landings at Lake Mabel

Blue Star Power Systems MODEL: (Qty. - 1) JD30-03IT4

GENERATOR: 30 kW, 38 kVA
VOLTAGE: 480 volt Three-Phase
ENGINE: John Deere 3029TFG89, 60 Hz Diesel, 1800 RPM

Standard Features Included:

Microprocessor based, digital readout control system.
Engine vitals monitored by LCD display: Oil pressure, Running time, Engine temperature, Safety shutdowns (HWT, OC, OS, OP, LWL), Battery voltage, Generator AC voltage, AC amperage, Frequency.
Additional Features: Oil drain extension, Vibration isolation pads, Water heater, Fuel solenoid valve.

Selected Model Features Included:

Isochronous Governor + / - .25%
UL2200
EPA Tier III Certified
Stamford S1L2-K41 12 Lead Wired 480V 3 Phase High Wye 80°C Rise Over 40°C Ambient

CONTROL PANEL: DGC-2020 Control Panel (Expanded)

Blue Star DGC-2020 Microprocessor Based Gen-Set Controller
Mounted Facing Left from Generator End (Unless Specified Otherwise)
Standard Features: Low Oil Pressure, High Coolant Temp, Overspeed, Overcrank Shutdowns
Emergency Stop Pushbutton, Audible Alarm Buzzer with Silencing Switch
Optional Features Include: Generator Protection (Undervoltage, Overvoltage, Underfrequency, Overfrequency, Overcurrent), 15 Contact Outputs, RS-485 Communications
Included Accessories
Digital Voltage Regulator with PMG Excitation

ENCLOSURE: Level 2 (Weather Proof Enclosure with Foam) Powder Coated .090 Aluminum

Rugged and Durable 200 MPH Wind Rated Enclosure
Pitched Roof for Increased Structural Integrity and Improved Watershed
Punched Intake with Baffle and Punched Exhaust Openings
Keyed Alike Lockable Doors with Draw Down Latches and Stainless Steel Component Hinges
Additional 1.5" Thick Polydamp Type D Acoustical Foam (PAF)
Formed Steel Base with Mounting and Lifting Holes
Includes Vibration Mounts to Isolate Unit from Base Rail

Accessories:

Sound Attenuation Foam 1.5"
200 mph Wind Load Rated
Color-White
Gravity Exhaust Louver Mounted

COOLING SYSTEM:

Unit Mounted Radiator

Accessories:

CIRCUIT BREAKERS:

50A BREAKER – 480v Thermal Magnetic 80% rated
Mounted and Wired in a NEMA 1 Enclosure (Qty: (1 per gen)
Circuit Breaker - UL listed and CSA certified.

Accessories:

BATTERY:

Lead Acid Battery

BLOCK HEATER: 1000 watt

Standard @ 20 F w/Isolation valves
120v 1 phase

VIBRATION ISOLATION:

Vibration Pads Isolator

BATTERY CHARGER:

(12 Volt, 6 Amp)

Included Accessories:

SUB BASE TANK: 48 Hour / 140 Gallon UL 142 Listed Sub-Base Fuel Tank with Stub-up Area

Double Wall Construction with Secondary Containment Standard
Includes: Supply & Return Connections,
Fuel Level Gauge
Fuel Leak Switch and Fill & Vent Plumbing

Included Accessories:

- 2 steps required. one for controller and one for breaker
- Coat Tank Extreme Liner

Critical Grade Muffler –

Accessories:

Rain Cap

ASCO 300 Series AUTOMATIC TRANSFER SWITCH:

ASCO 300 G Series Poles: 3 100 amp Rated (Qty: 1)
480Volts, Three-Phase
Open-transition
Solid Neutral
Withstand rating: 200,000 (With Current Limiting
Fuses), 42,000 (Specific Breaker),N/A (Any Breaker)
Test Switch
Manual Bypass of Transfer to Normal TD

ATS Switch Position Indicating Lights
Source Available Indicating Lights
Automatic Engine Exerciser with Load/No Load Selector Switch
ATS Position Indicating Contacts (1 Normal, 1 Emergency)
Provisions for Remote Transfer Contact (Peak Shaved) bypassed if Emergency Fails
In-Phase Monitor for Motor Load Control
Selective Load Disconnect
Provisions for Inhibiting Transfer to Emergency
Time Delay Momentary Outage Override (Normal)
Time Delay Momentary Outage Override (Emergency)
Time Delay Transfer to Emergency
Time Delay Re-transfer to Normal
Time Delay Engine Cool Down
WARRANTY - Two (2) Year Basic ATS Standby Limited Warranty
NEMA: NEMA 4X Stainless Steel Enclosure (Outdoor Mounting)

Accessories:

11BE Feature Bundle Includes Engine Exerciser/Event Log/RS-485 Enabled/Common AI

MISCELLANEOUS:

Certified Factory Test
Manual – One (1) Instruction Manuals
2 Yr/2000 Hr Standby Limited Warranty
Test Acceptance Run by Factory Trained Representative (Start Up)
4 Hour Load Bank Test

Delivery Notes: 40-46 Weeks (Contingent on component availability)

APPROVED TO ORDER _____

Martin Paving

Please sign/date and email: joe@midfloridadiesel.com

BLUE STAR

Power Systems Inc.

Submittal

11/2/2023

Project Title	Landings at Lake Mabel - 30KW Generator
Quote Number:	0098528-2
Model:	JD30-03IT4



Mid Florida Diesel
Joe Antonini
2215 Hwy 60 East
Bartow FL 33830
Office: 863-519-0107
Cell: 863-944-0400
Email: joe@midfloridadiesel.com

BLUE STAR

Power Systems Inc.

Table of Contents

- Specification Sheet
- 3029TFG89 47 HP
- 11 Industrial Alternators
- 12 AS540 Voltage Regulator
- 8 DGC-2020 Control Panel
- 44 Paint and Powder Coat
- 19 Enclosures
- 20 Sound Attenuation Foam
- 17 Radiators
- 22 Circuit Breakers
- 29 TPS Series Block Heaters
- 31 Single Stage Air Cleaner
- 33 CPJ Series Silencers
- 27 Industrial Batteries
- 23 BC1206A Series Battery Chargers
- 21 Sub-Base Fuel Tanks
- 47 Factory Load Test
- 2yr 2000hr limited warranty

BLUE STAR

Power Systems Inc.

Quote Date: 11/2/2023 12:28:20 PM
Quote Number: 0098528-2
Project Title: Landings at Lake Mabel - 30KW Generator
Prepared for: Mid Florida Diesel

Distributed
by:

Unit Model	JD30-03IT4	Standby / Prime	Emergency Stationary Standby
kWe Rating	30 kWe	UL 2200 Listed	Yes
Fuel	Diesel	CSA Approved	Yes
EPA	Interim Tier 4	Paint Color	White

Engine Model: John Deere 3029TFG89 30kW Standby Power Rating at 1800 RPM
Governor - Electronic Isochronous

Voltage: 480/277V 3 Phase 60 Hz 0.8 PF

Gen Model: Stamford S1L2-K41 12 Lead Wired 480V 3 Phase High Wye 80°C Rise Over 40°C Ambient

Voltage Regulator: Stamford AS540 Automatic Voltage Regulator

Control Panel: Blue Star DGC-2020 Microprocessor Based Gen-Set Controller
Mounted Facing Left from Generator End (Unless Specified Otherwise)
Standard Features: Low Oil Pressure, High Coolant Temp, Overspeed, Overcrank Shutdowns
Emergency Stop Pushbutton, Audible Alarm Buzzer with Silencing Switch
Optional Features Include: Generator Protection (Undervoltage, Overvoltage, Underfrequency,
Overfrequency, Overcurrent), 15 Contact Outputs, RS-485 Communications

Control Panel Options: Low Water Level Sensor with Shutdown

Unit Color: White

Enclosure: Level 2 (Weather Proof Enclosure with Foam) Powder Coated .090 Aluminum
Rugged and Durable 200 MPH Wind Rated Enclosure
Pitched Roof for Increased Structural Integrity and Improved Watershed
Punched Intake with Baffle and Punched Exhaust Openings
Keyed Alike Lockable Doors with Draw Down Latches and Stainless Steel Component Hinges
Additional 1.5" Thick Polydamp Type D Acoustical Foam (PAF)
Formed Steel Base with Mounting and Lifting Holes
Includes Vibration Mounts to Isolate Unit from Base Rail

Sound Attenuation Foam: Sound Attenuation Installed in Enclosure

Cooling: Unit Mounted Radiator (50°C Ambient)

Oil Drain Extension: Plumbed to Bulkhead Fitting in Base

Mainline Breaker: 50 Amp 3 Pole 480 Volt Breaker Mounted & Wired in a NEMA 1 Enclosure

Jacket Water Heater: Engine Block Heater 1000W 120VAC Rated for -20°F
Heater Installed with Isolation Valves and Wired to Terminal

Air Cleaner: Dry Single Stage

Silencer: Critical Grade Compact (CPJ Series) Silencer Mounted to Engine

Battery: 12 Volt System with Rack and Cables

Battery Charger: 12 Volt 6 Amp Mounted and Wired to Terminal

Fuel Tank: 48 Hour / 140 Gallon UL 142 Listed Sub-Base Fuel Tank with Stub-up Area
Double Wall Construction with Secondary Containment Standard
Includes: Supply & Return Connections, Fuel Level Gauge, Fuel Leak Switch and Fill & Vent Plumbing

Factory Test: Standard Commercial Testing Includes:
Verification of Alarm Shutdowns, Voltage Settings, Block Loading to Rated kWe and PF

Owner's Manual: Print Copy (Qty 1) **Standard**

Warranty: 2 Year / 2000 Hour Limited

Notes: Coat 240 gallon tank with Extreme Liner
2 steps required. one for controller and one for breaker
UCI224C with PMG/MX321.

**Additional Options
(Not Included in Price):**

ATS 1

Series	300	Volts	480/277V 3 PH
Service Entrance Rated	No	Poles	3
Amps	104	Enclosure	Nema 4X (304)

Warranty: Two (2) Year Basic ATS Limited Warranty Standard

Optional Accessories: 11BE Feature Bundle Includes Engine Exerciser/Event Log/RS-485 Enabled/Common AI

ATS Notes:

BLUE STAR

Power Systems Inc.

Diesel Product Line

208-600 Volt

JD30-03IT4

60 Hz / 1800 RPM

30 kWe

Standby

Ratings

	240V	208V	240V	480V	600V
Phase	1	3	3	3	3
PF	1	0.8	0.8	0.8	0.8
Hz	60	60	60	60	60
Generator Model	S1L2-N41	S1L2-K41	S1L2-K41	S1L2-J41	S1L2-J41
Connection	12 LEAD DD	12 LEAD WYE	12 LEAD DELTA	12 LEAD WYE	4 LEAD WYE
kWe	30	30	30	30	30
AMPS	125	104	90	45	36
Temp Rise	125°C / 40°C	125°C / 40°C	125°C / 40°C	125°C / 40°C	125°C / 40°C

Standard Equipment

Engine

- Radiator Cooled Unit Mounted (50°C)
- Radiator Duct Flange (OPU Only)
- Blower Fan & Fan Drive
- Starter & Alternator
- Oil Pump & Filter
- Oil Drain Extension w/Valve
- Governor - Electronic Isochronous
- 12V Battery System & Cables
- Air Cleaner (Dry Single Stage)
- Critical Grade Silencer Mounted
- Flexible Fuel Connector
- EPA Certified Tier IT4

Generator

- Brushless Single Bearing
- Automatic Voltage Regulator
- ± 1% Voltage Regulation
- 4 Pole, Rotating Field
- 125°C Standby Temperature Rise
- 100% of Rated Load - One Step
- 5% Maximum Harmonic Content
- NEMA MG 1, IEEE and ANSI Standards Compliance for Temperature Rise

Additional

- Single Source Supplier
- UL 2200 & cUL Listed
- CSA Certified
- Seismic Certified to IBC 2021
- NFPA 110 / CSAC282 Compliant
- Microprocessor Based Digital Control Panel Mounted in NEMA 12 Enclosure
- Base - Formed Steel
- Main Line Circuit Breaker Mounted & Wired
- Battery Charger 12V 6 Amp
- Jacket Water Heater -20°F 1000W 120V w/Isolation Valves
- Vibration Isolation Mounts
- 2 Year / 2000 Hour Standby Warranty
- Standard Colors - White / Gray

Application Data

Engine

Manufacturer:	John Deere	Displacement - Cu. In. (lit):	177 (2.90)
Model:	3029TFG89	Bore - in. (cm) x Stroke - in. (cm):	4.20 (10.6) x 4.30 (11.0)
Type:	4-Cycle	Compression Ratio:	17.2:1
Aspiration:	Turbo Charged	Rated RPM:	1800
Cylinder Arrangement:	3 Cylinder Inline	Max HP Stby (kWm):	47.0 (35.1)

Exhaust System

Gas Temp. (Stack): °F (°C)	1,076 (580)
Gas Volume at Stack Temp: CFM (m³/min)	293 (8.30)
Maximum Allowable Exhaust Restriction: in. H ₂ O (kPa)	30.0 (7.50)

Cooling System

Ambient Capacity of Radiator: °F (°C)	122 (50.0)
Maximum Allowable Static Pressure on Rad. Exhaust: in. H ₂ O (kPa)	0.50 (0.12)
Water Pump Flow Rate: GPM (lit/min)	29.0 (110)
Heat Rejection to Coolant: BTUM (kW)	1,144 (20.1)
Heat Radiated to Ambient: BTUM (kW)	637 (11.2)

Air Requirements

Aspirating: CFM (m³/min)	127 (3.60)
Air Flow Required for Rad. Cooled Unit: CFM (m³/min)	4,013 (114)
Air Flow Required for Heat Exchanger/Rem. Rad. CFM (m³/min)	Consult Factory For Remote Cooled Applications

Fuel Consumption

At 100% of Power Rating: gal/hr (lit/hr)	2.62 (9.91)
At 75% of Power Rating: gal/hr (lit/hr)	2.03 (7.68)
At 50% of Power Rating: gal/hr (lit/hr)	1.44 (5.44)

Fluids Capacity

Total Oil System: gal (lit)	2.25 (8.50)
Engine Jacket Water Capacity: gal (lit)	1.51 (5.70)
System Coolant Capacity: gal (lit)	4.51 (17.1)

Deration Factors: Rated Power is available up to 9,843 ft (3,000 m) at ambient temperatures to 122°F (50°C). Consult factory for site conditions above these parameters.

Diesel Product Line

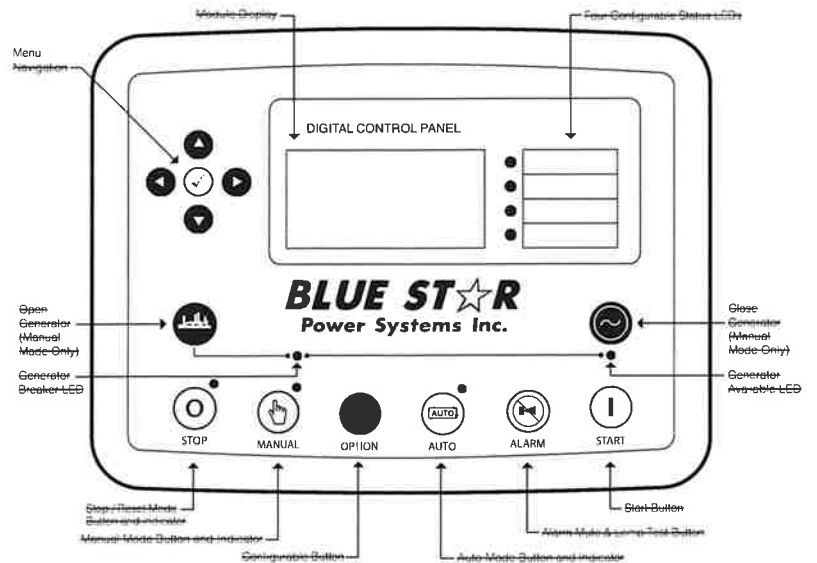
30 kWe



~~DGP7310 Control Panel~~ 2020 Controller on following pages

Standard Features

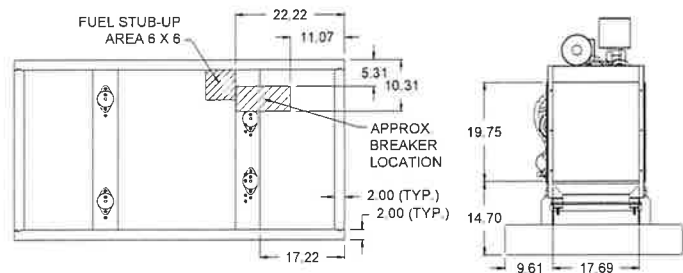
- Digital Metering
- Engine Parameters
- Generator Protection Functions
- Engine Protection
- CAN Bus (J1939) ECU Communications
- Windows-Based Software
- Multilingual Capability
- Remote Communications to DSE2548 Remote Annunciator
- 8 Programmable Contact Inputs
- 10 Contact Outputs
- RS485 Communicator Interface
- cULus Listed, CE Approved
- Event Recording
- IP 65 rating (with supplied gasket) offers increased resistance to water ingress
- NFPA 110 Level 1 Compatible



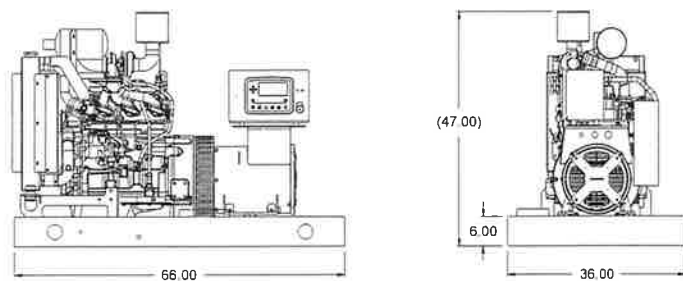
Weights / Dimensions / Sound Data

	L x W x H	Weight lbs
OPU	66 x 36 x 47 in	1,650
Level 1	80 x 36 x 48 in	2,000
Level 2	80 x 36 x 48 in	2,050
Level 3	104 x 36 x 48 in	2,175

Please allow 6-12 inches for height of exhaust stack.



	No Load	Full Load
OPU	72 dBA	74 dBA
Level 1	66 dBA	68 dBA
Level 2	62 dBA	65 dBA
Level 3	60 dBA	62 dBA

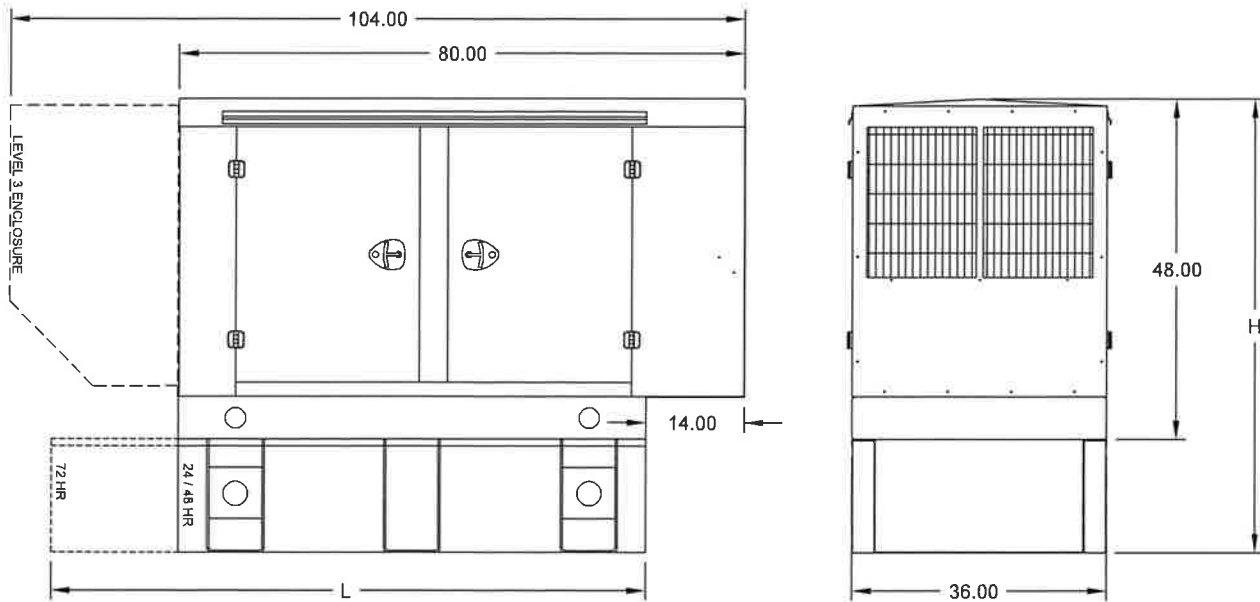


Diesel Product Line

30 kWe



Enclosures & Fuel Tanks



- All enclosure models are 200 MPH wind rating certified in accordance with IBC2021 and ASCE/SEI 7-16 standards.
- Level 2 & 3 enclosures include sound attenuation foam
- Level 3 enclosure includes frontal sound & exhaust hood.
- Enclosure height does not include exhaust stack.

	24 Hour 70 Gallon	48 Hour 140 Gallon	72 Hour 210 Gallon
L	66.00	66.00	84.00
H	64.00	78.00	80.00

Notes

- All specification sheet dimensions are represented in inches.
- All drawings based on standard 480 volt standby generator. Lengths may vary with other voltages. All drawings and dimensions subject to change without notice.
- All enclosures and fuel tanks are based on the standard unit configuration. Any requested deviation can change dimensions.
- Sound data is measured at 23 feet (7 meters) in accordance with ISO 8528-10.
- All materials and specifications subject to change without notice.

American Owned



American Made

Blue Star Power Systems, Inc.

2250 Carlson Drive
 North Mankato, Minnesota 56003
 Phone + 1 507 345 1776
bluestarps.com
quote.bluestarps.com
sales@bluestarps.com



JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: Gross Power Generator
 Application: 30 kVA Prime Market; Dual Frequency
 1800 RPM (60 Hz)

PowerTech™ M 2.9L Engine
Model: 3029TFG89

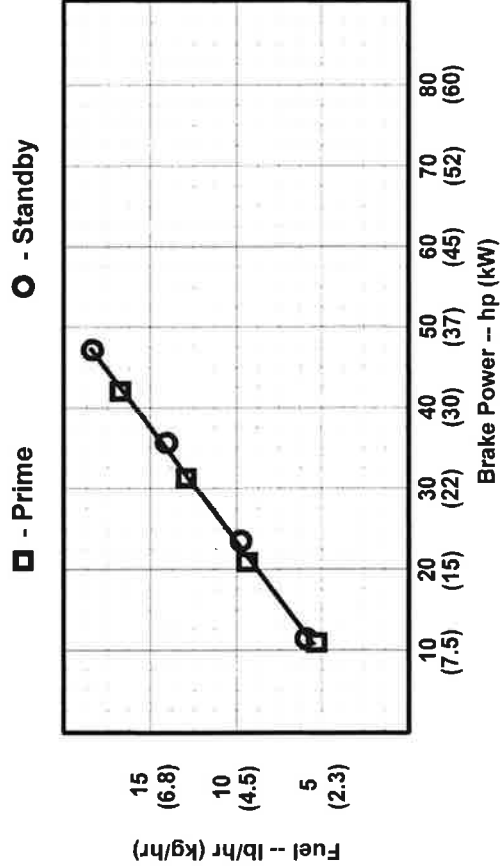
42 hp (31 kW) Prime
 47 hp (35 kW) Standby

Nominal Engine Power @ 1800 RPM			
Prime		Standby	
HP	kW	HP	kW
42	31	47	35

Generator Efficiency %	Fan Power (% of Standby)		Power Factor		Prime Rating		Standby Rating	
	hp	kW	kWe	kVA	kWe	kVA	kWe	kVA
88-92	3.0	2.2	0.8	32-34	25-27	32-34	28-30	35-37

Note 1: Based on nominal engine power.

Note 2: kWe / kVA rating assumes 90% efficiency. Generator Efficiency % will vary.



STANDARD CONDITIONS

Air Intake Restriction.....12 in.H₂O (3 kPa)
 Exhaust Back Pressure.....60 in.H₂O (15 kPa)

Gross power guaranteed within + or - 5% at SAE J1995 and ISO 3046 conditions:
 77 °F (25 °C) air inlet temperature
 29.31 in.Hg (99 kPa) barometer
 104 °F (40 °C) fuel inlet temperature
 0.853 fuel specific gravity @ 60 °F (15.5 °C)

Conversion factors:
 Power: kW = hp x 0.746
 Fuel: 1 gal = 7.1 lb, 1 L = 0.85kg
 Torque: N·m = lb-ft x 1.356

All values are from currently available data and are subject to change without notice.

Notes:

Designed/Calibrated to meet:

- EPA Interim Tier 4
- EU Stage III A

Certified by:

[Signature]
 29 JAN. 13

Ref. Engine Emission Label

Performance Curve: 3029TFG89_U89_A18

Engine Installation Criteria

<u>General Data</u>		<u>Electrical System</u>	
Model	3029TFG89	Recommended Battery Capacity, 12V @32 °F (0 °C)	640 amps
Number of Cylinders	3	Recommended Battery Capacity, 24V @32 °F (0 °C)	570 amps
Bore	106 mm	Starter Rolling Current, 12V @32 °F (0 °C)	640 amps
Stroke	110 mm	Starter Rolling Current, 24V @32 °F (0 °C)	570 amps
Displacement	2.9 L	Starter Rolling Current, 12V @-22 °F (-30 °C)	1000 amps
Compression Ratio	17.2 : 1	Starter Rolling Current, 24V @-22 °F (-30 °C)	700 amps
Valves per Cylinder, Intake/Exhaust	1 / 1	Min. Voltage at ECU during Cranking, 12V	6 volts
Firing Order	1-2-3	Min. Voltage at ECU during Cranking, 24V	10 volts
Combustion System	Direct injection	Max. Allowable Start Circuit Resistance, 12V	0.0012 Ohm
Engine Type	In-line, 4-cycle	Max. Allowable Start Circuit Resistance, 24V	0.002 Ohm
Aspiration	Turbocharged	Max. Voltage From Engine to Crankshaft, 12V	0.15 volts
Engine Crankcase Vent System	Open	Max. Voltage From Engine to Crankshaft, 24V	0.15 volts
<u>Physical Data</u>		Max. ECU Temperature	105 °C
Length	717 mm	Max. Alternator Temperature	120 °C
Width	529 mm	Max. Starter Temperature	120 °C
Height	961 mm	Max. Temperature, All Other Electronics	125 °C
Weight, with oil & no coolant (includes engine, flywheel housing, flywheel & electric)	316 kg	<u>Cooling System</u>	
Center of Gravity Location, X-axis From Rear Face of Block	253 mm	Engine Heat Rejection	20.1 kW
Center of Gravity Location, Y-axis Right of Crankshaft	9 mm	Engine Radiated Heat	kW
Center of Gravity Location, Z-axis Above Crankshaft	143 mm	Coolant Flow	110 L/min
Max. Allowable Static Bending Moment At Rear Face of Flywheel Housing with 5-G Load	814 N·m	Thermostat Start to Open	82 °C
Thrust Bearing Load Limit Forward, Intermittent	4003 N	Thermostat Fully Open	94 °C
Thrust Bearing Load Limit Forward, Continuous	2224 N	Engine Coolant Capacity	5.7 Liter
Thrust Bearing Load Limit Rearward, Intermittent	2000 N	Min. Coolant Fill Rate	11 L/min
Thrust Bearing Load Limit Rearward, Continuous	1000 N	Min. Pressure Cap	70 kPa
Max. Continuous Damper Temp	82 °C	Min. Pump Inlet Pressure @203°F (95°C) Coolant	30 kPa
Max. Torsional Vibration, Front of Crank	0.25 DDA	Max. External Coolant Restriction	40 kPa
		Max. Top Tank Temperature	105 °C
		Max. Top Tank Temperature 95% of Operating Hours	100 °C
		Min. Limiting Ambient Temperature	47 °C
			221 °F
			212 °F
			117 °F

Performance Curve: 3029TFG89_U89_A18

Engine Installation Criteria

Exhaust System

Exhaust Flow	8.3 m ³ /min	293 ft. ³ /min	
Exhaust Temperature	580 °C	1076 °F	
Max. Allowable Exhaust Restriction	7.5 kPa	30 in. H ₂ O	
Max. Bending Moment on Turbo Outlet	7.0 N-m	5.2 lb-ft	
Max. Shear on Turbine Outlet	11 kg	24 lb	

Fuel System

ECU Description NA

Fuel Injection Pump

Stanadyne DB2

Governor Type Mechanical

Governor Regulation

3-5

Total Fuel Flow

95 kg/hr
209 lb/hr

Fuel Consumption

8.4 kg/hr
18.5 lb/hr

Fuel Temperature Rise, Inlet to Return

17.8 Δ°C
32 Δ°F

Max. Fuel Inlet Restriction

20 kPa
80 in. H₂O

Min. Fuel Inlet Pressure

7.6 kPa
30 in. H₂O

Max. Fuel Inlet Pressure

20 kPa
80 in. H₂O

Max. Fuel Return Pressure

20 kPa
80 in. H₂O

Max. Fuel Inlet Temperature

80 °C
176 °F

Fuel Filter @98% Efficiency

8 mic

Air Intake System

Engine Air Flow	3.6 m ³ /min	127 ft. ³ /min
Air Mass Flow	252 kg/hr	556 lb/hr
Intake Manifold Pressure	74.8 kPa	10.8 psi
Maximum Allowable Temperature Rise, Ambient Air to Engine Inlet	8 Δ°C	15 Δ°F
Max. Air Intake Restriction, Clean Air Cleaner	3.75 kPa	15.0 in. H ₂ O
Max. Air Intake Restriction, Dirty Air Cleaner	6.25 kPa	25.0 in. H ₂ O
Air Cleaner Efficiency	99.9 %	

Performance Data

Rated Power, Prime 31 kW 42 HP

Rated Power, Standby 35 kW 47 HP

Rated Speed 1800 rpm

Rated Torque, Prime 164.5 N-m 121 lb-ft

Rated Torque, Standby 185.7 N-m 137 lb-ft

BMEP, Prime 714 kPa 104 psi

Altitude Capability

3000 m 9843 ft

Friction Power @Rated Speed

16 kW 21 HP

Air:Fuel Ratio 29.5 : 1

Smoke @Rated Speed

Bosch

Noise @1 m

92.5 dB(A)

0-100% Standby Load Acceptance

0.6 sec

Load Acceptance, ISO 8528-5

G3

Lubrication System

Oil Pressure at Rated Speed

328 kPa 48 psi

Oil Pressure at Low Idle

NA

Max. Oil Carryover in Blow-By

NA

Max. Airflow in Blow-By

NA

Max. Crankcase Pressure

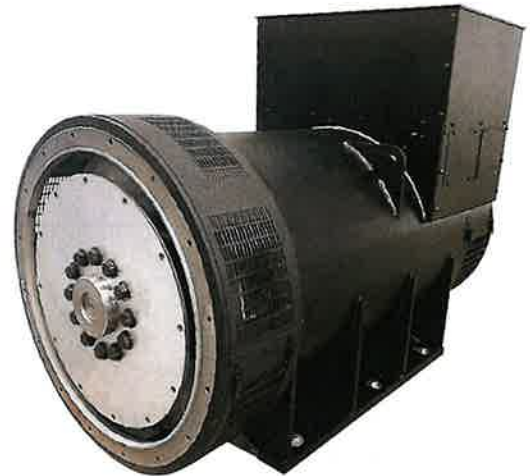
0.5 kPa 2 in. H₂O

Fuel Consumption	Prime		Standby	
	lb/hr	kg/h	lb/hr	kg/h
25 % Power	5.5	2.5	6.0	2.7
50 % Power	9.0	4.1	9.7	4.4
75 % Power	13.0	5.9	14.1	6.4
100 % Power	16.8	7.6	18.5	8.4

Industrial Alternators



Blue Star Power Systems, Inc. utilizes the highest quality alternators available. Our industrial alternators provide consistent performance, quality design, and great durability required for long life and versatility. Alternators used by Blue Star Power Systems, Inc. are UL and CSA Listed, which guarantees that each one meets the rigorous demands of industrial power generation and will provide safe and effective service for the life of the alternator. Blue Star Power Systems, Inc. alternators range from 20 kWe through 2000 kWe.



Standard Features

- **Enhanced Ventilation**
Created by a high-efficiency fan that optimizes internal airflow patterns, maximizes heat transfer, and minimizes hot spot differentials for extended winding life.
- **Fully Guarded**
For operator safety and alternator protection. No rotating or electrically energized parts are exposed. All openings are covered by louvers or screens.
- **Large Conduit Box**
Provides ample space for easy connections and allows load line access from all sides, top, or bottom.
- **Design Specs and Agency Approvals**
All Blue Star Power Systems, Inc. alternators are UL and CSA Listed (unless specified otherwise) and meet NEMA MG1-32, BS5000, CSA C22.2, IEC 34 and VDE 0530 requirements.
- **Class H Insulation System**
Utilizes an unsaturated polyester varnish for optimal insulation life and superior moisture protection.
- **Optimized Windings**
Provide low reactances and exceptional motor starting capability. The stator windings utilize a 2/3 pitch to minimize harmonic distortion and facilitate parallel operation.
- **Permanent Magnet Generator (optional)**
Ensures 300% short circuit current during fault conditions and provides the regulator with input power isolated from load distortion.
- **Heavy-Duty Bearing**
Resists contamination and gives a life expectancy up to 40,000 hours.
- **Automatic Voltage Regulator**
Provides accurate 1% regulation, under-speed protection, stability adjustment to optimize transient performance, and EMI filtering to commercial standards. Fully encapsulated for rugged durability in virtually any environment.

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S1L2-K1 Winding 311 / 711

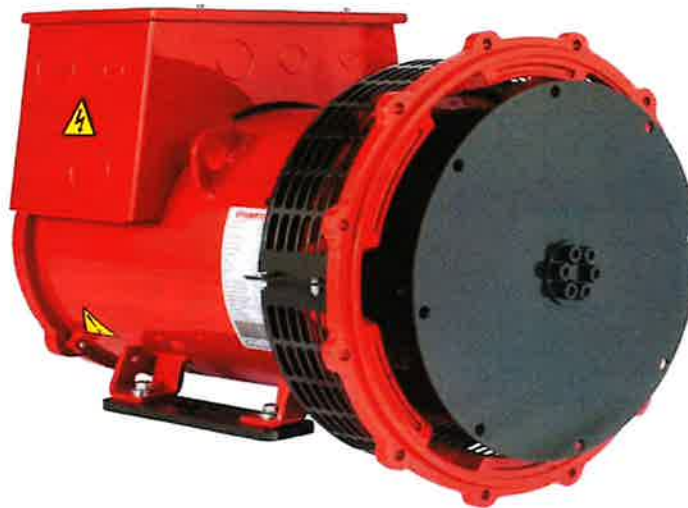
S1L2-K1 - Technical Data Sheet

Standards

STAMFORD industrial alternators meet the requirements of IEC EN 60034 and the relevant section of other international standards such as BS5000, VDE 0530, NEMA MG1-32, IEC34, CSA C22.2-100 and AS1359. Other standards and certifications can be considered on request.

Quality Assurance

Alternators are manufactured using production procedures having a quality assurance level to BS EN ISO 9001.



Excitation and Voltage Regulators

Excitation System	
AVR Type	AVR Power
AS540	Self-Excited / Aux winding
Voltage Regulation	± 1%
No Load Excitation Voltage (V)	15 V
Full Load Excitation Voltage (V)	44 V

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S1L2-K1 Winding 311 / 711

Electrical Data								
Insulation System	Class H							
Stator Winding	Double Layer Concentric							
Winding Pitch	Two Thirds							
Winding Leads	12							
Winding Number	311/711							
Number of Poles	4							
IP Rating	IP23							
RFI Suppression	EN 61000-6-2 & EN 61000-6-4, refer to factory for others							
Waveform Distortion	NO LOAD < 2% NON-DISTORTING BALANCED LINEAR LOAD < 5.0%							
Short Circuit Ratio	1/Xd							
Steady State X/R Ratio	6.5							
	50 Hz				60 Hz			
Telephone Interference	THF<2%				TIF<50			
Voltage Series Star	380/220	400/231	415/240	440/254	416/240	440/254	460/266	480/277
Voltage Parallel Star	190/110	200/115	208/120	220/127	208/120	220/127	230/133	240/138
Voltage Series Delta	220/110	230/115	240/120	254/127	240/120	254/127	266/133	277/138
kVA Base Rating (Class H)	36.6	40	40	N/A	42.2	44.8	N/A	48
Saturated Values in Per Unit at Base Ratings and Voltages								
Xd Dir. Axis Synchronous	2.652	2.616	2.430		2.551	2.421		2.180
X'd Dir. Axis Transient	0.153	0.151	0.140		0.147	0.139		0.126
X''d Dir. Axis Subtransient	0.120	0.118	0.110		0.115	0.110		0.099
Xq Quad. Axis Reactance	1.148	1.132	1.052		1.105	1.048		0.944
X''q Quad. Axis Subtransient	0.162	0.159	0.148		0.155	0.147		0.133
XL Stator Leakage Reactance	0.077	0.076	0.071		0.075	0.071		0.064
X2 Negative Sequence Reactance	0.204	0.201	0.187		0.196	0.186		0.168
X0 Zero Sequence Reactance	0.041	0.041	0.038		0.040	0.038		0.034
Unsaturated Values in Per Unit at Base Ratings and Voltages								
Xd Dir. Axis Synchronous	3.262	3.217	2.989		3.138	2.978		2.681
X'd Dir. Axis Transient	0.176	0.173	0.161		0.169	0.160		0.144
X''d Dir. Axis Subtransient	0.140	0.139	0.129		0.135	0.128		0.115
Xq Quad. Axis Reactance	1.183	1.166	1.084		1.138	1.080		0.972
X''q Quad. Axis Subtransient	0.194	0.191	0.178		0.186	0.177		0.159
XL Stator Leakage Reactance	0.088	0.086	0.080		0.084	0.080		0.072
X2 Negative Sequence Reactance	0.245	0.242	0.224		0.236	0.224		0.201
X0 Zero Sequence Reactance	0.049	0.048	0.044		0.047	0.044		0.040
Time Constants (Seconds)								
T'd TRANSIENT TIME CONST.	0.029							
T''d SUB-TRANSTIME CONST.	0.003							
T'do O.C. FIELD TIME CONST.	0.231							
Ta ARMATURE TIME CONST.	0.007							

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S1L2-K1 Winding 311 / 711

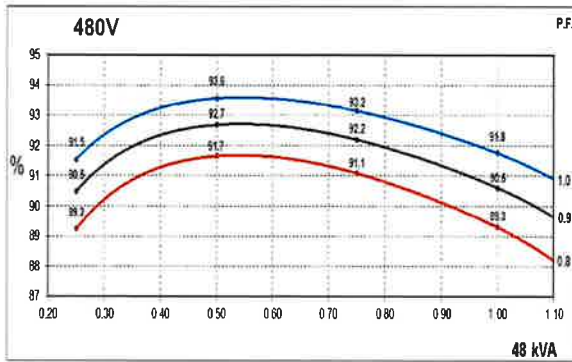
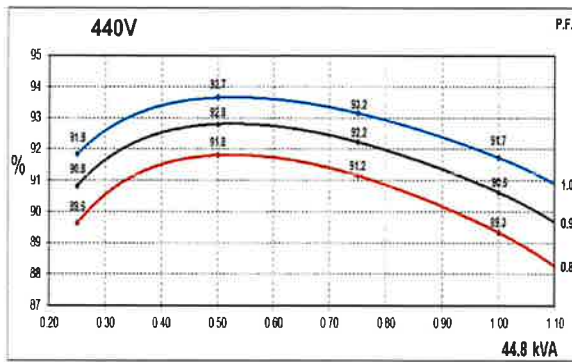
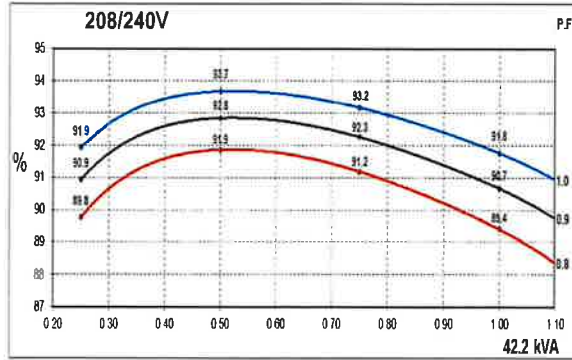
Resistances in Ohms (Ω) at 22°C		
Stator Winding Resistance (Ra)	0.177 Ω per phase series star connected	
Rotor Winding Resistance (Rf)	0.965 Ω	
Exciter Stator Winding Resistance	15.5 Ω	
Exciter Rotor Winding Resistance	0.112 Ω per phase	
Positive Sequence Resistance (R1)	0.221 Ω	
Negative Sequence Resistance (R2)	0.255 Ω	
Zero Sequence Resistance (R0)	0.221 Ω	
Aux Winding Resistance (with winding 711 only)	3.91 Ω	
Mechanical data		
Cooling Air	0.177 m ³ /sec (50Hz)	0.212 m ³ /sec (60Hz)
Shaft and Keys	All alternator rotors are dynamically balanced to better than BS6861: Part 1 Grade 2.5 for minimum vibration in operation.	
Bearing	Single Bearing	
Weight Complete Alternator	177.39 kg	
Weight Wound Stator	74.97 kg	
Weight Wound Rotor	66.76 kg	
Moment of Inertia	0.2978 kgm ²	
Shipping weight in a Crate	224 kg	
Packing Crate Size	1050X570X960 mm	
Maximum Over Speed	2250 RPM for two minutes	
Bearing Drive End	N/A	
Bearing Non-Drive End	Ball Bearing, 6306-2RS1	

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S1L2-K1 Winding 311 / 711

Three Phase Efficiency Curves

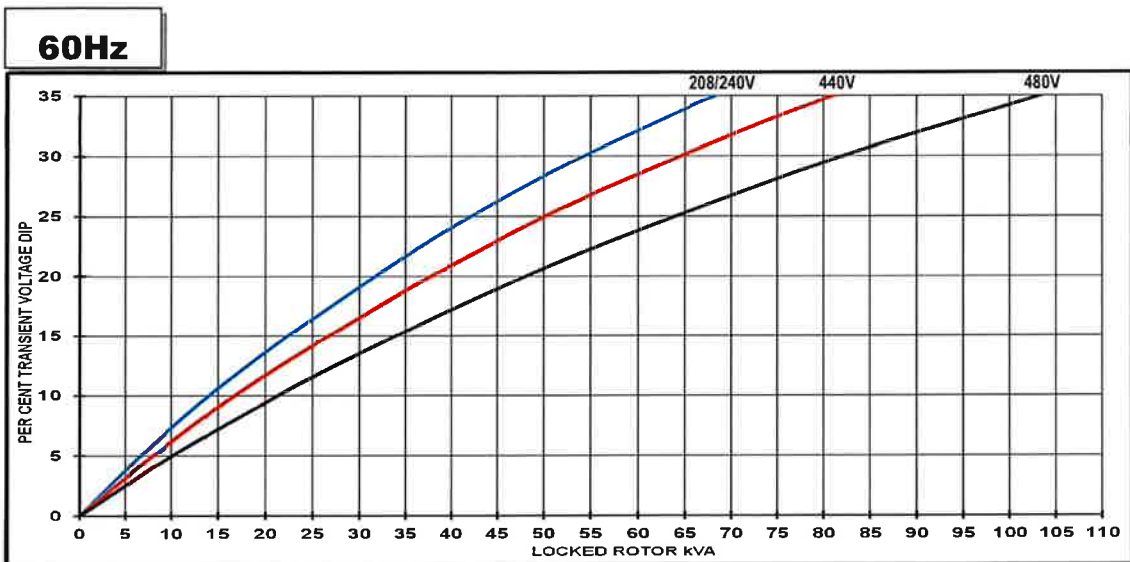
60Hz Curves



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S1L2-K1 Winding 311 / 711

Locked Rotor Motor Starting Curves



Transient Voltage Dip Scaling Factor		Transient Voltage Rise Scaling Factor
PF	Factor	For voltage rise multiply voltage dip by 1.25
< 0.5	1.00	
0.5	0.97	
0.6	0.93	
0.7	0.90	
0.8	0.85	
0.9	0.83	
1.0	0.80	

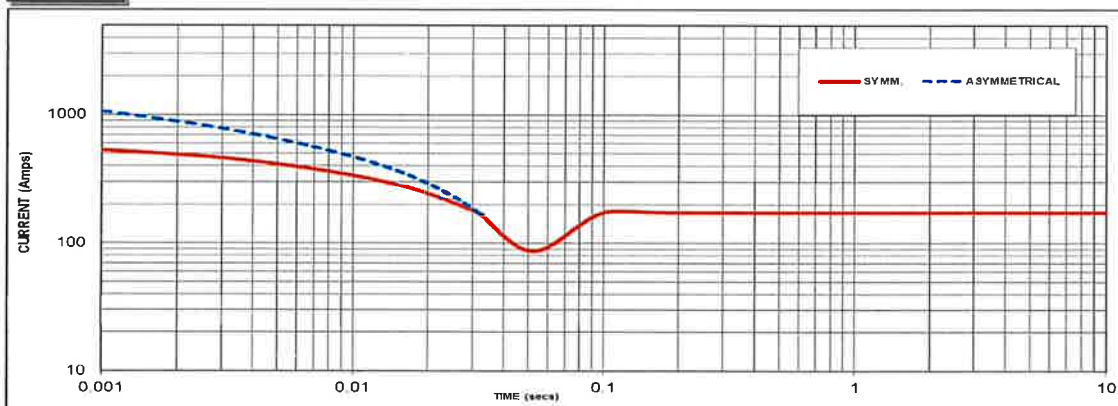
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S1L2-K1 Winding 711

Three-phase Short Circuit Decrement Curve

Note: Applicable only for Winding 711 (Auxiliary winding).
Winding 311 (no Auxiliary winding) will not provide short circuit capability.

60Hz



Sustained Short Circuit = 174 Amps

Note 1

The following multiplication factors should be used to adjust the values from curve between time 0.001 seconds and the minimum current point in respect of nominal operating voltage :

50Hz		60Hz	
Voltage	Factor	Voltage	Factor
380V	N/A	416V	X 1.00
400V	X 1.00	440V	X 1.06
415v	X 1.04	460V	N/A
440V	N/A	480V	X 1.15

The sustained current value is constant irrespective of voltage level

Note 2

The following multiplication factor should be used to convert the values calculated in accordance with NOTE 1 to those applicable to the various types of short circuit :

	3-phase	2-phase L-L	1-phase L-N
Instantaneous	x 1.00	x 0.87	x 1.30
Minimum	x 1.00	x 1.80	x 3.20
Sustained	x 1.00	x 1.50	x 2.50
Max. sustained duration	10 sec.	5 sec.	2 sec.

All other times are unchanged

Note 3

Curves are drawn for Star connected machines under no-load excitation at rated speeds. For other connection the following multipliers should be applied to current values as shown :
Parallel Star = Curve current value X 2
Series Delta = Curve current value X 1.732

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S1L2-K1 Winding 311 / 711

RATINGS AT 0.8 POWER FACTOR

		Standby - 163/27°C				Standby - 150/40°C				Cont. H - 125/40°C				Cont. F - 105/40°C			
60 Hz	Series Star (V)	416	440	460	480	416	440	460	480	416	440	460	480	416	440	460	480
	Parallel Star (V)	208	220	230	240	208	220	230	240	208	220	230	240	208	220	230	240
	Delta (V)	240	254	266	277	240	254	266	277	240	254	266	277	240	254	266	277
	kVA	46.5	49.3	N/A	52.8	45.2	47.9	N/A	51.2	42.2	44.8	N/A	48.0	38.4	40.7	N/A	43.7
	kW	37.2	39.4	N/A	42.2	36.2	38.3	N/A	41.0	33.8	35.8	N/A	38.4	30.8	32.6	N/A	35.0
	Efficiency (%)	88.3	88.3	N/A	88.2	88.7	88.6	N/A	88.6	89.4	89.3	N/A	89.3	90.1	90.1	N/A	90.0
	kW Input	42.1	44.7	N/A	47.9	40.8	43.3	N/A	46.2	37.8	40.1	N/A	43.0	34.1	36.1	N/A	38.8

De-Rates

All values tabulated above are subject to the following reductions:

- 3% for every 500 meters by which the operating altitude exceeds 1000 meters above mean sea level
- 3% for every 5°C by which the operational ambient temperature exceeds 40°C
- For any other operating conditions impacting the cooling circuit please refer to applications

Note: Requirement for operating in an ambient exceeding 60°C and altitude exceeding 4000 meters must be referred to applications.

Dimensional and Torsional Drawing

For dimensional and torsional information please refer to the alternator General Arrangement and rotor drawings available on our website (<http://stamford-avk.com/>)

Note: Continuous development of our products means that the information contained in our data sheets can change without notice, and specifications should always be confirmed with Cummins Generator Technologies prior to purchase.

AS540 Voltage Regulator



AS540 is a half wave phase controlled thyristor type AVR and forms part of the excitation system for a brushless generator. The design employs Surface Mount Technology (SMT) for high integration of features in a small footprint AVR.

Voltage Adjustment

The screwdriver adjustable potentiometer adjusts the generator output voltage. Adjustment clockwise increases the generator output voltage.

When using a remote voltage adjust rheostat, remove the jumper wire across terminals 1 and 2 and install a 1k ohm 1 watt rheostat. This will give $\pm 10\%$ voltage variation from the nominal.

Stability Adjustment

The AVR includes a stability or damping circuit to provide good steady state and transient performance of the generator.

A switch is provided to change the response of the stability circuit to suit different frame size generators and applications.

The correct setting of the Stability adjustment can be found by running the generator at no load and slowly turning the stability control anti-clockwise until the generator voltage starts to become unstable.

The optimum or critically damped position is slightly clockwise from this point (i.e. where the machine volts are stable but close to the unstable region).

Under Frequency Roll Off (UFRO) Adjustment

The AVR incorporates an underspeed protection circuit which gives a volts/Hz characteristic when the generator speed falls below a presettable threshold known as the "knee" point.

The red Light Emitting Diode (LED) gives indication that the UFRO circuit is operating.

The UFRO adjustment is preset and sealed and only requires the selection of 50/60Hz using the jumper link.

For optimum setting, the LED should illuminate as the frequency falls just below nominal, i.e. 47Hz on a 50Hz system or 57Hz on a 60Hz system.



Specifications

Sensing Input

Voltage	190VAC to 265VAC 1 phase
Frequency	50-60 Hz Nominal

Power Input

Voltage	95 to 265VAC 1 phase
Frequency	50 to 60 Hz Nominal

Power Output

Voltage	95 to 265VAC 1 phase only
Current	Continuous 4A Transient 7.5A for 10 secs
Resistance	15 ohms Minimum

Regulation +/- 1.0%

Thermal Drift

0.03% per 1°C change in AVR ambient temperature

Typical System Response

AVR Response	20 ms
Field Current to 90%	80 ms
Machine Volts to 97%	300 ms

External Voltage Adjustment +/-10% with 1k ohm 1 watt trimmer

Under Frequency Protection

Set Point	95 to 98% Hz
-----------	--------------

Unit Power Dissipation 12 watts Maximum

Build-up Voltage Required

AVR Terminals	5VAC
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Over-Voltage Detection

Set Point	65VDC
Time Delay	10 to 15 seconds (Fixed)

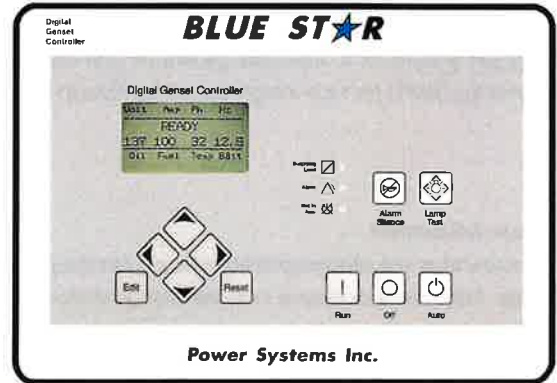
DGC-2020 Control Panel



Blue Star Power Systems, Inc. Digital Generator Set Control Panel (DGC-2020) is a highly advanced integrated generator set control system. The DGC-2020 is perfectly focused, combining rugged construction and microprocessor technology to offer a product that will hold up to almost any environment and flexible enough to meet your application's needs. This device provides generator set control, transfer switch control, metering, protection and programmable logic in a simple, easy to use, reliable, rugged, and cost effective package.

Highlights

- UL Recognized, CSA & CE approved
- Remote communication options
- Microprocessor based
- Rugged encapsulated construction
- Complete system metering



Standard Features

- Generator Metering
- Engine Metering
- Generator Set Control
- Engine Protection:
 - Oil Pressure
 - Engine Temperature
 - Overspeed
 - Overcrank
- BESTCOMS Plus:
 - Programming and Setup Software
 - Intuitive and Powerful
 - Remote Control and Monitoring
 - Programmable Logic
 - USB Communications
- SAE J1939 Engine ECU Communications (Where Applicable)
- Extremely Rugged, Fully Encapsulated Design
- 16 Programmable Inputs
- 7 Contact Outputs: (3) 30ADC and (4) Programmable 2ADC Rated Contacts
- Wide Ambient Temperature Range
- UL Recognized, CSA Certified, CE Approved
- HALT (Highly Accelerated Life Test) Tested
- IP54 Front Panel Rating with Integrated Gasket
- NFPA110 Level One Compliant
- Real Time Clock with Battery Backup and Event Log
- Emergency Stop Pushbutton
- Current Sensing: 5A CT inputs
- Generator Frequency: 50/60 Hz
- LCD Display Heater to -40°F
- Event Recording (up to 99 occurrences)

Standard Gen-Set Monitoring

- Generator parameters: voltage, current, frequency, real power (Watts), apparent power (VA), and power factor
- Engine parameters: oil pressure, coolant temperature, RPM, battery voltage, fuel level, engine runtime, and various J1939 supported parameters where applicable

Standard Engine Control Functions

Cranking Control

- Cyclic or Continuous (Fully Programmable)

Successful Start Counter

- Counts and Records Successful Engine Starts

Timers

- Engine Cooldown Timer (Specify)
- Engine Maintenance Interval Timer (Specify)
- Pre-Alarm Time Delays for Weak/Low Battery Voltage
- Alarm Time Delay for Overspeed

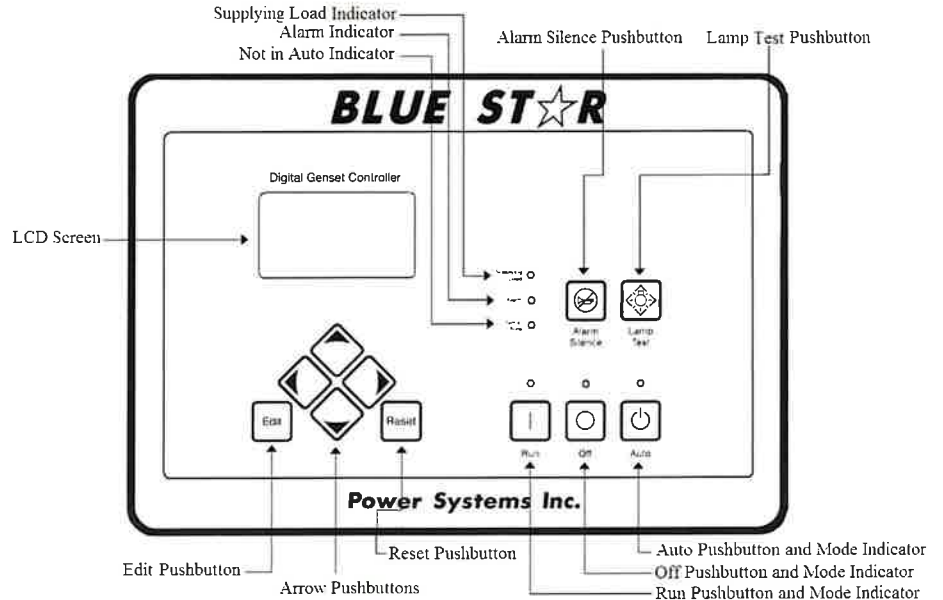
- Alarm Time Delay for Sender Failure
- Arming Time Delays After Crank Disconnect:
 - Low Oil Pressure
 - High Coolant Temperature
 - Pre-Crank Delay
- Continuous/Cyclic Cranking Timing Sequence

DGC-2020 Control Panel



Front Panel LED Indicators:

- Run: Green – Indicates controller is in the RUN mode
- Off: Red – Indicates controller is in the OFF mode
- Auto: Green – Indicates unit is in the AUTO mode
- Not in Auto: Red – Indicates DGC-2020 is not in AUTO mode
- Supplying Load: Green – Indicates system is supplying current to a connected load
- Alarm: Red – Indicates an alarm situation by continuous illumination
A pre-alarm will flash



Standard Engine Protection Functions

Pre-Alarms (Warnings)

- Low Oil Pressure
- High Coolant Temperature
- Low Coolant Temperature
- Battery Overcharge (High Voltage)
- Weak Battery (Low Voltage)

- Battery Charger Failure
- Engine Sender Unit Failure
- Engine kW Overload
- Maintenance Interval Timer
- Low Fuel Level
- Fuel Leak Detect

Alarms (Shutdowns)

- Low Oil Pressure
- High Coolant Temperature
- Overspeed
- Overcrank
- Fuel Sender Failure

- All alarms and pre-alarms can be configured via the BESTCOMSPlus PC software or the front panel.

Optional Features

- Generator Protection 27(2), 32, 40Q, 51(2), 59(2), 81O, 81U
- Enhanced Generator Protection - 51 and 47
- Selection of Integrating Reset or Instantaneous Reset Characteristics for Overcurrent Protection
- Remote Communication to RDP-110 / NFPA-110 Compliant Remote Annunciator
- Additional (8) Programmable 2ADC Contacts
- Remote Dial-out and Dial-in Capability with Modem
- Modbus Communications with RS-485
- Expandable I/O Capability via J1939 CANBUS
- Automatic Transfer Switch Control
- Remote Emergency Stop
- Multilingual Capability
- High Fuel Level Pre-Alarm
- Critical Low Fuel Level Alarm
- Analog Meters

Generator Protection

- Undervoltage (27)
- Underfrequency (81U)
- Overcurrent (51)
- Reverse Power (32)
- Phase Imbalance (47)
- Overvoltage (59)
- Overfrequency (81O)
- Phase Imbalance (57)
- Loss of Excitation (400)
- Generator Overcurrent (51)

All generator protection features are programmable as alarms or pre-alarms.

DGC-2020 Control Panel



Contact Outputs

For those applications where more output contacts are needed, the DGC-2020 can be adapted to include 8 additional 2ADC rated dry contact outputs. These are real contacts and not the solid-state type that require additional external circuitry to properly operate. These contacts are fully programmable via the easy-to-use BESTCOMSPPlus PC software and can be assigned to numerous user-defined functions.

DC Voltage Panel Mounted Modem

The DGC-2020 can provide long distance communication by adding a modem. When a modem is used, the user can access the DGC-2020 from virtually anywhere via a dedicated telephone line. The user can monitor and control the gen-set as if standing right in front of it. The DGC-2020 can also dial out for pre-programmed circumstances to alert the user of selected situations.

RS-485 Communication

When the RS-485 option is selected, the user can send and receive information from the DGC-2020 via the RS-485 communications port and Modbus protocol. This feature allows the DGC-2020 to be fully integrated into the building management system. Please see the instruction manual for the Modbus register list.

Enhanced Generator Protection

In addition to the standard generator protection (27, 59, 81O, 81U) the DGC-2020 can be equipped with a more sophisticated generator protection system. This option provides an overcurrent element (51) with 17 selectable time current characteristic curves and a voltage phase balance protection function.

Transfer Switch Control (Mains Failure)

The DGC-2020 monitors utility (mains) and determines if it is providing power that is suitable for the loads. If the utility supply goes outside of predetermined levels, the generator is started and the utility is disconnected from the load and the generator is connected. When the utility returns to acceptable levels for a sufficient time, the generator is disconnected and the utility is reconnected to the load. It also includes appropriate adjustable timers or time delays for establishing stable utility operation.

Contact Expansion Module (CEM)

The CEM add-on module increases the contact input and contact output capability adding 10 contact inputs and 24 form C contact outputs. This module communicates to the DGC-2020 via SAE J1939 CANBUS and allows the user to program the functionality of these inputs and outputs in the BESTCOMS programmable logic program. The user can add labels for the inputs and outputs that appear on BESTCOMS front panel, and in the programmable logic. All the functionality can be assigned to these inputs and outputs as if they were an integrated part of the DGC-2020. The CEM-2020 module has all of the environmental ratings, like the DGC-2020, including a model for UL Class1 Div2 applications (consult price list for part number). The output ratings of the form C contacts are: (12 contacts) 10A @ 30VDC and (12 contacts) 2A @ 30VDC. The 2A rated contacts are gold flash contacts for low current circuits. The CEM-2020 terminals accept a maximum wire size of 12 AWG while the chassis ground requires 12 AWG wire. The CEM-2020 provides the user with the flexibility to use the same model DGC-2020 gen-set controller for simple applications or more complicated applications that require contact functionality or duplication of contacts for remote annunciation. Flexibility is one of the benefits of the DGC-2020, and this add-on module enhances that benefit even further.

ModBus TCP/RTU (NetBiter RTU-TCP Gateway)

NetBiter® RTU-TCP Gateway connects the fully enhanced DGC-2020 with Ethernet and mobile networks. The gateway acts as a transparent bridge translating DGC-2020 Modbus registers allowing control systems, such as PLCs, SCADA, etc. to communicate over Ethernet. One gateway is required per generator allowing multiple generator sets to be accessed and monitored simultaneously. Note: This option does not interface with BESTCOMSPPlus software. Features include: connectivity between serial Modbus devices and the Modbus TCP; RS-232, RS-485 and RS-422 connectivity; Ethernet and mobile network connectivity; 10/100 Mbit/s Ethernet; web-based configuration; DIN rail mounting; and network and serial status indicators.

Load Share Module 2020 (LSM-2020)

The LSM is an easy to connect and use add-on module for the DGC-2020 to allow the DGC-2020 to control the kW load sharing of multiple generator sets. The LSM-2020 is remotely mounted and communicates to the DGC-2020 via J1939 CANbus communications.

Paint & Powder Coat



Generator Set

Blue Star Power Systems, Inc. completely paints all of its generator sets in our state-of-the-art downdraft paint booth. It begins with an extensive cleaning of the unit through sanding and a full wipe down using an alkaline-based cleaner. Once completely clean, the unit is then painted with Cardinal Industrial Semigloss paint. Electrostatic paint equipment ensures correct and even coverage. The unit then receives a complete covering of Cardinal Industrial Clear Coat in a hammer texture to provide extra protection and a durable long-lasting easy-to-clean finish.

Performance Characteristics

- 3.0+ Mils TDFT
- Xenon Arc 1100 hours - Excellent Weatherability
- 1000 Hour Salt Spray - Over Primer - Passed (3.0 Mils Total TDFT)
- Adhesion, Crosshatch - 5B
- Gloss 90+ @ 60°

Generator Set Enclosure

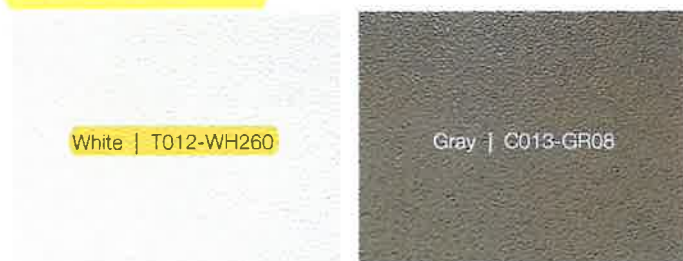
Blue Star Power Systems, Inc. provides Cardinal Industrial Hammer Textured Semi-Gloss Polyester Powder Coating as standard on all our enclosures. Long term exterior durability, high performance mechanical properties and high gloss are standard characteristics of Cardinal Powder Coating. Cardinal TGIC Polyester Coating exceeds UL 2200 & CSA requirements.

Performance Characteristics

- Cured Powder Properties 2.0+ Mils DFT
- PCI Powder Smoothness 1 Mil
- Pencil Hardness 2H+
- Flexibility 1/8 in Diameter - No Fracture
- Salt Spray ASTM-B117 1000 Hours - Pass
- Humidity ASTM-02247 1000 Hours - Pass
- Adhesion, Crosshatch - 5B
- Gloss 90+ @ 60°



Standard Colors



Custom Colors

Custom Colors: Blue Star Power Systems, Inc. offers custom color options for your generator set enclosure. Cardinal is licensed by PANTONE® to accurately simulate both the PANTONE MATCHING SYSTEM® colors and the PANTONE® Textile Color System® with our powder and liquid coatings. Additional Charges apply.



Sub-Base Fuel Tanks

Blue Star Power Systems, Inc. provides either Diamond Vogel Nexgen Technology Paint or Cardinal Industrial Hammer Textured Semi-Gloss Polyester Powder Coat on all of our sub-base fuel tanks. Nexgen and Cardinal Industrial both offer excellent coverage and performance characteristics. Nexgen and Cardinal Industrial both exceed UL requirements.

Performance Characteristics

- 3.0+ Mils TDFT
- Xenon Arc 1100 Hours
- 500 Hour Salt Spray - Over Primer - Passed (3.0 Mils Total TDFT)
- Adhesion Crosshatch - 5B
- Gloss 90+ @ 60°

Standard Color



Enclosures



Blue Star Power Systems, Inc. enclosures are specifically designed for optimal protection against the elements. They are designed to protect the entire system from even the most extreme environments, and to reduce sound levels to most specified requirements. Blue Star Power Systems, Inc.'s vast flexibility allows the design of standard enclosures to meet most specifications or requirements. All standard enclosure models are constructed of 14 gauge steel and feature a pitched roof for increased structural integrity and superior watershed. All enclosures feature a rugged UL listed hammer powder coat finish as standard for a long lasting and durable finish in standard white or gray. Custom colors are available as specified.

Enclosure Design Features

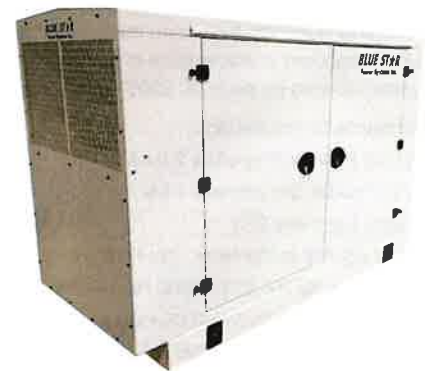


- UL 2200 & CSA Listed as standard
- All enclosure models are 200 MPH wind rating certified in accordance with IBC2018 and ASCE/SEI 7-16 standards.
- Lockable gasketed doors with draw down latches and Stainless Steel component hinges
- All Stainless Steel fasteners
- UL & CSA listed extreme-wear hammer powder coat finish
- Pitched roof for high structural integrity and superior watershed
- Above-door drip guards
- Optimal airflow means no cooling system de-rates on most models
- Internally mounted exhaust silencers standard up to 600 kW
- Sound attenuation options
- Stainless Steel and Aluminum enclosure options

Level 1

Weather Proof Enclosure

Blue Star Power Systems, Inc. Level 1 enclosures have the rugged construction and weather proof protection required for most outdoor environments. These enclosures will effectively protect the gen-set through high wind (200 MPH), rain, snow, and other extreme weather conditions. Weather proof enclosures feature standard hinged lockable doors, a pitched roof to prevent water accumulation and improved structural integrity. The enclosure is painted with extreme-wear UL and CSA listed hammer powder coat finish.



Level 2

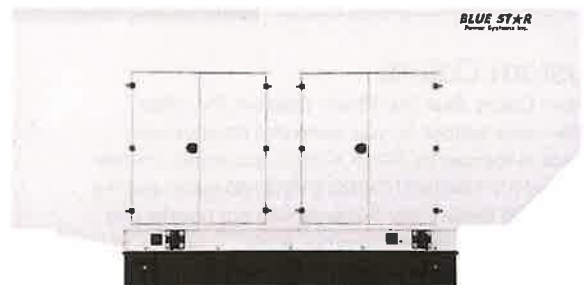
Weather Proof Enclosure with Foam

Blue Star Power Systems, Inc. Level 2 enclosures include all of the same great features of the Level 1 enclosures, and include even more. With the addition of high performance 1.5" Type D Sound Attenuating Foam, our Level 2 Enclosures offer an even lower dBA rating with the same great weather proof protection.

Level 3

Sound Attenuated Enclosure

Blue Star Power Systems, Inc. Level 3 enclosures feature the same great weather proof protection and standard features as the Level 1 & 2 enclosure models, but with a greater emphasis on reducing sound levels. Standard Level 3 features include the same high performance 1.5" type D sound attenuating foam, and also feature the addition of a separate frontal exhaust sound chamber and dual rear air intake to ensure that your system runs exceptionally quiet. These features make this enclosure among the best in the industry for noise reduction and quality.



Sound Attenuation Foam



Polydamp® Type D Acoustical Foam, (PAF) is an acoustical grade, open cell, flexible ether based urethane foam designed to give maximum sound absorption for a given thickness. It has excellent resistance to heat, moisture and chemicals. All applications use 1.5" foam as standard.



Foam Characteristics Sound Absorption: Nominal values of random incidence sound absorption coefficient per ASTM C384-77 for Plain/Tuffylm

Foam Thickness	125	250	500	1000	2000	4000
(1.5 in) 38.1 mm	15/20	27/49	60/96	77/93	90/82	98/67
(2.0 in) 50.8 mm	20/30	40/66	90/98	100/96	96/85	100/75

	Test Standard	U.S. Standard	Service Temperature
Density, Nominal: (lb/ft ³ -kg/m ³)	ASTM-D-3574-91	1.85	Continuous -45°F (-43°C) TO 212°F (100°C) Intermittent 250°F (121°C)
Tensile Strength: (PSI-KPa)	ASTM-D-3574-91	12	Flame Resistance UL94 HF-1 FAR.853(B) PASS SAEJ-369(B) PASS MVSS-302 PASS DIN PASS
Elongation, %	ASTM-D-3574-91	120	Humidity Resistance Excellent; no significant decrease in tensile strength or elongation after 5 hrs. of steam autoclave at 250°F (121°C) per ASTM D3574-86, Test J.
Tear Resistance: (lb/in - N/M)	ASTM-D-3574-91	1.3	Chemical Resistance Excellent - no significant change in strength after 4 weeks immersion in common solvents, alkalis, acids, and water.
IFD: (PSI - KN/M ²)	ASTM-D-3574-91	30	Estimated Service Life: Min. 10 years at 80F (27°C) and 95% R.H.
Compression Set (50%): %	ASTM-D-3574-91	10	
Air Permeability (Tested at 1" thickness): (Rayles/M)	ASTM C-522		
Thermal Conductivity (BTU/hr. ft ² , °F/in.)	ASTM C-177	0.25	

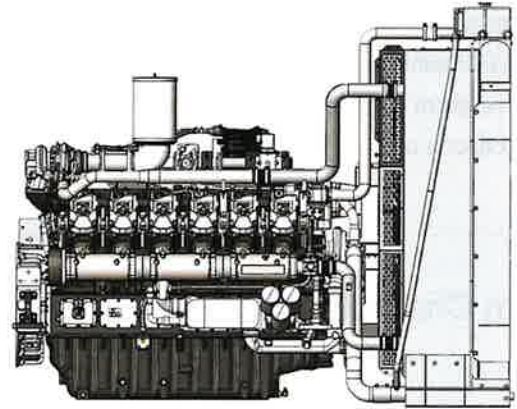
Adhesive Characteristics

P4 is a high performance unsupported acrylic pressure sensitive adhesive exhibiting aggressive tack, high peel and shear, and good heat resistance. In addition, it has good chemical and plasticizer resistance as well as excellent long term aging and the ability to withstand environmental extremes.

Adhesive Thickness (Nominal)	0.004"
Color of Adhesive	Water Clear
Release Liner	76 lb Polycoated bleached kraft paper
Service Temperature	-40°F +200°F

Radiators

Blue Star Power Systems, Inc. radiators offer a variety of styles and configurations including radiator and charged air assemblies, radiator and aftercooler assemblies with durable core construction. Our radiators are compact and efficient meeting the most stringent enclosure footprint requirements. All radiators are sized for 50°C (122°F) ambient. The single-source design ensures a perfect match with your generator set package.



Radiator Features

Standard Radiator Package

- Engine-specific tank design with variant coolant connection locations and sizes (dependant on engine size)
- Complete cooling package with mounting foot and plumbing kit
- All steel construction of top and bottom tanks
- Dual Core designs -
 - Jacket Water / Charged Air Circuit
 - Jacket Water / After Cooler Circuit
- Individual radiators designed to meet manufacturer's specific requirements
- Top tank has built in expansion capacity - no need for an external recover tank
- Full or partial deration system built into the top tank
- Standard cooling package includes fan shroud & fan guard
- Corrosion preventive options:
 - Hot dipped galvanizing on all steel parts or stainless steel
 - Epoxy coated cores

Fan-On Radiator Design

- Engine-specific tank design with variant coolant connection locations and sizes (dependant on engine size)
- Rigid built construction for fan support
- High speed bearings within pillow blocks
- Dual Core designs with variable jacket water / after cooler circuit designs
- All steel construction of top and bottom tanks
- Individual radiators designed to meet manufacturer's specific requirements

Circuit Breakers



Blue Star Power Systems, Inc. MC (Molded Case) Series Circuit Breakers are the highest quality in the industry. They will protect the power system and corresponding equipment from damaging fault currents circuits and overloads.

80% Rated Circuit Breakers

80% rated breakers can only be applied continuously at 80% of the rated breaker. Tripping of the circuit breaker if the current goes above 80% will depend on the amount of current and the duration.

100% Rated Circuit Breakers

100% rated breakers can be applied at 100% of their current rating continuously.

Accessories

Shunt Trip - Provides a means of tripping the circuit breaker from a remote source by energizing a solenoid in the breaker. This can be achieved through the panel faults such as engine shutdowns, overcurrent, etc. The circuit breaker will have to be reset locally in the event of a tripped breaker.

Bell Alarm / Alarm Switch - Provides remote indication of whether the circuit breaker is in a tripped position. The bell alarm will remain unchanged during on-off operations and during operation by the Push-to-Trip button on the circuit breaker.

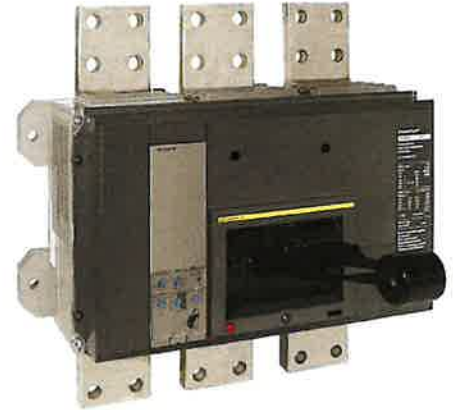
Auxiliary Switch/Contacts - Provides remote indication of whether the circuit breaker is in an open or closed state.

Ground Fault Indication/Alarm - Adjustable relay that indicates a ground fault condition with adjustable time delay.

Trip Unit

LI Breakers - Includes adjustable Long-Time pickup and delay and adjustable Instantaneous pickup.

LSI Breakers - Includes features of LI Breakers with addition of Short-Time pickup and delay.



Breaker Model	Amperage	Percentage Rated	Maximum Voltage Rating (AC)	UL Listed Interrupting Rating (kA)			Lug Qty. and Size (Cu & Al)
				240	480	600	
H-Frame	15-150	80% or 100%	600	25	18	14	(1) #14-3/0
Q-Frame	70-250	80%	240	10	-	-	(1) #4-300 kcmil
J-Frame	150-175	80% or 100%	600	25	18	14	(1) #4-4/0
	200-250						(1) 3/0-350 kcmil
L-Frame	125-400	80% or 100%	600	65	35	18	(2) 2/0-500 kcmil
	200-600						(3) 3/0-500 kcmil
M-Frame	300-800	80%	600	65	35	18	(3) 3/0-500 kcmil

Breaker Model	Frame Size	Percentage Rated	Maximum Voltage Rating (AC)	UL Listed Interrupting Rating (kA)			Lug Qty. and Size (Cu & Al)
				240	480	600	
P-Frame	600	80% or 100%	600	65	35	18	(3) 3/0-500 kcmil
	800						(4) 3/0-500 kcmil
	1000						(12) 3/0-750 kcmil
	1200						(15) 3/0-750 kcmil
	1600						(18) 3/0-750 kcmil
R-Frame (LSI Standard)	2000	100%	600	65	35	18	(21) 3/0-750 kcmil
	2500						(18) 3/0-750 kcmil
	3000						(21) 3/0-750 kcmil

TPS Series Block Heaters



The TPS engine block heater is designed to preheat diesel and gaseous engines. It is simple to install, lightweight, and heats engines up to 12L displacement. Thermosiphon circulation of the coolant delivers even heat throughout the entire engine block.

Features

- cULus Listed
- CE Compliant
- Various temperature settings available, including an optional adjustable thermostat 90° - 130°F (32° - 54°C)
- Can be supplied with UL marked 120 or 240V NEMA plug



Specifications

Part Number	Volts	Watts	Amps	Male Plug	Outlet Size (Inches)
13224	120	500	4.2	Yes	5/8
14209	240	500	2.1	Yes	5/8
10014	120	1000	8.4	Yes	5/8
10015	240	1000	4.2	Yes	5/8
10016	120	1500	12.5	Yes	5/8
10017	240	1500	6.3	Yes	5/8
10018	120	1800	15	Yes	5/8
10019	240	2000	8.3	Yes	5/8

Single Stage Air Cleaner



Single Stage Air Cleaners are tough, non-metallic, lightweight, self-supporting and completely disposable. They are also easy to install, durable, and reliable. They are designed to function well under high and severe pulsation conditions found in many applications. Vibration-resistant media is potted into molded housings of rugged ABS plastic – so they don't fall apart as other designs might. They can be mounted vertically or horizontally.



Specifications

- No serviceable parts - Air cleaner housing and filter are one unit
- Designed to withstand severe intake pulsation
- Economical replacement cost
- Self-supporting, sturdy
- Very reliable: only one critical seal
- Lightweight and compact in size
- Non-metallic, non-corrosive
- Completely disposable - acceptable for normal trash pick-up (should not be incinerated)
- Easily installed and maintained
- Minimal removal clearance needed: only 1.5"
- Three airflow styles available to fit virtually any engine intake configuration
- Various media available for specific generator set applications: high pulsation, high humidity, etc.
- Temperature tolerance: 180°F/83°C continuous 220°F/105°C intermittent

CPJ Series Critical Grade Silencers



Blue Star Power Systems, Inc. "CPJ" Series is the accumulation of research and development offering a compact silencer without compromising performance. It incorporates a unique combination of resonator chambers, acoustically packed internal components and diffusers to achieve a stunning level of performance for its size. All CPJ series silencers are critical grade silencers and are packed with insulation to greatly reduce radiated noise and exterior shell temperature.

Standard Construction Features

- Available in sizes from 2 inch to 12 inch
- Multitude of inlet/outlet design styles to meet almost any requirement
- Packed with fiberglass insulation to reduce shell temperature and noise levels
- Fully welded double shell carbon steel weldment construction, corrosive resistant
- High density fiberglass acoustic blanket good to 1500°F, wrapped with 304 Stainless Steel wire mesh cloth and encased in a carbon steel perforated facing
- Black phenolic resin based finish paint



Optional Construction Features and Accessories

- Stainless Steel construction
- Aluminum construction
- Aluminized Steel construction
- Vertical mounting legs
- Round mounting bands
- Horizontal mounting saddles
- Horizontal and vertical shell lugs
- Special finish per specification
- Air leak test
- ASME code construction
- Oversized flanges
- Acoustic shell lagging
- High temperature acoustic pack material
- Contact factory for additional features to meet your requirements

Model #	Part #	Outlet Size	Flanged Connection	WT (lbs)
CPJS-02	10660	2.0" OD	No	12
CPJS-25	10661	2.5" OD	No	18
CPJS-03	10662	3.0" OD	No	20
CPJS-35	10663	3.5" OD	No	30
CPJS-04	10664	4.0" OD	No	31
CPJS-05	10665	5.0" OD	No	50
CPJS-06	10666	6.0" OD	Yes	50
CPJS-08	10667	8.0" OD	Yes	120
CPJS-10	10668	10.0" OD	Yes	180

Engine Starting Batteries

Blistering heat and bitter cold are ruthless battery killers. That's why Blue Star Power Systems, Inc. utilizes a pioneered climatized battery. Designed to offer you long-life and high-performance starting power that will get your gen-set running even under extreme conditions. Blue Star Power Systems, Inc. "all-climate" batteries stand up to the harshest temperatures and are available in sizes and configurations to fit almost any application.



Standard Features

- Unique Manifold Vent - Virtually eliminates corrosion by venting gases away from terminals and cables
- Exclusive TRP™ Construction – Rib reinforced TRP™ container significantly improves the vibration and impact resistance
- Armored Plate Cell Bonding - Vibration is the number one killer of commercial batteries. To solve this problem, the cells of every battery are bonded
- Polyethylene Enveloped Separator Design – Super tough polyethylene material reduces electrical resistance and provides higher cranking performance
- Center Lug Design - Suppresses the vibration inherent in traditional construction for improved performance (where applicable)
- TTP™ - Through-the-Partition inter-cell connectors create a shorter current path to deliver more power to the terminals
- Heavy Duty Cases - Reinforced polyethylene or hard rubber cases stand up to the demands of standby gen-sets
- Convenient Lifting Slots - a handle is built in the top of the battery for easy carrying and transportation
- Protective Bottom Design - Waffled bottom design provides protection against nuts, bolts, or stones that might become lodged under the battery
- Computer Designed Radical Grids - An improved state-of-the-art design which adds power and resists vibration
- Threaded Accessory Ports - Features a sealed "O" ring that does not work loose during severe service (78DT only)

Specifications

BCI Group Size	NEMA Type			Dimensions (Inches)			
	Part Number	CCA at 0°F	CCA at 32°F	Length	Width	Height	Weight (lbs.)
78DT	78DT-HD	800	960	10-11/16	7-1/16	8-1/8	54
4D	4D-HD	1000	1200	19-9/16	8-5/16	10	95
8D	8D-HD	1300	1560	20-3/4	11	10	117

BC1206A Series Battery Chargers



The BC1206A charger is built to stand up to the punishing power generation environment. It is engineered to exacting performance specifications, including cULus listing for an extra margin of safety.

Features

- Automatic 12V 6A, 2-Stage charge rate
- UL 1236 listed
- Watertight, shock proof and corrosion proof
- LED status indicators
- Reverse polarity protected
- Short circuit protected
- EMI/RFI Shielded



Specifications

Specifications

Output Voltage: 12VDC

Input Rating

Input Voltage Range: 100 - 130VAC

Input Current Rating: 1.6A maximum

Float - Maintenance Stage

Float Voltage: 13.3VDC

Float Current: 0.1 A

LED Status: Green LED On

Full Load - Bulk Stage

Full Load Voltage: 12.0 - 14.1VDC

Full Load Current: 0.2 - 6.0A

LED Status: Red LED On

Reverse Polarity Protection

Available as Standard: Yes

Short Circuit / Overload Protection

Maximum Short Circuit Current: 8A (typical)

Current Limit: 7A (+/- 10%)

Operating Temperature Range

Minimum Temperature: -20° C

Maximum Temperature: 50° C

Agency Certification

This product is listed under UL 1236 for battery chargers.

Warranty

Warranty Period: 1 Year

Weight

3.5 Pounds

Sub-Base Fuel Tanks



Blue Star Power Systems, Inc. sub-base fuel tanks are listed and manufactured under UL 142 & ULC-S601 standards for steel above ground tanks, which guarantees that every fuel tank meets the structural and mechanical integrity requirements for mounting a generator set directly on top of the tank. This provides a convenient, efficient, and safe way to store fuel for your generator set.



Sub-Base Fuel Tank Standard Features

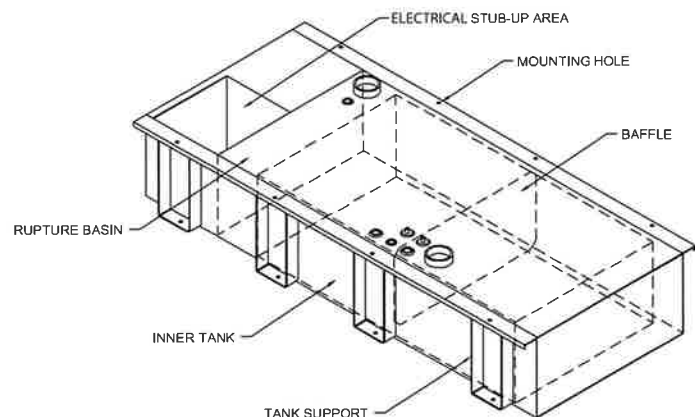
- Double walled secondary containment UL 142 & ULC-S601 Listed
- Electrical stub-up openings are standard to provide generator set wiring provisions through the base tank
- Heavy gauge steel construction
- Diamond Vogel Nexgen Technology Paint or Cardinal Industrial Hammer Textured Semi-Gloss Polyester Powder Coat
- Standard fittings: fuel supply with check valve (sized per unit), fuel return (sized per unit), 2" NPT for normal vent, 2" - 6" NPT for emergency vent (sized per unit), 2" NPT for manual fill, 1 1/2" NPT for fuel level gauge, and 3/8" NPT basin drain (plugged). Removable 1/2" supply dip tube standard (size may vary with gen-set model). 1 1/2" NPT for leak detection
- Interior tank baffle: Separates cold engine supply fuel from hot returning fuel
- Direct reading fuel level gauge
- Low fuel level and fuel leak alarms

Design Options

- High and critical low fuel level shutdowns or alarms
- Full pumping control systems for a true day tank system with a full array of electrical options
- Additional Tank Fittings
- Custom Fuel Tank Designs (sizes and shapes)
- Fuel Heater
- Fill / Spill Containment

Blue Star Power Systems, Inc. offers two distinctive types of double wall sub-base fuel tanks, those with an electrical stub up area (standard) and those without. Each type can be customized to any specification to meet your specific requirements.

UL 142 & ULC-S601 double wall secondary containment sub-base fuel tank with stub-up.



Factory Load Test



Blue Star Power Systems, Inc. factory testing is performed with the same extreme diligence and attention to detail that is given to the prototype testing process. Every engine generator set receives a complete factory load test that certifies and ensures that the set will function in accordance to every specific application. Test metering will have an accuracy of 1.3% or better. This metering equipment is calibrated annually, and is directly traceable to the National Institution of Standards & Technology (NIST). All test procedures are conducted in accordance with MIL-STD-705C where applicable.



Factory Acceptance Testing Procedures

- Insulation Resistance Test (301.1c)*
- High Potential Test (302.1b)*
- Alternator Over Speed
- Complete Engine Inspection
- Generator Inspection
 - Winding Resistance Test (401.1b)
 - Exciter Field Stator
 - Main Field Stator
- Mounting & Coupling Inspection
- Engine Fuel System Inspection
- Engine Lube Oil System Inspection
- Engine Cooling System Inspection
- DC Charging System Inspection
- Main Output Circuit Breaker Inspection
- Anticipatory Alarms and Shutdowns Test (505.2b, 515.1b, 515.2b)
- Optional Equipment Inspection (513.2a)
- Load Test (640.1d)
 - Regulator Range Test (511.1d)
 - No Load
 - MAX Load @ 1.0 P.F. (640.2d)
 - MAX Load @ 0.8 P.F.
 - Block Loads @ 0-25%, 0-50%, 0-75%, 0-100% of rated load tests (640.2d)
- 1.0 Power Factor Max Load
- 1.0 Power Factor Max Block Load Pickup
- Full Name Plate Rated Load.
- Standard Readings Taken Every 5 Minutes.

Standard Reading Recorded During Load Test Inspection

Run Time	AC Frequency
AC Voltage	Exciter Field Voltage
AC Amperage	Exciter Field Current
kVA	Lube Oil Pressure
kWe	Engino Coolant Temp.
Power Factor	Ambient Temp.

* Performed By Alternator OEM

Factory Load Test Summary

All engine generator sets are visually inspected prior to testing. This includes a complete visual/mechanical inspection to ensure that all fasteners and electrical connections are secure, that all rotating components are free of obstruction/interference and are properly guarded.

Once the unit is started, the AC voltage and frequency are set to rated values. The unit is operated at no load while all of the safety shutdowns and warnings are verified and tested. The unit is then restarted and run at 25%, 50% and 100% of rated load and power factor until the engine temperature has stabilized for at least ten minutes. During the rated and maximum load pickup portion of the test, the voltage regulator gain, stability and under frequency compensation adjustments are set for optimal performance. All test procedures are performed in accordance with MIL-STD-705C where applicable.

Throughout these test procedures the AC parameters, engine oil pressure, engine temperature, exhaust temperature, timing and air/fuel ratio (gaseous units) are monitored and recorded. The unit and all installed accessory equipment are continually examined for oil and coolant leaks, excessive vibration and foreign noises.

Once all test procedures are performed and recorded, the unit is allowed a cool down period prior to being shut down. The unit is once again inspected for leaks, loose fasteners and connections prior to leaving the test facility.

The unit receives another complete final inspection process prior to packaging and shipment.

Note: All units are tested after the painting process is complete to prevent unforeseen difficulties resulting from the painting process being performed after testing.

Witnessed Factory Load Test

Standard witnessed factory load testing must be scheduled and approved at least four weeks prior to the engine generator sets scheduled shipping date. Any requests for witnessed factory load testing after this four week period may incur additional charges.

Witnessed Extended Run Factory Load Test

Witnessed extended run factory load testing must be scheduled and approved at the time of order placement. Any requests for witnessed extended run factory load testing after this time could be denied and would if approved incur additional cost.

All units are built and tested to cUL, CSA and NFPA 110 standards.



Engine Generator Set Two (2) Year 2000 Hour Standby Limited Warranty



Your Blue Star Power Systems, Inc. product has been designed and manufactured with care by people with many years of experience. Blue Star Power Systems, Inc. warrants to its Buyer that the product is free from defects in materials and/or workmanship for the period of time outlined below. If the product should prove defective within the time period outlined below, it will be repaired, adjusted or replaced at the option of Blue Star Power Systems, Inc., provided that the product, upon inspection by Blue Star Power Systems, Inc., has been properly installed, maintained and operated in accordance with Blue Star Power Systems, Inc.'s Installation and Operating Manuals. This limited warranty is not valid or enforceable unless: (1) all supporting maintenance records are kept on file with the end user and made available upon request from factory, and (2) the generator set is routinely exercised in accordance with operating instructions. This warranty does not apply to malfunctions caused by physical damage, misuse, improper installation, repair or service by unauthorized persons, or normal wear and tear. The warranty is not assignable.

Blue Star Power Systems, Inc. product warranty period: Engine generator set: Parts and Labor for two (2) years from the date of factory invoice or 2000 hours (whichever occurs first). Accessories (installed on the engine generator set or shipped loose): Parts and Labor for one (1) year from the date of factory invoice or 2000 hours (whichever occurs first). Transfer Switches: If purchased with a generator set (same order number): Parts and Labor for two (2) years from the date of factory invoice or 2000 hours (whichever occurs first).

The start of the warranty period can be adjusted to the date of unit start-up (limited to 180 days from invoice date) provided that the following information is provided to Blue Star Power Systems, Inc. within 30 days of start-up. The warranty will not be effective unless a copy of the Blue Star Power Systems, Inc. start-up validation checklist is properly and completely filled out and returned to Blue Star Power Systems, Inc. within 30 days of start-up. Additionally, the engine manufacturer's engine registration form must be completed and returned to the engine manufacturer as stated in the instructions with the registration form.

To obtain warranty service: Contact your nearest Blue Star Power Systems, Inc. Service Representative. For assistance in locating your nearest authorized service representative, contact Blue Star Power Systems, Inc., Attention: Service Department (see contact information below).

Warranty service may be performed by authorized Blue Star Power Systems, Inc. service providers only. Service work performed by unauthorized persons will void all warranties.

Blue Star Power Systems, Inc. shall not be liable for any claim in amount greater than the purchase price of the product. In no event shall Blue Star Power Systems, Inc. be held liable for any special, indirect, consequential or liquidated damages including but not limited to: loss of profits, loss of time, increased overhead, delays, loss of business opportunity, good will, or any commercial or economic loss.

Blue Star Power Systems, Inc. shall not be liable for any claim that requires replacement of engine, part, or component of the gen-set that is no longer manufactured or available. Additionally, Blue Star Power Systems, Inc. will not be liable for any engine replacement that may require emissions tier level change.

THERE ARE NO EXPRESS WARRANTIES OTHER THAN THOSE DESCRIBED HEREIN. THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, OR OTHERWISE CREATED UNDER THE UNIFORM COMMERCIAL CODE, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, OR WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE.

The following items and/or circumstances are excluded from this limited warranty:

- ▶ Engine starting batteries: The battery manufacturers' warranty applies. Consult your local battery supplier for warranty service.
- ▶ Fuel system and/or governing system adjustments performed during or after start-up.
- ▶ Normal maintenance items: Consumable items such as belts, filters, fluids, and hoses.
- ▶ Adjustments and tune-ups performed during start-up or thereafter. Start-up, training, tuning, and adjustments for any paralleling or bi-fuel system.
- ▶ Loose connections (electrical and mechanical) not found during start-up.
- ▶ All fluid level related items including low coolant not found during start-up or checked during regular maintenance intervals.
- ▶ Shipping damage of any type. All equipment is shipped F.O.B. Blue Star Power Systems, Inc. and risk of loss transfers to the carrier once loaded for shipment. It is the responsibility of the receiving party to sign for the receipt of, and note any shipping damage to the equipment. Freight damage claim filing is the responsibility of the receiving party. In the rare event that damage occurs during shipment, Blue Star Power Systems, Inc. will not warrant any damage to the unit resulting from shrink wrap.
- ▶ Any special access fees, equipment, requirements or after hours scheduling to gain access to the equipment for warranty service purposes.
- ▶ Buyer requested rental generators used while warranty work is being performed.
- ▶ Damages caused by acts of nature, such as lightning, wind, flood, or earthquake.
- ▶ Any damage due to situations beyond the control of the manufacturing and/or workmanship of the product.
- ▶ Use of non-protected steel enclosure within 10 miles of the coast.
- ▶ Improper installation or operation as outlined in the Installation and Operation Manuals.
- ▶ Misapplication of the equipment such as usage outside the original design parameters as stated on the nameplate of the equipment.
- ▶ Equipment purchased at the standby rating that is being used in a prime power application(s).
- ▶ Diesel engine "Wet Stacking" or Regeneration issues due to lightly loaded diesel engines.
- ▶ Travel labor and mileage for mobile generator sets.
- ▶ More than one trip to the job site because a service vehicle was not stocked with normal service parts.
- ▶ Lodging expense associated with unit repair and excessive mileage charges (limit to 300 miles round trip from nearest service center).
- ▶ Failure to properly exercise and maintain your equipment per manufacturer's specifications will void all warranty.
- ▶ Equipment modifications made without the written consent of Blue Star Power Systems, Inc. will void all warranties.
- ▶ Any equipment or components added including fuel tanks and enclosures not installed at the Blue Star Power Systems, Inc. factory.

This agreement is deemed made and executed in North Mankato, Nicollet County, Minnesota and shall be construed and interpreted in accordance with the laws of the state of Minnesota without giving effect to its conflicts of laws principals. Each of the parties submits to the exclusive personal jurisdiction and venue with respect to any action or proceeding arising out of, in connection with, relating to, or by reason of this agreement before the district court of the state of Minnesota, located in Nicollet County and agrees that all claims in respect of the action or proceeding may be heard and determined in any such court.



ASCO Power Technologies™

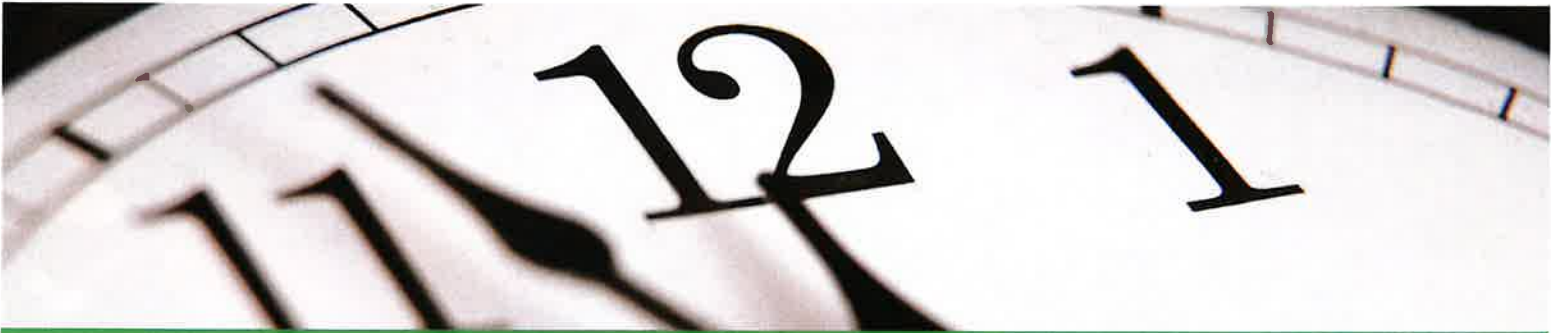
ASCO SERIES 300 Power Transfer Switches



ascopower.com

Life Is On

Schneider
Electric



24-hour protection, no matter when trouble strikes

ASCO SERIES 300 Power Transfer Switches for Power Outage Protection

Where would you be without a constant flow of electrical power? We often take for granted that power will always be around when we need it.

In reality, power failures are common, and when the power goes out, your business suffers. Power failures are unpredictable. They can occur at any time and for any number of reasons — a bolt of lightning, a power surge, a blackout, an accident or even equipment failure. They come without warning and often at the most inconvenient times.

It's for this reason that many businesses and other entities have invested in emergency power backup systems. Typically, the system consists of an engine generator and an automatic transfer switch (ATS) that transfers the load from the utility to the generator.

An ATS with built-in control logic monitors your normal power supply and senses interruptions and unacceptable abnormalities. When the utility power fails, the ATS automatically starts the engine generator and transfers the load after the generator has reached proper voltage and frequency. This happens in a matter of seconds after the power failure occurs. When the utility power has been restored, the ATS will automatically switch the load back and, after a time delay, shut down the engine generator. With an ATS, you are protected 24 hours a day, seven days a week.





TYPICAL APPLICATIONS

TELECOM

In the telecommunication industry, providing a high level of service and dependability is crucial. Lost power means an interruption in service for your customers and lost business for your company. For instance, with cell sites scattered across a wide geographical region and in many remote areas, the chances of an interruption in power are increased, making an ATS valuable resource at each location.

To maintain dependable service, each cell site must be monitored 24 hours a day. This can be very difficult without some type of remote monitoring and testing capability. The SERIES 300 Transfer Switch, combined with ASCO's monitoring and control management system, is a cost-effective, packaged solution that can achieve both of these challenging objectives without a major investment at each cell site. With ASCO's connectivity solutions, you can remotely monitor and control numerous sites from around the corner or across the world.

AGRICULTURE

Maintaining electrical power is vital to an agriculture operation. If the flow of power is interrupted, your operation will be at risk unless the backup generator is quickly activated. A prolonged power outage can affect numerous aspects of the operation, from housing and feeding livestock to processing and producing the end product.

With an ASCO SERIES 300 Transfer Switch, power will automatically be transferred over to your backup generator, eliminating the need to manually switch from utility to generator. When power is restored, the ASCO SERIES 300 Transfer Switch will, after an adjustable time delay to allow for utility stabilization, automatically switch the load back to the utility service.

COMMERCIAL/RETAIL, LIGHT INDUSTRIAL

The retail industry is very competitive. An electrical power failure can have a dramatic impact on a retailer's bottom line. If power is interrupted during peak shopping times, the effect can be extremely damaging to present and future business.

A power interruption will not only suspend shopping, it can also create safety problems, result in lost transaction data, lost account information and possible damage to data collection equipment. In addition, retailers who rely on controlled climates to protect valuable inventory could suffer even greater losses, especially if the power failure occurs at a time when no one is available to rectify the situation. To avoid any of these power outage problems, simply install a backup generator with an ASCO SERIES 300 Transfer Switch, and your power outage concerns will be a thing of the past.

MUNICIPAL

The ASCO SERIES 300 Transfer Switch can be a critical component of a municipal government's emergency power backup system. Residents of townships, cities and counties rely on police, fire, ambulance/first aid and other critical public sector services.

An interruption in power can affect the ability of emergency services to effectively respond to the needs of the community. When time is a critical factor, such as when responding to a fire alarm or an emergency call, an ASCO SERIES 300 Transfer Switch can be a lifesaver, by automatically switching to power from the backup generator. While not all municipal services are a matter of life and death, they are always expected to be there.

SERIES 300 POWER TRANSFER SWITCHES

MAXIMUM RELIABILITY & EXCELLENT VALUE

With a SERIES 300 Transfer Switch, you get a product backed by ASCO Power Technologies, the industry leader responsible for virtually every major technological advance in the Transfer Switch industry.

The ASCO SERIES 300 was designed for one purpose—to automatically transfer critical loads in the event of a power outage. Each and every standard component was designed by ASCO engineers for this purpose.

The SERIES 300 incorporates the Group G controller with enhanced capabilities for dependable operation in any environment. A user-friendly control interface with a 128x64 graphical LCD display and intuitive symbols allow for ease of operation while visual LED indicators display the transfer switch status. Operating parameters and feature settings can be adjusted without opening the enclosure door.

The rugged construction and proven performance of the ASCO SERIES 300 assure the user of many years of complete reliability. The SERIES 300 is even designed to handle the extraordinary demands placed on the switch when switching stalled motors and high inrush loads.

ASCO's SERIES 300 modular, compact design makes it easy to install, inspect and maintain. All parts are accessible from the front so switch contacts can be easily inspected.

FEATURES

- The SERIES 300 is listed to UL 1008 standard for total system loads for automatic transfer switches.
- Meets NFPA 110 for Emergency and Standby Power Systems and the National Electrical Code (NEC) Articles 700, 701 and 702.

UL 1008 WITHSTAND AND CLOSE-ON RATINGS FOR ASCO SERIES 300 GROUP G PRODUCTS ^{1,2} (RMS Symmetrical Amperes)

FRAME	SWITCH RATINGS (AMPERES)	CURRENT LIMITING FUSES				SPECIFIC BREAKER		
	TRANSFER SWITCHES	480V MAX.	600V MAX.	MAX. SIZE, A	CLASS	240V MAX.	480V MAX.	600V MAX.
D	30	100kA	-	60	J	22kA	22kA	10kA
D	70-104	35kA	35kA	200	RK1	42kA	22kA	10kA
		200kA	35kA	200	J			
D	150	35kA	35kA	200	RK1	65kA	25kA	10kA
		200kA	35kA	200	J			
D	200	200kA	-	200	J	65kA	25kA	10kA
D	230	100kA	-	300	J	65kA	25kA	10kA
J	150 ⁴ , 200 ⁴ , 230 ⁴ , 260, 400	200kA	200kA	600	J	50kA	50kA	42kA
J	600	200kA	200kA	800	L	50kA	50kA	42kA
H	800-1200	200kA	200kA	1600	L	65kA ³	65kA	65kA
G	1600-2000 ³	200kA	200kA	2500	L	85kA	85kA ³	85kA ³
G	2600-3000	200kA	200kA	4000	L	100kA	100kA	100kA

Notes:

1. All WCR values indicated are tested in accordance with the requirements of UL 1008, 7th Edition. See ASCO Pub. 1128 for more WCR information.
2. Application requirements may permit higher WCR for certain switch sizes.
3. Front connected only.
4. J150, 200, 230 Amperes available in 3ADTS and 3NDTS only.



Fig. 1: ASCO Power Transfer Switch rated 200 Amps

- Restriction of Hazardous Substances (RoHS) compliant controller.
- 30 through 3000 amperes in a compact design.
- Switch operating temperature range of 0 to +40° C.
- Available to 600 VAC, single or three phase.
- True double-throw operation: The single solenoid design is inherently inter-locked and prevents connections to both sources at the same time.
- No danger of the SERIES 300 ATS transferring loads to a dead source because the unique ASCO single-solenoid operator derives power to operate from the source to which the load is being transferred.
- Easy-to-navigate 128x64 graphical LCD display with keypad provides LED indicators for switch position, source availability, not in auto mode, and alert condition.
- Integrated multilingual user interface for configuration and monitoring.
- Delayed transition operation is now available (Dual Operator Configuration).
- Non-automatic operation can be selected using the key pad without opening enclosure door.
- Relay expansion module with extra relays for accessory outputs (optional).
- Includes soft keys for test function and time delay bypass as standard features.
- Emergency source failure alert indication.
- Historical event log (optional).
- Statistical ATS system monitoring information.
- Diagnostic functions.
- Password protection to prevent unauthorized tampering of settings.
- Adjustable time-delay feature prevents switch from being activated due to momentary utility power outages and generator dips.
- Auxiliary contacts to indicate position of main contacts. Two (2) for normal and two (2) emergency position
- Supplied with solid neutral termination.
- Optional switched neutral pole available.
- Field modification accessory kits available.
- Available for immediate delivery.

SERIES 300 POWER TRANSFER SWITCHES

DESIGNED TO FIT ANYWHERE

The ASCO SERIES 300 product line represents the most compact design of automatic power transfer switches in the industry. With space in electrical closets being at a premium, the use of wall- or floor-mounted ASCO Power Transfer Switches assure designers optimum utilization of space.

All transfer switches through 2000 amperes are designed to be completely front accessible. This permits the enclosures to be installed flush against the wall and still allow installation of all power cabling and connections from the front of the switch. Cable entrance plates are also standard on the 1600 and 2000 amperes units to install optional side-mounted pull boxes for additional cable bending space.



Fig. 2: ASCO Power Transfer Switch rated 200 Amps



Fig. 3: ASCO Power Transfer Switch rated 400 Amps



Fig. 4: ASCO Power Transfer Switch rated 600 Amps



Fig. 5: ASCO Power Transfer Switch rated 1000 Amps



Fig. 6: ASCO Power Transfer Switch rated 2000 Amps shown in Type 3R enclosure



Fig. 7: ASCO Power Transfer Switch rated 3000 Amps

SERIES 300 GROUP G CONTROLLER

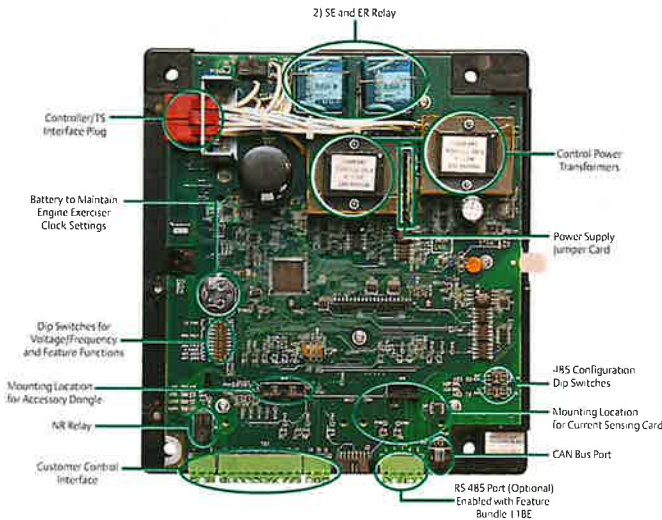


Fig. 8: ASCO SERIES 300 Group G Controller

The **SERIES 300** incorporates the group “G” controller with enhanced capabilities for dependable operation in any environment.

TIME DELAYS

- Engine start time delay – delays engine starting signal to override momentary normal source outages, adjustable from 0 to 6 seconds (Feature 1C).
- Emergency source stabilization time delay to ignore momentary transients during initial generator set loading, adjustable from 0 to 4 seconds (Feature 1F).
- Re-transfer to normal time delay with two settings (Feature 3A).
 - Power failure mode – 0 to 60 minutes
 - Test mode – 0 to 10 hours
- Unloaded running time delay for engine cooldown, adjustable from 0 to 60 minutes (Feature 2E).
- Pre- and post-signal time delay for selective load disconnect with a programmable bypass on source failures, adjustable from 0 to 5 minutes (specify ASCO optional accessory 31Z).
- Optional fully programmable engine exerciser with seven independent routines to exercise the engine generator, with or without loads, on a daily, weekly, bi-weekly or monthly basis (specify ASCO optional accessory feature bundle 11BE).
- Delayed transition load disconnect time delay, adjustable from 0 to 5 minutes (3ADTS/3NDTS configuration only).

STANDARD SELECTABLE FEATURES

- Inphase monitor to transfer motor loads, without any intentional off time, to prevent inrush currents from exceeding normal starting levels.
- Engine exerciser to automatically test backup generator each week, with or without load 20 minutes not adjustable.
- Commit to transfer.
- Selective load disconnect circuit to provide a pre-transfer and/or post-transfer signal when transferring from emergency to normal and/or normal to emergency.
- Re-transfer to normal through soft keys on user interface permits selection of “manual” or “automatic” operation.
- 60Hz or 50Hz selectable switch. Three-/single- phase selectable switch.

REMOTE CONTROL FEATURES

- External inputs for connecting:
- Remote test switch.
- Remote contact for test or peak shaving applications. If emergency source fails, switch will automatically transfer back to normal source if acceptable.
- Inhibit transfer to emergency.
- Remote time delay bypass switch emergency to normal.

CONTROL AND DISPLAY PANEL

- Easy-to-navigate 128x64 graphical LCD display with keypad provides LED indicators for switch position, source availability, not in auto mode, and alert condition. It also includes test and time delay bypass soft keys.

VOLTAGE, FREQUENCY & CURRENT SENSING

- 3-phase under and over voltage settings on normal and single phase sensing on emergency source.
- Under and over frequency settings on normal and emergency.
- True RMS voltage sensing with +/-1% accuracy.
- Frequency sensing accuracy is +/- 0.1Hz.
- Voltage and frequency parameters adjustable in 1% increments.
- Selecting settings: single or threephase voltage sensing on normal, and single phase sensing on emergency; 50 or 60Hz. 3-phase voltage unbalance on normal.
- Load current sensing card (optional).

SERIES 300 GROUP G OFFERS SOPHISTICATED FUNCTIONALITY

The new Group G controller offers an intuitive, easy-to-navigate 128*64 graphical LCD display with soft keypad and provides six (6) LED indicators.

- Switch Position (green for normal, red for emergency LED)
- Source Availability (green for normal, red for emergency LED)
- "Not In Auto" (amber LED)
- Common Alarm (amber LED)

The ASCO group "G" controller is self-contained with an integrated display (no other components are required for efficient operation).

The controller allows for open or delayed transition transfer operation (both automatic, and non-automatic configurations).

An integrated multilingual user interface for configuration and monitoring (this design approach allows greater application flexibility).

Multiple source-sensing capabilities of voltage, frequency (under frequency sensing on normal and emergency sources), and optional current card, single and three phase (does not require an external metering device).

Fig. 9: Door-Mounted Control & Display Panel

- 1 Common Alarm
- 2 Not In Auto Indicator
- 3 Scroll, Up/Down Arrows
- 4 Escape Key
- 5 Enter Key
- 6 LED Source Availability and Switch Position Indicators Transfer / Time Delay Override control push-button

Control Status

Normal OK
Load on Normal
Press Test Transfer

Source Status

Normal		Emergency	
V _b 207V	V _e 207V	V _b 206V	V _e 207V
V _c 207V	V _e 207V	V _b 207V	V _e 207V
60.0Hz		60.0Hz	

Alarm Status

No Active Alarms

Controller Information

Serial Number
000000000000
Software Version
894063x581 12/05/14
Thu 12/11/14 15:08:54

Normal OK
Normal → Emergency
Timer: 00Min 02Sec
Press Bypass Timer

Normal	Load	Emerg.
V _b 207V	V _b 200A	V _e 207V
V _c 204V	V _e 199A	V _e 207V
V _a 205V	V _e 200A	V _e 207V
60.0Hz		60.0Hz

Alarm 1 of 1
Transfer Failure
Press To Acknowledge Alarms

Main Menu/ Settings

Enter Password

Settings/ Engine Exerciser

Engine Exerciser
Present Time 09:08:15
Program No 1
Enable
With Load

Settings/General/ Communications

RS485 Port
Baud Rate 9600
Device Addr: 1
Protocol AscobusII
Emulate Grpt

Settings/General/ Common Alarms

Common Alarms
Loss E when on E
E Accept Fail

Main Menu/ Event Logging

<< Event Log >>
Event 1 of 248
Engine Stop
05/07/15 10:23:44.0

Main Menu/ Statistics

<< Statistics >>
TS Total Transfers
82
TS Transfer Time
5.0 Sec

Main Menu/ Factory/Diagnostics

<< Discrete Inputs >>
CNN 1 F5 1 F30 1
CNE 0 F17 1 TST 1
CEN 0 F84 1
CEE 0 F6 1

Main Menu/ About

<< About >>
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SERIES 300 ATS OPTIONAL ACCESSORIES

ACCESSORY 1UP

UPS back up power to allow controller to run with LCD display for 30 seconds without AC power.

ACCESSORY 11BE FEATURE BUNDLE

A fully programmable engine exerciser with seven independent routines to exercise the engine generator with or without loads, on a daily, weekly, bi-weekly or monthly basis. Engine exerciser setting can be displayed and changed from the user interface keypad.

Event Log display shows the event number, time and date of event, event type, and event reason (if applicable).

A maximum of 300 events can be stored. RS 485 Communications Port Enabled Common Alarm Output Contact

ACCESSORY 18RX

Relay expansion module (REX) provides for some commonly used accessory relays, includes one form C contact for source availability of normal (18G), and one form C contact for availability of emergency (18B) (contact rating 5 amperes @ 30Vdc or @125 VAC resistive) (100 ma, 5Vdc min). Additional output relay is provided, the default is to indicate a common alarm. (See operator's manual for configurable options.)

ACCESSORY 23GA¹ (SINGLE PHASE) AND 23GB (THREE PHASE)

Load current metering card measures either single or three phase load current.

Note 1: This feature is not available with a Power Meter Option (135L).

ACCESSORY 44A

Strip Heater with thermostat for extremely cold areas to prevent condensation and freezing of this condensation. External 120 volt power source required.

ACCESSORY 44G

Strip Heater with thermostat, wired to load terminals: 208-240, 360-380, 460-480, 550-600 volts. Contains wiring harnesses for all transfer switch sizes.

ACCESSORY 72EE

Connectivity Module enabling remote monitoring and control capabilities includes accessory 11BE featured bundle (pages 12-14).

ACCESSORY 73

Surge Suppressor (TVSS) Rated 65kA.

ACCESSORY 62W

Audible alarm with silencing feature to signal each time switch transfers to emergency (may require oversize enclosure depending on accessory combination for "D" frame only).

ACCESSORY 37B

6' Extension harness for units shipped open type to accommodate customer mounting of controls and switch.

ACCESSORY 37C

9' Extension harness for units shipped open type to accommodate customer mounting of controls and switch.

ACCESSORY 135L²

Power Meter on load side (includes shorting block and CTs)Note 2: This feature is not available with Load Current Metering Option (23GA or 23GB).

ACCESSORY 30A³

Shedding circuit initiated by opening of a customer-supplied contact.

ACCESSORY 30B*³

Load-shedding circuit initiated by removal of customer-supplied voltage. (*Specify Voltage)

ACCESSORY 30AA³

Load-shedding circuit initiated by opening of a customer-supplied contact.

ACCESSORY 30BA*³

Load-shedding circuit initiated by removal of customer-supplied voltage. (*Specify Voltage)

Note 3: Accessory 30A and 30B* are only available for 3ATS only; accessory 30AA and 30BA* are only available for 3ADTS.

FIELD CONVERSION KITS FOR SERIES 300 TRANSFER SWITCHES

KIT NO.	DESCRIPTION
935147	Feature Bundle Includes Engine Exerciser/Event Log/RS 485/ Common Alarm Output Contact (Acc. 11BE) Dongle
935148	REX Module with Source Availability Contacts (Acc. 18RX)
935149	UPS to allow controller to run for 30 seconds minimum without AC Power (Acc. 1UP)
935150	1/3 Phase load current sensing card only (Acc. 23GA/GB)
K613127-001	Strip Heater (125 watt) 120 volt (Acc. 44A)
K613127-002	Strip Heater (125 watt) 208-480 volt (Acc. 44G)
948551	Quad-Ethernet Module (Acc. 72EE)
K609027	Cable Pull Box (1600-2000 amperes)



Fig. 10: Strip Heater Kit (Accessory 44G)



Fig. 11: Relay Expansion Module (Accessory 18RX)



Fig. 12: Load Current Card (Accessory 23GA/GB)



Fig. 13: Programmable Engine Exerciser



Fig. 14: Accessory 1UP UPS Backup Power

SERIES 300 POWER TRANSFER SWITCHES

SERIES 300 NON-AUTOMATIC TRANSFER SWITCHING (3NTS)

ASCO non-automatic transfer switches are generally used in applications in which operating personnel are available and the load is not an emergency type requiring automatic transfer of power. They can also be arranged for remote control via ASCO's connectivity products.



Fig. 15: ASCO 3NTS 400 Amps
Type 1 Enclosure

3NTS FEATURES

- ASCO Non-Automatic Transfer Switches are manually initiated via soft keys on the user interface panel.
- Sizes range from 30 through 3000 amperes.
- Group G controller provides for addition of optional accessories.
- Controller prevents inadvertent operation under low voltage condition.
- Source acceptability lights inform operator if sources are available to accept load.
- Source inphase monitor to transfer motor loads between live sources.
- Two auxiliary contacts closed when transfer switch is connected to normal and two closed on emergency standard feature 14AA/14BA.



Fig. 16: ASCO 3ADTS/3NDTS 400
Amps
Type 1 Enclosure

SERIES 300 DELAYED TRANSITION TRANSFER SWITCHING (3ADTS/3NDTS)

ASCO Delayed Transition Transfer Switches are designed to provide transfer of loads between power sources with a timed load disconnect position for an adjustable period of time.

3ADTS/3NDTS FEATURES

- Sizes from 150 through 3000 amperes.
- Reliable field proven dual solenoid operating mechanisms.
- Mechanical interlocks to prevent direct connection of both sources.
- Adjustable time delay for load disconnect (0 to 5 minutes).
- Available in manual operation configuration (3NDTS).
- Available with optional load shed feature for (3ADTS).

SERIES 300 TRANSFER SWITCH ORDERING INFORMATION

To order an ASCO SERIES 300 Power Transfer Switch, complete the following catalog number:

J	+	03ATS	+	A	+	3	+	0600	+	N	+	GX	+	C
Frame	Transition Type	Neutral Code	Phase Poles	Amperes	Voltage Code	Group Code	Enclosure							
Open Transition D = 30A - 230A	Automatic 03ATS Open Transition	A = Solid Neutral B = Switched Neutral	2	0030 ¹	A ³ = 115	G0	0 = Open Type (zero)							
			3	0070 ¹ 0104 ¹	B ³ = 120 C = 208	No Optional Accessories	C = Type 1 Enclosure							
Open/Delayed Transition J = 150A - 600A H = 800A - 1200A G = 1600A - 3000A	3ADTS Delayed Transition Non Automatic 03NTS Open Transition 3NDTS Delayed Transition			0150 ^{1, 5}	D = 220	GX Optional Accessories	F = Type 3R ¹ Enclosure							
				0200 ^{1, 3, 4}	E = 230		G = Type 4 ¹ Enclosure							
				0230 ^{1, 3, 4}	F = 240		H = Type 4X ¹ Enclosure (304 Stainless Steel)							
				0260 ^{1, 4}	H = 380		L = Type 12 ¹ Enclosure							
				0400 ^{1, 4}	J = 400		M = Type 3R ³ Secure Double Door Enclosure							
				0600 ^{1, 4}	K = 415		N = Type 4 Secure Double Door Enclosure							
				0800 ⁴	L = 440		Q = Type 12 Secure Double Door Enclosure							
				1000 ⁴	M = 460		R = Type 3RX ^{7, 8} Secure Double Door Enclosure (304 Stainless Steel)							
				1200 ^{4, 5}	N = 480									
				1600 ^{4, 5}	P = 550									
	2000 ^{4, 5}	Q = 575												
	2600 ^{4, 5}	R = 600												
	3000 ^{4, 5}													

Notes:

- Switch sizes 30-600 amperes supplied in non-secure enclosures as standard.
- 115-120 volt available for 30-400 amperes only. For other voltages contact ASCO.
- 200 and 230 amperes rated switches for use with copper cable only.
- Switch sizes 800-3000 amperes, and 150-400 amperes 3ADTS/3NDTS provided in secure type outdoor enclosures when required.
- Use Type 3R secure for 1200, 2000, 2600, and 3000.
- Type 304 stainless steel is standard. Suitable for indoor or outdoor use where there may be caustic or alkali chemicals in use. To provide an improved reduction in corrosion of salt and some chemicals, optional type 316 stainless steel is recommended. This is the preferred choice for marine environments.
- Available on switches rated 1200, 2000, 2600, and 3000 amperes.
- When temperatures below 32°F can be experienced, special precautions should be taken, such as the inclusion of strip heaters, to prevent condensation and freezing of this condensation. This is particularly important when environmental (Type 3R, 4) are ordered for installation outdoors.
- Type 3R enclosures are not suitable for installations subject to wind blown rain or snow. Use type 4 enclosures where available or install supplemental shelter protection around the 3R enclosure.

SERIES 300 EXTERNAL POWER CONNECTIONS

Size UL-Listed Solderless Screw-Type Terminals

SWITCH RATING (AMPERES)	RANGES OF AL-CU WIRE SIZES (UNLESS SPECIFIED COPPER ONLY)
30-230 ² ATS and NTS only	One #14 to 4/0 AWG
150*, 260, 400	Two 1/0 AWG to 250 MCM or One #4 AWG to 600 MCM
600	Two 2/0 AWG to 600 MCM
800, 1000, 1200	Four 1/0 to 600 MCM
1600, 2000	Six 1/0 to 600 MCM
2600, 3000	Twelve 1/0 to 750 MCM

Notes:

- All Series 300 switches are furnished with a solid neutral plate (unless switched neutral configuration is specified) and terminal lugs.
- 200 and 230 amperes rated switches for use with copper cable only. Refer to paragraph 310.15 of the NEC for additional information.
- Use wire rated 75°C minimum for all power connections.
* 150 for DTS only

EXTENDED WARRANTIES FOR SERIES 300 TRANSFER SWITCHES (3ATS/3NTS/3ADTS/3NDTS)

DESCRIPTION
1 Year Extension (Total of 3 Years)
2 Year Extension (Total of 4 Years)
3 Year Extension (Total of 5 Years)

Notes:

- Standard warranty is (24) months, 2 years from date of shipment, extended warranty is in addition to the two years, for a total of, 3, 4, or 5 years.
- Refer to Publication 3223 for warranty terms and conditions.

SERIES 300 Transfer Switch Dimensions and Shipping Weights

UL TYPE 1 ENCLOSURE^{1,2,3,4}

SWITCH RATING AMPS	PHASE POLES	NEUTRAL CODE	DIMENSIONS, IN. (MM)			APPROX. SHIPPING WEIGHT LB. (KG)
			WIDTH	HEIGHT	DEPTH	
30 ³ , 70 ³ , 104 ³ 150 ³ , 200 ³	2	A	18 (457)	31 (787)	13 (330)	69 (32)
	2	B	18 (457)	31 (787)	13 (330)	72 (33)
	3	A	18 (457)	31 (787)	13 (330)	72 (33)
	3	B	18 (457)	31 (787)	13 (330)	75 (34)
230	2	A	18 (457)	48 (1219)	13 (330)	117 (53)
	2	B	18 (457)	48 (1219)	13 (330)	125 (57)
	3	A	18 (457)	48 (1219)	13 (330)	125 (57)
	3	B	18 (457)	48 (1219)	13 (330)	133 (61)
260, 400	2	A	24 (610)	56 (1422)	14 (356)	250 (113)
	2	B	24 (610)	56 (1422)	14 (356)	260 (118)
	3	A	24 (610)	56 (1422)	14 (356)	260 (118)
	3	B	24 (610)	56 (1422)	14 (356)	270 (123)
150, 200, 230 <small>S³PH³ 3ADTS/3NTS only</small>	2	A	24 (610)	56 (1422)	14 (356)	250 (113)
	2	B	24 (610)	56 (1422)	14 (356)	260 (118)
	3	A	24 (610)	56 (1422)	14 (356)	260 (118)
	3	B	24 (610)	56 (1422)	14 (356)	270 (123)
600	2	A	24 (610)	63 (1600)	17 (432)	300 (137)
	2	B	24 (610)	63 (1600)	17 (432)	320 (146)
	3	A	24 (610)	63 (1600)	17 (432)	320 (146)
	3	B	24 (610)	63 (1600)	17 (432)	320 (151)
800, 1000	2	A	34 (864)	72 (1829)	20 (508)	431 (196)
	2	B	34 (864)	72 (1829)	20 (508)	460 (209)
	3	A	34 (864)	72 (1829)	20 (508)	460 (209)
	3	B	34 (864)	72 (1829)	20 (508)	489 (222)
1200	2	A	38 (965)	87 (2210)	23 (584)	581 (264)
	2	B	38 (965)	87 (2210)	23 (584)	611 (277)
	3	A	38 (965)	87 (2210)	23 (584)	611 (277)
	3	B	38 (965)	87 (2210)	23 (584)	639 (290)
1600, 2000	3	A	38 (965)	87 (2210)	23 (584)	1160 (525)
	3	B	38 (965)	87 (2210)	23 (584)	1160 (525)
2600, 3000	3	A	38 (965)	91 (2311)	72 (1829)	1430 (649)
	3	B	38 (965)	91 (2311)	72 (1829)	1495 (679)

Notes:

- Unit is designed for top cable entry of emergency and load, and bottom entry of normal. A cable pull box is also available for all top or bottom cable access when required (optional accessory kit #K609027). Not required for type 3R, 4X and 12 enclosures where available.
- Enclosures for 2600, 3000 amperes are free-standing with removable top, sides and back.
- Dimensions for 30-200 amperes when furnished with accessory 135L power meter, 18"W - 41"H - 13"D
- Dimensional data is approximate and subject to change. Certified dimensions available upon request.

UL TYPE 3R, 4 OR 12 ENCLOSURE^{1,2,3,4}


SWITCH RATING AMPS	PHASE POLES	NEUTRAL CODE	DIMENSIONS, IN. (MM)			APPROX. SHIPPING WEIGHT LB. (KG)
			WIDTH	HEIGHT	DEPTH	
30 ² , 70 ² , 104 ² 150 ² , 200 ² <small>(Non-Secure Enclosure)</small>	2	A	17.5 (445)	35 (886)	11.625 (295)	84 (38)
	2	B	17.5 (445)	35 (886)	11.625 (295)	87 (40)
	3	A	17.5 (445)	35 (886)	11.625 (295)	87 (40)
	3	B	17.5 (445)	35 (886)	11.625 (295)	90 (41)
230 <small>(Non-Secure Enclosure)</small>	2	A	18 (458)	50.5 (1284)	14.33 (364)	90 (41)
	2	B ³ or C	18 (458)	50.5 (1284)	14.33 (364)	132 (60)
	3	A	18 (458)	50.5 (1284)	14.33 (364)	140 (63)
	3	B ³ or C	18 (458)	50.5 (1284)	14.33 (364)	148 (67)
260, 400	2	A	24 (610)	63 (1600)	18.2 (462)	320 (146)
	2	B	24 (610)	63 (1600)	18.2 (462)	340 (155)
	3	A	24 (610)	63 (1600)	18.2 (462)	340 (155)
	3	B	24 (610)	63 (1600)	18.2 (462)	350 (160)
150, 200, 230 <small>S³PH³ 3ADTS/3NTS only (Non-Secure Enclosure)</small>	2	A	24 (610)	63 (1600)	18.2 (462)	320 (146)
	2	B	24 (610)	63 (1600)	18.2 (462)	340 (155)
	3	A	24 (610)	63 (1600)	18.2 (462)	340 (155)
	3	B	24 (610)	63 (1600)	18.2 (462)	350 (160)
600 <small>(Non-Secure Enclosure)</small>	2	A	24 (610)	63 (1600)	18.2 (462)	320 (146)
	2	B	24 (610)	63 (1600)	18.2 (462)	340 (155)
	3	A	24 (610)	63 (1600)	18.2 (462)	340 (155)
	3	B	24 (610)	63 (1600)	18.2 (462)	350 (160)
800, 1000	2	A	34 (859)	72 (1821)	20 (508)	519 (236)
	2	B	34 (859)	72 (1821)	20 (506)	543 (246)
	3	A	34 (859)	72 (1821)	20 (506)	543 (246)
	3	B	34 (859)	72 (1821)	20 (506)	565 (257)
1200 <small>(Secure Enclosure)</small>	2	A	41 (1037)	95.5 (2415)	33.5 (848)	1131 (513)
	2	B	41 (1037)	95.5 (2415)	33.5 (848)	1160 (526)
	3	A	41 (1037)	95.5 (2415)	33.5 (848)	1160 (526)
	3	B	41 (1037)	95.5 (2415)	33.5 (848)	1189 (539)
1600, 2000 <small>(Secure Enclosure)</small>	3	A	42.5 (1074)	95.5 (2529)	47 (1189)	1705 (775)
	3	B	42.5 (1074)	95.5 (2529)	47 (1189)	1830 (832)
2600, 3000 <small>(Secure Enclosure)</small>	3	A	41 (1037)	95.5 (2529)	74 (1872)	2150 (976)
	3	B	41 (1037)	95.5 (2529)	74 (1872)	2230 (1012)

Notes:

- When climate conditions at installation site present condensation risk, special precautions should be taken, such as the inclusion of space heaters, to prevent interior condensation and freezing of this condensation.
- Dimensions for 30-200 amperes when furnished with a power meter 18"W - 48"H - 13"D
- 30-1000 amperes switches are available in secure type enclosures, contact ASCO for details.
- Dimensional data is approximate and subject to change. Certified dimensions available upon request.

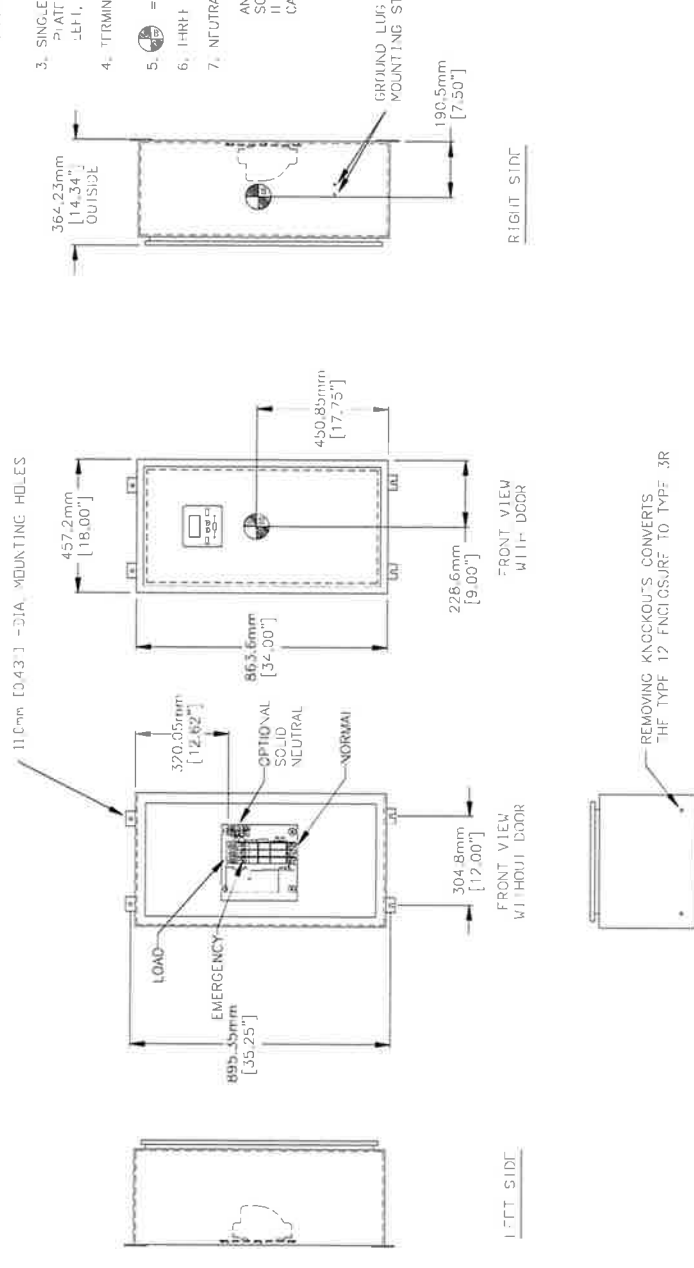
OUTLINE FOR ASBO 200 SERIES AUTOMATIC TRANSFER SWITCHING EQUIPMENT (D2ATS/D2NTS) 30-200 AMPERES, TYPE 3R/4/4X/12 ENCLOSURE

GENERAL NOTES

1. TYPE 3R/4/4X/12 WALL MOUNTED ENCLOSURE.
2. STANDARD FINISH TYPE 3R/4/12: ANSI 61 GRAY. POLYESTER POWDER COAT. UL RECOGNIZED. OTHER ANSI COLORS AVAILABLE. CONSULT FACTORY.
FINISH TYPE 4X: ENCLOSURE BODY #2B
DOOR SMOOTH BRUSHED #3.
TYPE 4X (U) EXTERIOR CONSTRUCTED OF CODE GAUGE TYPE 316 STAINLESS STEEL.
TYPE 4X (H) EXTERIOR CONSTRUCTED OF CODE GAUGE TYPE 304 STAINLESS STEEL.
3. SINGLE DOOR, RIGHT SIDE HINGE, LEFT SIDE PADLOCK HASP, PLATED DOOR CLAMPS (LEFT SIDE FOR TYPES 3R & 12, RIGHT SIDE FOR TYPE 4).
4. TERMINALS - SCREW TYPES FOR EXTERNAL POWER CONNECTIONS.
5.  = CENTER OF GRAVITY.
6. THREE POLE SWITCH WITH SOLID NEUTRAL SHOWN FOR REFERENCE.
7. NEUTRAL CONFIGURATIONS:

AN OPTIONAL FULL RATED NEUTRAL CONFIGURATION FOR EACH SOURCE AND THE LOAD MAY BE PROVIDED, WHEN EQUIPPED IT IS IN ONE OF THE FOLLOWING FORMATS AS SPECIFIED BY THE CATALOG NUMBER NO. NEUTRAL TYPE:
(A) SOLID (COPPER BUS) NEUTRAL
(B) SWITCHED NEUTRAL POLE
(C) OVERLAPPING NEUTRAL POLE (SEE NOTICE)

NOTICE:
When an overlapping switched neutral assembly is provided, the normal and emergency source neutral terminations are physically reversed from those of the normal and emergency source of those of terminations. Locate the meter markings and review the wiring diagram before connecting the neutral conductors.



REMOVING KNOCKOUTS CONVERTS THE TYPE 12 ENCLOSURE TO TYPE 3R

APPROXIMATE SHIPPING WEIGHT, KG (LBS)

AMP SIZE	HUBS	WEIGHT
30-200	A2	39 (86)
	B2/C2/A3	40 (88)
	B3 & C3	41 (90)

POWER CONNECTIONS

RANGE OF AL-Cu CONDUCTOR SIZES
ISO CROSS SECTION (mm²)
(USE STRANDED TYPE CONDUCTORS)

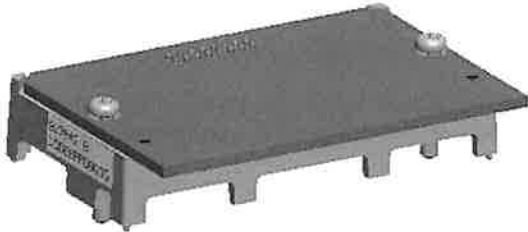
SWITCH RATING (AMPS)	CONDUCTOR SIZE RANGE	RECOMMENDED TIGHTENING TORQUE
30-200*	ONE: 2-5	1.3 Nm
OR	TWO: 6-100	
200-COPPER TYPIC ONLY		22.6 Nm

TRANSFER SWITCHING EQUIPMENT
(IEEE) RATED UP TO 480 VAC MAX.

PRODUCT NAME	
COMPLETE BILLING	
COUNTRY OF ORIGIN	
TYPE: 3R/4/4X/12 IEEE/CE	
ASBO	ASCO Power Technologies
	ASBO 200 Series
	ASBO 200 Series
	ASBO 200 Series
	ASBO 200 Series
	ASBO 200 Series

Accessory 11BE Kit 935147 Kit Installation

ASCO® Series 300 Transfer Switches with a Group G Controller



Overview

These kit instructions explain how to install accessory 11BE Kit 935147 on Series 300 transfer switches with a Group G Controller.

Accessory 11BE is a four-function software bundle. Refer to **User's Guide 381333-400** for further information on this accessory. The four functions are:

Communication Under the *General* settings, a screen allows the user to configure *Communication* (RS485 port).

Programmable Exerciser Under the *Engine Exerciser* settings, a screen allows the user to configure the advanced exerciser.

Event Log Under the *Event Log* main menu, a screen allows the user to view events.

Common Alarm Under the *General* settings, a screen allows the user to configure *Common Alarms*.

Kit Contents

The accessory 11BE kit includes a dongle assembly:

- PC board with plug
- support frame
- two mounting screws with washers

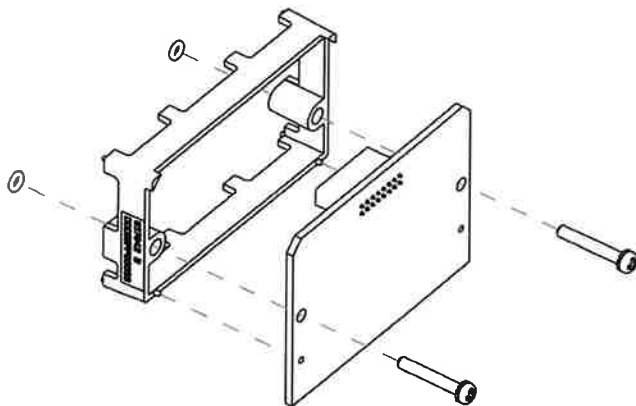


Figure 1. Accessory 11BE dongle kit.



Hazardous voltage capable of causing shock, burns, or death is used in this transfer switch. Deenergize both normal and emergency power sources before installing the kit.

Installation

1. Deenergize the transfer switch. Then open the enclosure door and verify that all power is off.
2. Locate the Group G controller that is mounted on the inside of the door. Do not remove controller cover. Refer to Figures 1, 2, 3, and 4.
3. Position the dongle (with plug at top facing inward) onto the lower left area of the controller. Align the plug and socket and push it straight inward. The four corners of the support base, and mounting screws should fit into holes in the controller. Gently tighten the two screws. Do not over tighten.

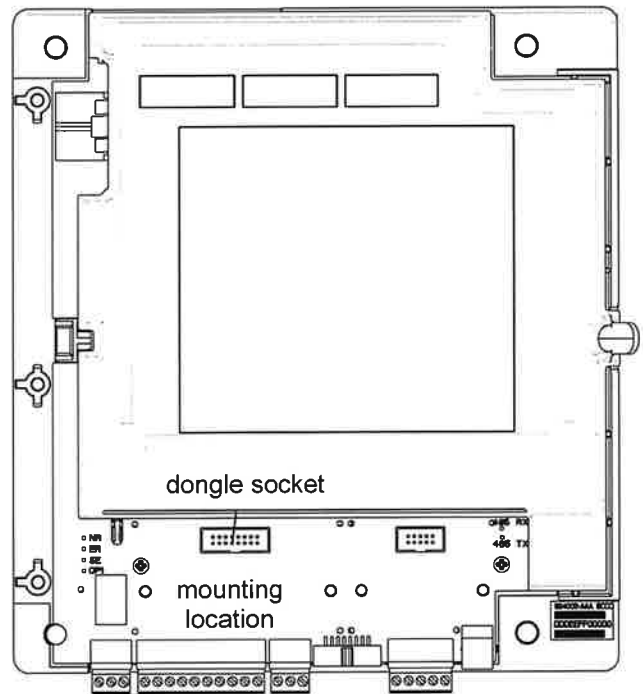


Figure 2. Mounting location on Group G controller.

(continued on the next page)

381339-315

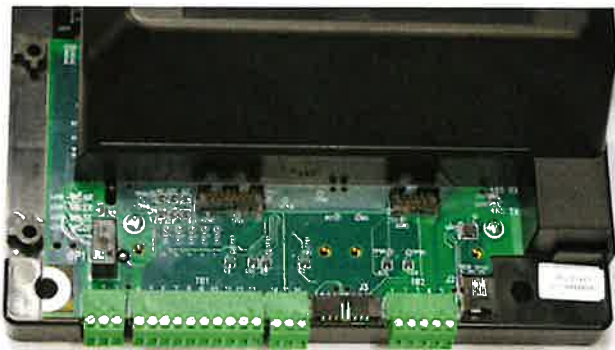


Figure 3. Detail of mounting location.



Figure 4. Detail of installed dongle.

4. After installation, close the enclosure door. Reenergize the transfer switch.
5. Refer to **User's Guide 381333-400** for further information on this accessory.

The four new functions in accessory 11BE are:

Communication Under the *General* settings, a screen allows the user to configure *Communication* (RS485 port).

Programmable Exerciser Under the *Engine Exerciser* settings, a screen allows the user to configure the advanced exerciser.

Event Log Under the *Event Log* main menu, a screen allows the user to view events.

Common Alarm Under the *General* settings, a screen allows the user to configure *Common Alarms*.

Accessory 11BE Kit Installation Record

Accessory 11BE Kit Number	_____
Installation Date	_____
Transfer Switch Serial Number	_____
Transfer Switch Catalog Number	_____
Installer's Name	_____
Installer's Company	_____
Customer Name	_____
Customer Company	_____

CD103M Dri-Prime® Pump

The Godwin Dri-Prime CD103M pump offers flow rates to 1020 USGPM and has the capability of handling solids up to 3.0" in diameter.

The CD103M is able to automatically prime to 28' of suction lift from dry. Automatic or manual starting/stopping available through integral mounted control panel or optional wireless-remote access.

Indefinite dry-running is no problem due to the unique Godwin liquid bath mechanical seal design. Solids handling, dry-running, and portability make the CD103M the perfect choice for dewatering and bypass applications.

Features and Benefits

- Simple maintenance normally limited to checking fluid levels and filters.
- Dri-Prime (continuously operated Venturi air ejector priming device) requiring no periodic adjustment. Optional compressor clutch available.
- Extensive application flexibility handling sewage, slurries, and liquids with solids up to 3.0" in diameter.
- Dry-running high pressure liquid bath mechanical seal with high abrasion resistant solid silicon carbide faces.
- Close-coupled centrifugal pump with Dri-Prime system coupled to a diesel engine or electric motor.
- All cast iron construction (stainless steel construction option available) with cast steel impeller.
- Also available in a critically silenced unit which reduces noise levels to less than 70 dBA at 30'.
- Standard engine Caterpillar C2.2T (IT4 Flex). Also available with John Deere 4024TF281 (IT4 Flex).

Please contact the factory or office for further details. A typical picture of the pump is shown. All information is approximate and for general guidance only.

**Proposed unit will be critically silenced.
The drawing is on the page after next.**



Specifications

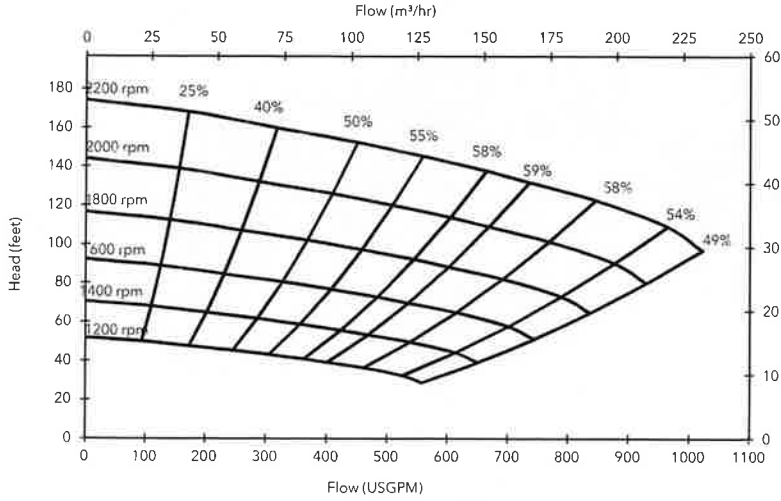
Suction connection	4" 150# ANSI B16.5
Delivery connection	4" 150# ANSI B16.5
Max capacity	1020 USGPM †
Max solids handling	3.0"
Max impeller diameter	10.1"
Max operating temp	176 °F
Max pressure	75 psi
Max suction pressure	53 psi
Max casing pressure	113 psi
Max operating speed	2200 rpm

† Please contact our office for applications in excess of 176°F.

‡ Larger diameter pipes may be required for minimum flow.

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Performance Curve



Materials

Pump casing & suction cover	Cast iron BS EN 1561 - 1997
Wearplates	Cast iron BS EN 1561 - 1997
Pump Shaft	Carbon steel BS 970 - 1991 817M40T
Impeller	Cast Steel BS3100 A5 Hardness to 200 HB Brinell
Non-return valve body	Cast iron BS EN 1561 - 1997
Mechanical seal	Silicon carbide faces with elastomers; Stainless steel body

Engine option 1

Caterpillar 3224 (IT4 Flex), 41 HP @ 2200 rpm

Impeller diameter: 10.1"

Pump speed: 2200 rpm

Suction Lift Table

Total Suction Head (feet)	Total Delivery Head (feet)				
	73	103	127	152	173
10	1022	915	845	750	
15	925	815	735	615	
20	835	715	635	515	
25	750	615	535	415	

Max Fuel consumption @ 2200 rpm: 2.4 US Gal/hr

Max Fuel consumption @ 1800 rpm: 2.3 US Gal/hr

Weight (Dry): 2,610 lbs

Dim (L) 119" (W) 66" (H) 77"

Engine option 2

John Deere 4024TF281 (IT4 Flex), 46 HP @ 2200 rpm

Impeller diameter: 10.1"

Pump speed: 2200 rpm

Suction Lift Table

(feet)	Output (USGPM)				
	73	103	127	152	173
10	1022	915	845	750	
15	925	815	735	615	
20	835	715	635	515	
25	750	615	535	415	

Max Fuel consumption @ 2200 rpm: 2.6 US Gal/hr

Max Fuel consumption @ 1800 rpm: 2.3 US Gal/hr

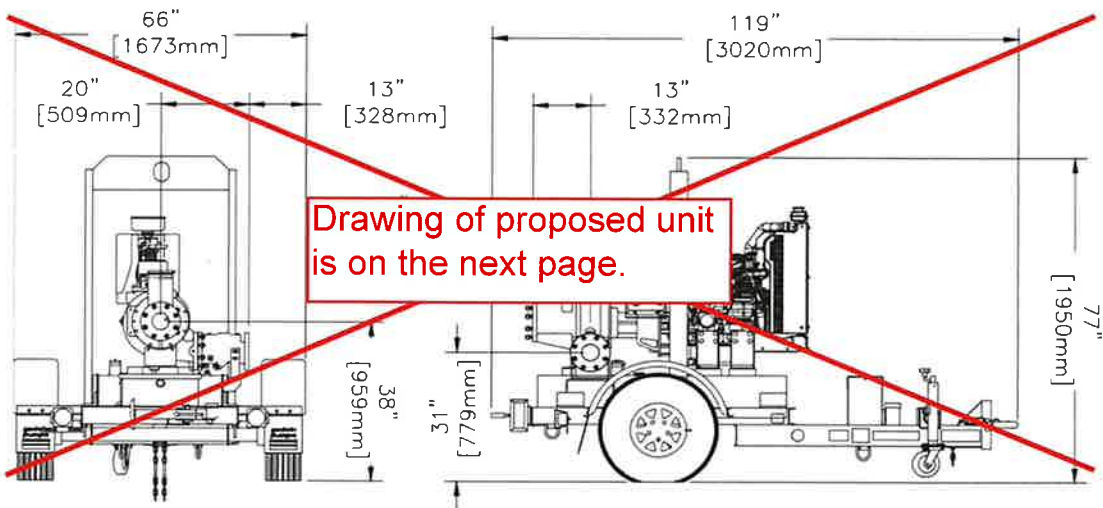
Weight (Dry): 2,400 lbs

Dim (L) 119" (W) 66" (H) 77"

Engine supplied will be the Mitsubishi S4Q2VSC iT4 Diesel Engine. The reference drawing is shown on the next page and the engine data sheet is in section 3.

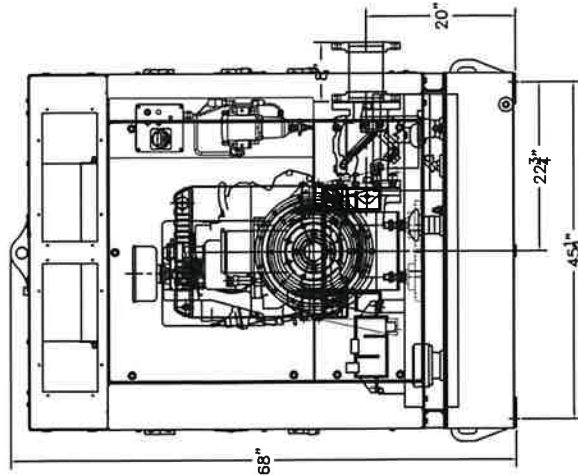
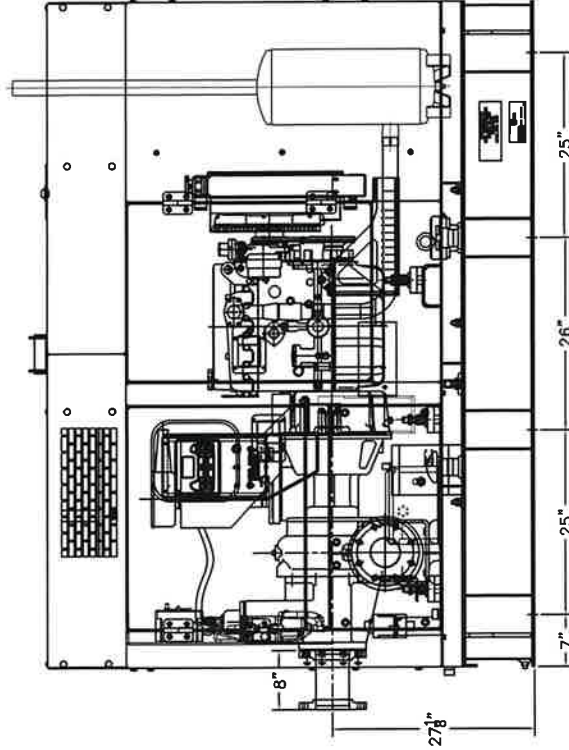
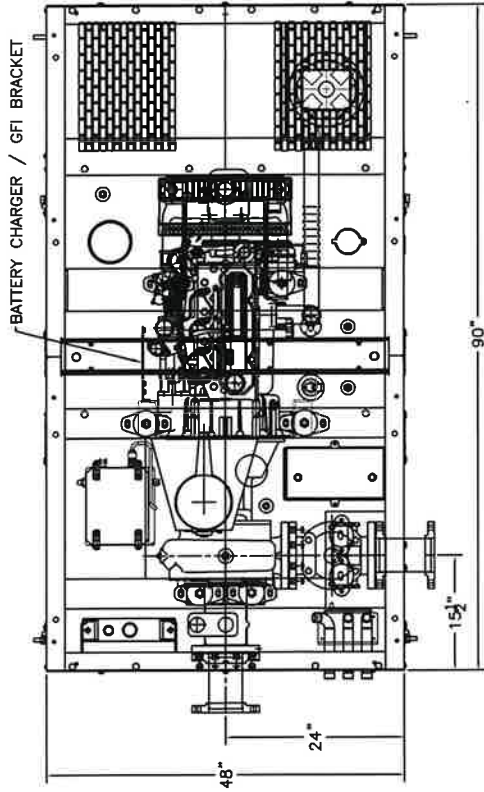
2.6gal/hr
2.2gal/hr

Weight and dimensions of the unit are shown on the next page



Drawing of proposed unit is on the next page.

- NOTES
1. DIMENSIONS IN INCHES
 2. DO NOT SCALE DRAWING
 3. DRAWING IS NOT FOR CONSTRUCTION
 4. CONSULT FACTORY FOR CERTIFIED DIMENSIONS
 5. SUCTION FLANGE: 4"/150# ANSI RF
 6. DISCHARGE FLANGE: 4"/150# ANSI RF
 7. APPROX. DRY WEIGHT: 4000 LBS
 8. FUEL CAPACITY: 80 GALLONS



REVISIONS		DATE	APPROVED
NO.	DESCRIPTION	XXX	XXX

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84 Boulevard Road, Bridgewater, NJ 08814, USA
(850) 407-3686 • Fax: (850) 341-7323

TITLE
CD103M MITSUBISHI S402 UL
CRITICAL SILENCE N32-10580

S.O.F.
SIZE DWG NO. 100GPA0047036
SCALE 1/1 SHEET 1 OF 1

SYMBOLS ETC. TO ANSI Y14	THIRD ANGLE PROJ.	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE FINISHES TOLERANCES ARE: 2-PLACE DECIMALS ± .03 3-PLACE DECIMALS ± .010 ANGLES FRACTIONS 1/16	APPROVALS	DATE	SCALE
			DRAWN BY: J. STEISER APPROVED BY: P. MANTLAND		

DWG NO. 100GPA0047036
REV. A

GODWIN DRI-PRIME® CD103M ONE (1) VARIABLE SPEED PUMP | SYSTEM CURVE VILLAMAR PHASE 4 LIFT STATION BACKUP PUMP WINTER HAVEN, FL

Suction Lift: 26.0 ft
Suction Pipe: 45 ft 6" DIP, (3)90°, (1)45°, (1)Red, (1)Tee, (1)Ent Loss

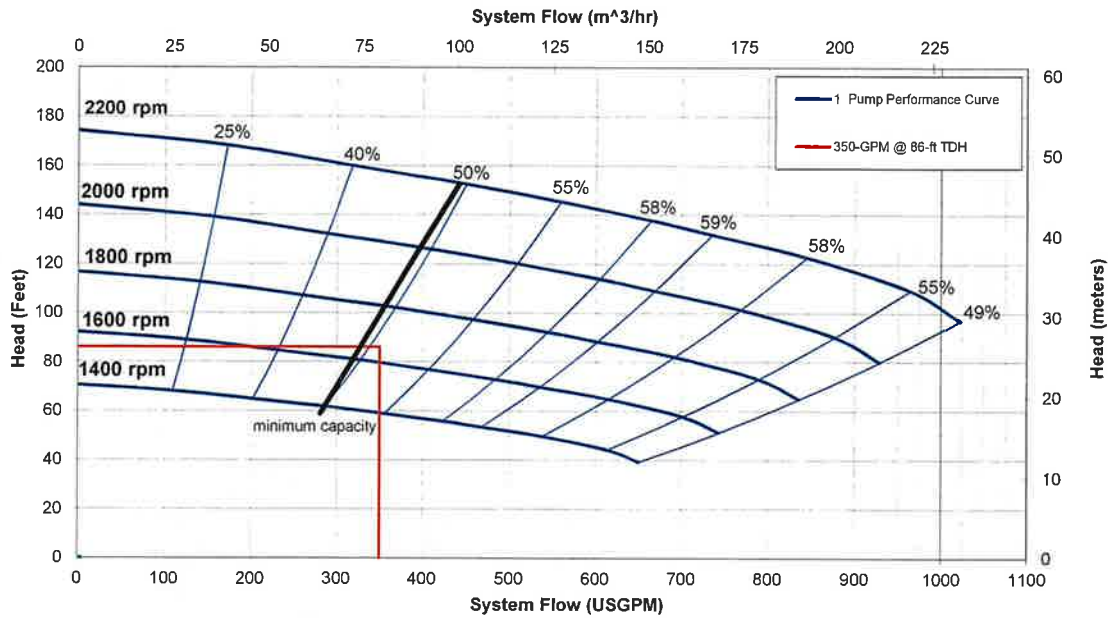
Xylem recommends upsizing the suction to 6" pipe. Friction loss through 4" pipe would be much greater and would cause cavitation at operating levels lower than 116.7'. Upsizing to 6" pipe would allow operating levels as low as 111.80'

Pump On: 115.50
Pump Off: 112.00

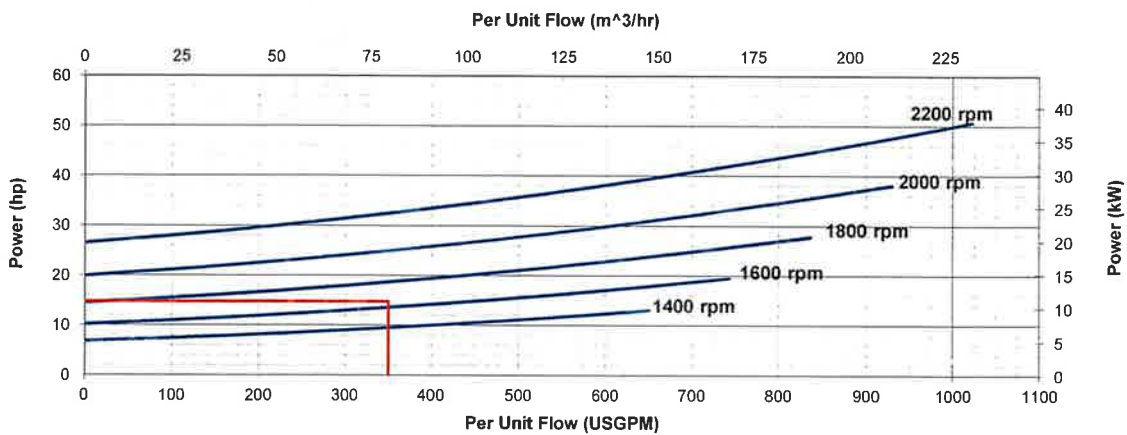
CD103M

Duty Point: 350gpm @ 86' TDH

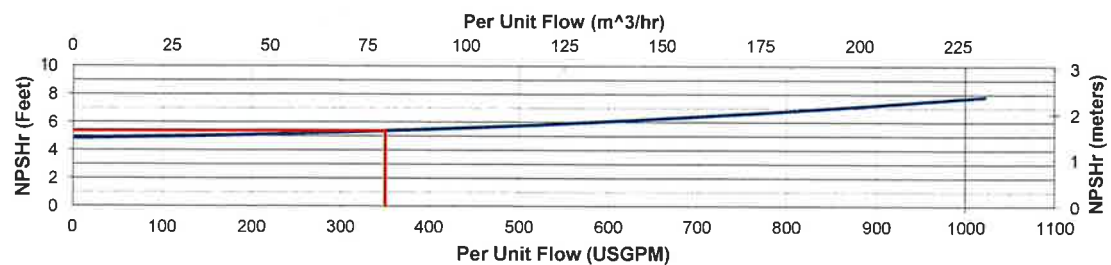
Performance - 256 mm Impeller | Variable Speed Curve



Power



NPSHr



Critically Silenced Dri-Prime® Pumps

The Godwin Critically Silenced enclosure houses the versatile Dri-Prime CD, HL, NC and Wellpoint range pumps in a specially designed, acoustically-silenced enclosure. The Critically Silenced unit is intended for use in any pumping application where engine and other noise must be kept to a minimum. Sound levels are approximately 69 dBA at 30 feet (9 meters).

Features and Benefits

- 14-gauge sheet metal (12-gauge on larger units) enclosure lined with 1" and 2" (25mm and 50mm) layers of polydamp acoustical sound-deadening material
- Engine designed with critical grade muffler, silenced priming exhaust, and isolated engine vibration to further reduce operating noise
- Hinged, lockable doors for controlled access to operating controls and service locations
- Entire unit can be unbolted and removed from the optional DOT highway trailer for added versatility
- UL142 rated and double wall fuel tanks are available



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Please contact the factory or office for further details. A typical picture of the pump is shown. All information is approximate and for general guidance only.

Godwin PrimeGuard 2 Controller

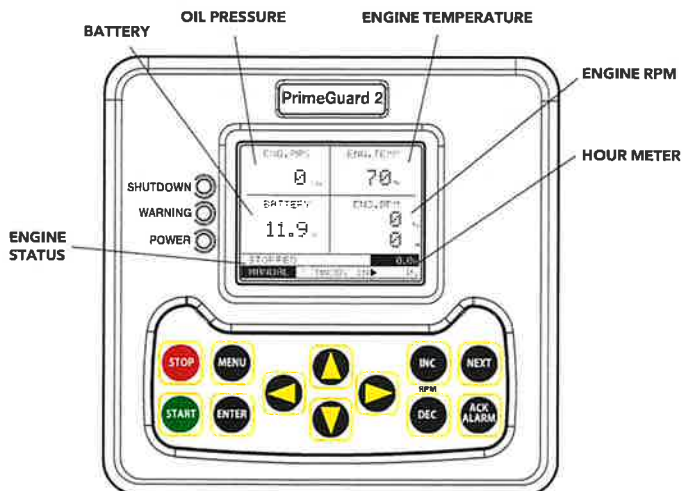
WITH FIELD SMART TECHNOLOGY

Godwin's diesel-driven automatic Dri-Prime® pumps include the Godwin PrimeGuard 2 automatic level controller, standard on all electronic diesel engines and available for mechanical diesel engines. PrimeGuard 2 is designed for use with diesel engines - up to and including Final Tier 4 - to communicate with the Engine Control Unit (ECU). The Godwin PrimeGuard 2 is a fully programmable microprocessor engine control system that allows for inputs from flow meters, level transducers, pressure transducers or standard floats. Using any of these systems, your Godwin Dri-Prime pump can start and stop automatically with no operator intervention required.



Features

- High performance, state-of-the-art, touch sensing digital controller
- Manual, automatic, or remote starting capabilities
- Security levels allow limited to full access of controller functionality
- Includes eight programmable relays and 66 selectable features, including pump running, pump failure, and others
- RS-485 communication ports enable communication with SCADA and other alarm equipment
- Capable of being run by pressure/level transducer with backup float switch operation
- Maintains an "event history" of all warning alarms (up to 32)
- User can pre-set engine rpm to maintain flow and head parameters when running unattended
- Tracks oil and filter usage and alerts operator when replacement is recommended
- Diesel engine warm up/cool down cycle available
- Real-time clock with battery back-up
- For interim and Final Tier 4 diesel engines, shows level of soot in the diesel particulate filter (DPF) and if engine needs regeneration. When the filter needs regeneration, the Godwin PrimeGuard 2 can be used to initiate the cycle.



Default "Home" screen illustrated above.

Godwin PrimeGuard Controller Basic Operation

- START** One-touch engine starting
- STOP** One-touch engine stopping
- Directional arrows** for screen navigation and data input
- MENU** Menu
- ENTER** Enters selected data
- INC** Increase RPM
- DEC** Decrease RPM
- NEXT** Exits parameter menu screen returns to engine status display
- ACK ALARM** Acknowledges alarms

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SQ-Series 29 to 49 HP



Model		S4Q2	S4Q2-T	
Specifications	Type	4-cycle, water-cooled, diesel		
		Natural-aspirated	Turbocharged	
	Bore x Stroke (mm)	88 x 103		
	Cylinder arrangement	Inline 4 Cyl.		
	Total Displacement	2.505 L		
	Combustion System	Swirl Chamber - IDI		
	Dry Weight kg/lbs.	195/430	200/442	
	Starting System	12 Volt Electric		
Fuel Oil	Diesel fuel oil (ASTM No. 2-D)			
Power Unit	Continuous Power Rating Output HP (kWm)	1500 rpm	28.6 (21.3)	31.5 (23.5)
		1800 rpm	35.8 (26.7)	37.7 (28.1)
		2000 rpm	40.1 (29.9)	42.2 (31.5)
		2200 rpm	43.7 (32.6)	44.9 (33.5)
		2400 rpm	45.7 (34.1)	48.5 (36.2)
		2500 rpm	46.4 (34.6)	N/A
Generators	Prime Power Rating Output HP (kWm) 60 Hz 1800 rpm	31.5 (23.5)	N/A	
	Stand-by Rating Output HP (kWm) 60 Hz 1800 rpm	33.5 (25.0)	N/A	

CONSTRUCTION:

- Ribbed thin-wall cast iron crankcase for added strength and durability
- Internal crankcase breather for reduced emissions
- Extra large bearing surfaces for low bearing loads and long life

LUBRICATION:

- Designed to run at up to 30 degrees of inclination.
- Full flow spin-on cartridge filter
- Forced circulation by gear pump
- Oil Capacity: 1.72 gal. (6.5 ltr)

FUEL & COMBUSTION SYSTEMS:

- Bosch style fuel injection pump
- Indirect injection combustion system for low noise and emissions
- Cylinder head is pre-chamber design to increase efficiency of combustion

MOUNTING:

- Standard crankcase side mounting pads for flexible mounting arrangements
- Rear engine support available from side mounting pads on SAE 4 housing

COOLING:

- Forced circulation by centrifugal pump
- Cooling packages available for ambient temperatures
- Cooling Fan (Std. Eqt.) : Variable Speed (VS)-Suction Generator Drive (GD)-Pusher

ELECTRIC SYSTEM:

- Starter: 12V, 2.0kW
- Alternator: 12V, 50 amp with integral regulator
- Glow Plugs: 12V
- High water temperature and low oil pressure switches
- Stop Solenoid: 12V, energized to run (ETR) solenoid

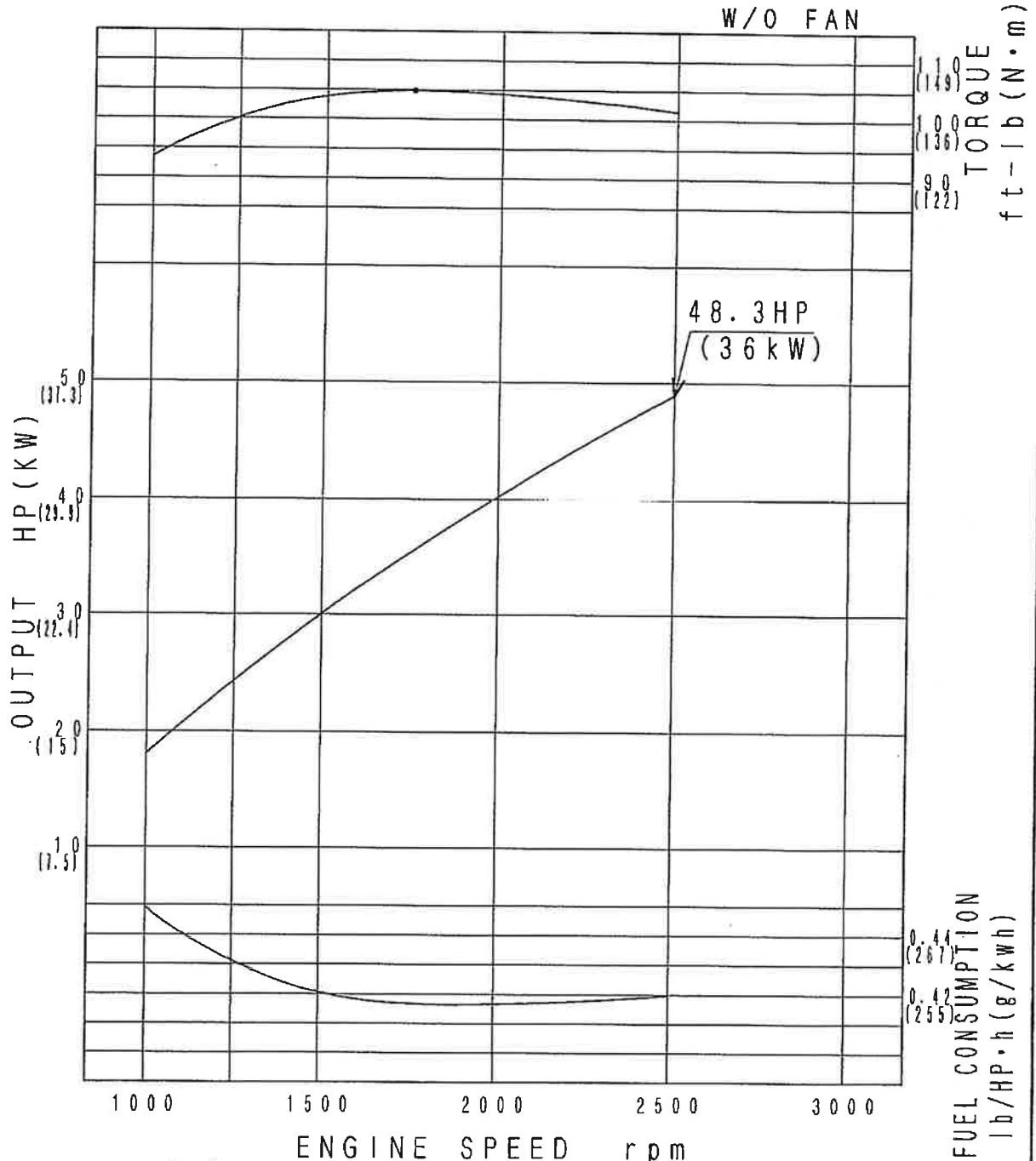
GOVERNING:

- Mechanical governing is provided for either variable or constant speeds

DRIVES:

- SAE 4 flywheel housing and 7.5 inch flywheel (GD & VS models)
- Rotation direction: counter-clockwise, facing the flywheel end
- Side PTO drives are available for mounting at the gear end

MITSUBISHI DIESEL ENGINE MODEL S4Q2 PERFORMANCE CURVE



RATED BHP is the power rating for variable speed and load applications where full power is required intermittently. POWER OUTPUT is within + or - 5% at standard SAE J 1995 and ISO 3046 (Without Fan).

12V GENPRO SERIES

GENPRO10X4
40A 4 BANK
10A 10A 10A 10A

GENPRO10X3
30A 3 BANK
10A 10A 10A

GENPRO10X2
20A 2 BANK
10A 10A

GENPRO10X1
10A 1 BANK
10A



WATERPROOF ON-BOARD BATTERY CHARGERS.™

IP68 100% WATERPROOF.

The GENPRO series is 100% waterproof and designed to withstand hours underwater. On-board chargers built for extreme conditions.

0.0V FORCE MODE.

For extremely dead batteries lower than 1-volt, manually turn on force mode to detect and charge batteries all the way down to zero volts.

24/7 ZERO OVERCHARGE.

Safely charge any battery year-round. Charge continuously without user intervention and with zero risk of overcharging your battery.

12V MULTI-CHEMISTRY, MULTI-TYPE.

Charge flooded, gel, maintenance-free, AGM, and lithium batteries. For use with starter, deep-cycle, marine batteries, and more.

NOCO genius GENPRO 10X3

NOCO

30339 Diamond Parkway, #102
Genworth, OH 44130 | USA
1.800.456.6626

no.co

LEAD ACID

WET

GEL

MF

EPB

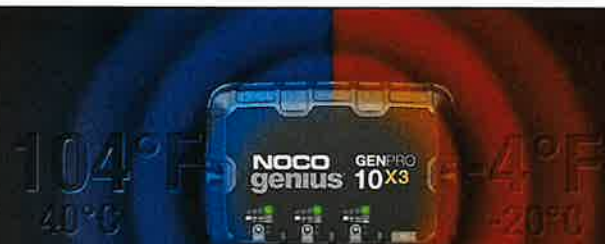
AGM

LI-ION

STARTER | DEEP CYCLE | DUAL-PURPOSE



GENPRO 10X1



CHARGING MODES

12V

Used for 12V wet cell, gel, enhanced flooded, maintenance-free, & calcium batteries.



AGM

Used for 12V AGM or maintenance-free batteries.



LITHIUM

Used for 12V lithium-ion batteries (including lithium iron phosphate). Only for batteries with Battery Management Systems (BMS).



REPAIR

Used to repair old, idle, damaged, stratified, or sulfated batteries.



ADVANCED DIAGNOSTICS

STANDBY

The charger is in standby or the battery voltage is too low for the charger to detect.



BAD BATTERY

There is a possible battery short or the battery will not hold a charge. Consult a professional.



HIGH VOLTAGE

The battery voltage is too high for the selected charge mode. Check the battery and charge mode.



REVERSE POLARITY

Charger is connected to the battery in reverse. Reverse the connections.



THERMAL COMPENSATION.

The new integrated thermal sensor automatically monitors and adjusts the charging cycle based on fluctuations of ambient temperature. Avoids under-charging in cold weather down to -4°F and avoids over-charging in hot weather up to 104°F.

CHARGING TIMES

Battery Size	Charging Time
20Ah	1.5hr
40Ah	3hr
80Ah	6hr
100Ah	7hr
230Ah	17.3hr

Approximate charging times at 50% depth of discharge.

FORCE MODE

Used to charge batteries below 1V. All charge mode LED's will flash and the selected mode will illuminate. Management Systems (BMS).



GENPRO10X1

GENPRO10X2

GENPRO10X3

GENPRO10X4

	GENPRO10X1	GENPRO10X2	GENPRO10X3	GENPRO10X4
CHARGING CURRENT:	10A	20A	30A	40A
CURRENT PER BANK:			10A	
OUTPUT POWER:	150 W	300 W	450 W	600 W
CHARGING BANKS:	1	2	3	4
DIMENSIONS:	5.7 x 4.8 x 2.8in (145 x 122 x 71mm)	8.1 x 5.8 x 2.9in (206 x 147 x 74mm)	10.5 x 7.4 x 2.8in (267 x 188 x 71mm)	11.3 x 8.3 x 2.8in (287 x 211 x 71mm)
WEIGHT:	4 lbs (1.81 kg)	7.2 lbs (3.27 kg)	12.8 lbs (5.81 kg)	15.5 lbs (7.03 kg)
WHATS IN THE BOX:	<ul style="list-style-type: none"> GENPRO10X1 On-Board Battery Charger (2) #8 27mm Self-Tapping Screws User Guide & Warranty 	<ul style="list-style-type: none"> GENPRO10X2 On-Board Battery Charger (2) #8 27mm Self-Tapping Screws User Guide & Warranty 	<ul style="list-style-type: none"> GENPRO10X3 On-Board Battery Charger (2) #8 27mm Self-Tapping Screws User Guide & Warranty 	<ul style="list-style-type: none"> GENPRO10X4 On-Board Battery Charger (2) #8 27mm Self-Tapping Screws User Guide & Warranty
VOLUMETRICS:	<p>Retail Packaging: Dimensions: 7.6" x 7.2" x 6.1" Weight: 5.3 lbs UPC: 0-46221-19047-2</p> <p>Master Carton: Dimensions: 8.5" x 8.1" x 13.7" Weight: 12 lbs Quantity: 2 UCC: 10046221190479</p> <p>Inner Carton: Dimensions: 7.9" x 7.5" x 6.4" Weight: 2.95lbs</p>	<p>Retail Packaging: Dimensions: 10.7" x 9.2" x 6.3" Weight: 19.0 lbs UPC: 0-46221-19048-9</p> <p>Master Carton: Dimensions: 11.3" x 10" x 13.1" Weight: 29.0 lbs Quantity: 2 UCC: 10046221190486</p> <p>Inner Carton: Dimensions: 10.7" x 9.2" x 6.3" Weight: 9.1 lbs</p>	<p>Retail Packaging: Dimensions: 12.9" x 10.7" x 6.1" Weight: 13.4 lbs UPC: 0-46221-19049-6</p> <p>Master Carton: Dimensions: 13.7" x 11.6" x 15.5" Weight: 29.2 lbs Quantity: 2 UCC: 0046221190493</p> <p>Inner Carton: Dimensions: 13.1" x 11.6" x 15.5" Weight: 14.1 lbs</p>	<p>Retail Packaging: Dimensions: 13.8" x 11.7" x 6.1" Weight: 16.9 lbs UPC: 0-46221-19050-2</p> <p>Master Carton: Dimensions: 10.9" x 9.6" x 12.1" Weight: 35.9 lbs Quantity: 2 UCC: 10046221190509</p> <p>Inner Carton: Dimensions: 13.9" x 11.9" x 6.3" Weight: 17.5 lbs</p>

TECHNICAL SPECIFICATIONS

INPUT/WORKING VOLTAGE AC:	120-240 VAC, 50-60Hz	AMBIENT TEMPERATURE:	-20°C to +50°C
LOW-VOLTAGE DETECTION:	1V (12V)	HOUSING PROTECTION:	IP68
BACK CURRENT DRAIN:	<0.5mA	COOLING:	Natural Convection

NOCO

30339 Diamond Parkway, #102
Glenview, OH 44139 USA
1.800.456.6526

no.co



GODWIN PUMPS OF AMERICA, INC.

UL-142 Listed Skid Base Tank Specification

- 1) The Skid base tank shall be manufactured by MGS Incorporated or approved subcontractor and be a UL-142 approved double wall design constructed in accordance with Flammable and Combustible Liquids Code, NFPA 30; The Standard for Installation and use of Stationary Combustible Engine and Gas Turbines, NFPA 37; and The Standard for Emergency and Standby Power Systems, NFPA 110.
- 2) The tank design shall be a Closed Top Dike Containment Base Tank. It shall be of double wall construction having a primary tank to contain the diesel fuel, held within a dike that is intended to collect and contain any accidental leakage from the primary fuel tank. The completed base tank assembly is to incorporate skid mounting locations and must be able to support four times the rated load.
- 3) The primary tank shall be designed to withstand normal and emergency internal pressures and external loads. It shall be capable of withstanding internal air pressures of 3 to 5 psig without showing signs of excessive or permanent distortion and 25-psig hydrostatic pressure without evidence of rupture or leakage. The outer tank of the Secondary Containment Skid Base Tank must also be able to withstand internal air pressures of 3 to 5 psig without evidence of rupture or leakage.
- 4) The primary tank and containment dike shall have venting provisions to prevent the development of vacuum or pressure capable of distorting them as a result of the atmospheric temperature changes or while emptying or filling. The vent shall also permit the relief of internal pressures caused by exposure to fires. The vent size shall be determined by using the calculated wetted surface area in square feet (the top is excluded) in conjunction with venting capacity table 10.1 of UL-142. The tank's vent shall also be equipped with a coupling device and shall be located to facilitate connection to a vent piping system. The dike's vent may be an opening for venting directly to the atmosphere and protection from the entrance of natural elements or debris shall be provided.
- 5) The primary tank is to be constructed of 7 gauge ASTM A569 or A-36 hot rolled steel. Internal baffles or reinforcement plates shall be located on a maximum of 24 inch centers in tanks up to 60 inch width and on a maximum of 19.5 inch centers in tanks over 60 inch width. At least one baffle shall separate the fuel suction pipe from the fuel return line.
- 6) The outer tank is to be constructed in a manner to be able to support four times the wet load of the skid and housing. The entire load is to be carried by the outer tank so no load or vibration stress is placed on the primary tank. If the skid base tank is wider than the skid set to be supported, structural rails are to be incorporated to span the width of the base tank so that the load is transferred to the side rails of the tank. Vertical reinforcements shall be welded to the outer sides of the secondary tank or dike at a maximum of 45-inch centers on tanks up to 30 inches high and on 24-inch centers on tanks greater than 30 inches high. At least one vertical reinforcement shall be positioned adjacent to each mounting hole location.

GODWIN PUMPS OF AMERICA, INC.

UL-142 Listed Skid Base Tank Specification

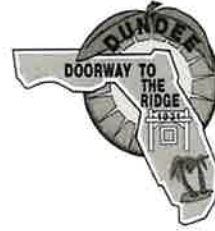
7) Both the primary tank and containment dike shall be fitted with the proper welded pipe fittings to accommodate the requirements for the fill port and normal and emergency venting.

8) The completed assembly is to be cleaned with a heated pressure wash followed by a chromium free post treatment to ensure proper paint adhesion. The tank assembly is to be painted with an epoxy ester primer and high quality polyurethane enamel with total paint thickness of 3.5 mils. The painted tank assembly is to be baked at 180 degrees for 30 minutes to provide a hard durable finish.

9) Manufacturing and testing of this system shall be performed within the scope of Underwriters Laboratories, Inc. "Standard for Safety UL 142." A UL label shall be permanently attached to the tank system showing the following information:

- The registered UL mark and the name: Underwriters Laboratories, Inc.
- A control number and the word "listed"
- The product's name as identified by Underwriters Laboratories Inc.
- The serial number assigned by Underwriters Laboratories, Inc.
- Other manufacturer's information may also be included.

**TOWN OF DUNDEE
PRICE QUOTE SHEET**



DATE: 4-18-2024

DEPARTMENT: Public Utilities

NAME OF PERSON SECURING THE QUOTE: Raymond Morales

GENERAL DESCRIPTION OF ITEM: Required Emergency Generators Inspections & Preventative Maintenance

Vendor Selected:

VENDOR #1

COMPANY NAME: Mid Florida Diesel Generator
CONTACT NUMBER: 07262023 NAME OF REPRESENTATIVE: Suzanns McCoy
PRICE: \$10,730.00 SHIPPING: _____
COMMENTS: _____

Vendor Selected:

VENDOR #2

COMPANY NAME: Ring Power - CAT
CONTACT NUMBER: 769970 NAME OF REPRESENTATIVE: Tyler Harden
PRICE: \$41,484.86 SHIPPING: _____
COMMENTS: _____

Vendor Selected:

VENDOR #3

COMPANY NAME: TWA Tampa Armature Works
CONTACT NUMBER: No Bid NAME OF REPRESENTATIVE: _____
PRICE: _____ SHIPPING: _____
COMMENTS: Failed to Make Site Visit - NO RESPONSE

DEPARTMENT DIRECTOR/SUPERVISOR: Tracy Mercer *Tracy Mercer* DATE: 4-18-2024

FINANCE DIRECTOR APPROVAL: _____ DATE: _____

TOWN MANAGER APPROVAL: _____ DATE: _____

ADDITIONAL COMMENTS: _____

SOLE SOURCE JUSTIFICATION: _____

Unit	Make/Model	Type	Developments	Tank Capacity	Totals
350KW	Blue Star	122995-1-1	Walden Vista	710	\$5,324.13
100KW	Blue Star	120149-1-1	Sol Vista	250	\$3,362.17
30KW	Blue Star	121519-1-1	Hilltop Estates Sub	140	\$3,190.43
600KW	CAT	EKW00866	Hickory Water Plant	1500	\$7,519.30
600KW	CAT	9EP03701	Waste Water Plant	2250	\$7,551.21
150KW	Generac	3002361870	Fire Department	↙ Natural Gas	\$2,711.89
200KW	Olympian	NNS02565	Riley's Grove	1000	\$4,117.41
230KW	Generac	2084042	Riner Plant	500	\$4,996.43
150KW	Town Hall	3002349593	Town Hall	↙ Natural Gas	\$2,711.89
Total					\$41,484.86



Power Systems Division

Ring Power Corp.
10421 Fern Hill Dr
Riverview, FL 33578
Normal Hours - 7:30am-4:00pm

3 Year - Customer Value Agreement (CVA)

Quote Date: January 9, 2024 Effective Date: Upon signature

Table with company and service contact information. Company: Town of Dundee, Contact: Raymond Morales, Address: PO Box 1000, City, St, Zip: Dundee FL, 133838, Account: 769970, Unit Location: Walden Vista Sub. Service Contact Name: Raymond Morales, Phone: 863-289-0755, Email: Rmorales@townofdundee.com. Owner Contact Name: Raymond Morales, Phone: 863-289-0755, Email: Rmorales@townofdundee.com.

Equipment specifications table. Includes GenSet (Blue Star, S/N: 122995-1-1, Model: VD350-01), Engine (Volvo, S/N:), Fuel Tank (Belly, S/N:), Tfr Switch (S/N:), KW: 350, Voltage: 480, GenEnd S/N: , Arrangement: , Primary Tank Capacity: 710, Day Tank Capacity: , Amperage: .

Pricing for Service Levels table. Columns: Service Level, Price Each, Qty, Total. Rows: Technical Analysis (T/A) - (\$560.00, 1, \$560.00), Annual Maintenance with T/A - (\$1,869.94, 1, \$1,869.94), Load Bank Testing Only - (\$1,942.31, 1, \$1,942.31), Fuel Tank Inspection with Fuel Quality Analysis - (\$951.88, 1, \$951.88).

Annual Total \$ 5,324.13

Payment Options:

- PM [x] As performed [] Yearly \$4,372.25
Fuel Tank [x] As performed [] Yearly \$951.88
AES [] As performed [] Yearly

**See Next Page for a detailed Scope of Work to be completed.

State sales tax and misc supply fees to apply to quoted prices, and are not included in the above total

This estimate is made subject to the buyer's acceptance within thirty (30) days from this date. Pricing is guaranteed for the term of the agreement. In the event the Consumer Price Index published by the US Bureau of Labor Statistics described by the identifier CUUR000SA0 - Consumer Price Index All Urban Consumers exceeds 3% for the previous 12 months of the agreement, Ring Power reserves the right to adjust the pricing of this agreement, not to exceed the 12-month CPI change more than 3%. Agreements will auto-renew at the expiration date without interruption for 12 months and are subject to annual pricing adjustments. The agreement can be canceled by either party at any time. All Ring Power standard terms and conditions apply.

Ring Power Systems technicians are covered by Workman's Compensation insurance. In no event shall Ring Power Systems be liable for any indirect, special or consequential damages, such as, but not limited to, loss of anticipated profits or other economic loss in connection with, or arising out of, furnishing, functioning or the use of any items of equipment or services provided for in this agreement. If the equipment is not available for service at the scheduled time, the customer will be billed time and travel costs.

Authorization:

Accepted By: PO #:
Customer Print:
Customer Sign:
Date:

Quoted By:
PSSR: Tyler Harden
Sign:
Date:

Salesperson: Tyler Harden Office: (813) 671-3700 Cell: (813) 919-4292 Email: Tyler.Harden@RingPower.com
Service Dept: Levi Pauley Office: (813) 865-2309 Cell: (813)-538-8338 Email: Levi.Pauley@ringpower.com

Normal Business Hours - 7:30am-4:00pm M-F EMERGENCY AFTER HOURS: (813) 781-8639

Scope of Work Description

Technical Analysis

- Qualified technician to perform 52 point Technical Analysis
- Chemically test engine coolant.
- Take oil sample to have Ring Power Oil Laboratory analyze. If any problems are found we will advise you immediately to determine a plan of action.
- Provide service report, this will advise of any problems noted with unit.

Annual Maintenance and Technical Analysis

- Qualified technician to perform 52 point Technical Analysis and document in an inspection report.
- Take a coolant sample to have Ring Power Oil Laboratory analyze for wear metals, contaminants, and coolant condition.
- Take an oil sample to have Ring Power Oil Laboratory analyze for wear metals, contaminants, and condition.
- Change engine oil filter(s), Change fuel filter(s)
- Drain engine crankcase oil & refill to proper capacity
- Test run of the engine to ensure no leaks, will prime fuel system if necessary
- Dispose of used oil and filters adhering to EPA regulations
- Provide an Inspection report, this will advise of any problems noted with the unit. We will secure your authorization before proceeding with any repairs.
- A detailed report of all fluid analyses will be provided if any results appear to be actionable or as requested by the customer.

Load Bank Testing (LBT) and Technical Analysis (Annually at time of Annual Service)

- Provide load bank test equipment and technician to perform load bank testing.
- Thermal heat scan of engine, generator, and radiator

Annual Fuel Tank Inspection

In accordance with ASTM D-975 and FDEP Regulations 62-762.501 & 62-762.601

- Complete a field report of the covered equipment's condition, including but not limited to: emergency vents, vent tube, fuel gauge, fill cap, drop/fill tubes, gaskets and tank monitoring equipment.
- Notification of an non-compliance issues (written documentation)

Fuel Tank Inspection with Fuel Quality Analysis:

- Fuel samples taken depth equivalent of the pickup tube.
- Check sumps and fuel lines
- Add bacterial & fungal growth blend inhibitor

Chemical Lab Analysis Includes:

- API Gravity
- Cetane Index
- Bottom sediment & water
- Sulfur
- Distillation (Boiling point, end point, recovered percentages)
- Thermal stability
- Bacterial
- % Residue



Ring Power Corp.
 10421 Fern Hill Dr
 Riverview, FL 33578
 Normal Hours - 7:30am-4:00pm

3 Year - Customer Value Agreement (CVA)

Quote Date: January 9, 2024	Effective Date: Upon signature
Company: Town of Dundee	Service Contact Name: Raymond Morales
Contact: Raymond Morales	Phone: 863-289-0755
Address: PO Box 1000	Email: Rmorales@townofdundee.com
City, St, Zip: Dundee FL, 133838	Owner Contact Name: Raymond Morales
Account: 769970	Phone: 863-289-0755
Unit Location: Sol Vista Sub	Email: Rmorales@townofdundee.com

Genset Make: Blue Star	S/N: 120149-1-1	Model: JD100-01	KW: 100	Voltage: 240	GenEnd S/N:
Engine Make: John Deere	S/N: PE4045N038380	Model: 4045HF285	Arrangement:		
Fuel Tank Make: Belly	S/N:		Primary Tank Capacity: 250	Day Tank Capacity:	
Tfr Switch Make:	S/N:	Model:	Amperage:		

Pricing for Service Levels:	Price Each	Qty	Total
Technical Analysis (T/A) -	\$560.00	1	\$560.00
Annual Maintenance with T/A -	\$932.35	1	\$932.35
Load Bank Testing Only -	\$917.93	1	\$917.93
Fuel Tank Inspection with Fuel Quality Analysis -	\$951.88	1	\$951.88

Annual Total \$ 3,362.17

Payment Options:

PM	<input checked="" type="checkbox"/> As performed	<input type="checkbox"/> Yearly \$2,410.28
Fuel Tank	<input checked="" type="checkbox"/> As performed	<input type="checkbox"/> Yearly \$951.88
AES	<input type="checkbox"/> As performed	<input type="checkbox"/> Yearly

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Authorization:

Accepted By: _____	PO #: _____	Quoted By: _____
Customer Print: _____		PSSR: Tyler Harden
Customer Sign: _____		Sign: _____
Date: _____		Date: _____

Salesperson: Tyler Harden	Office: (813) 671-3700	Cell: (813) 919-4292	Email: Tyler.Harden@RingPower.com
Service Dept: Levi Pauley	Office: (813) 865-2309	Cell: (813)-538-8338	Email: Levi.Pauley@ringpower.com

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- Bacterial
- % Residue



Ring Power Corp.
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3 Year - Customer Value Agreement (CVA)

Quote Date: January 9, 2024 Effective Date: Upon signature

Company: Town of Dundee	Service Contact Name: Raymond Morales
Contact: Raymond Morales	Phone: 863-289-0755
Address: PO Box 1000	Email: Rmorales@townofdundee.com
City, St, Zip: Dundee FL, 133838	Owner Contact Name: Raymond Morales
Account: 769970	Phone: 863-289-0755
Unit Location: Hilltop Estates Sub	Email: Rmorales@townofdundee.com

Genset Make: Blue Star	S/N: 121519-1-1	Model: JD30-03IT4	KW: 30	Voltage: 240	GenEnd S/N:
Engine Make: John Deere	S/N: CD3029L331695	Model: 3029TFH89	Arrangement:		
Fuel Tank Make: Belly	S/N:		Primary Tank Capacity: 140	Day Tank Capacity:	
Tfr Switch Make:	S/N:	Model:	Amperage:		

Pricing for Service Levels:	Price Each	Qty	Total
Technical Analysis (T/A) -	\$560.00	1	\$560.00
Annual Maintenance with T/A -	\$850.30	1	\$850.30
Load Bank Testing Only -	\$828.26	1	\$828.26
Fuel Tank Inspection with Fuel Quality Analysis -	\$951.88	1	\$951.88

Annual Total \$ 3,190.43

Payment Options:

PM	<input checked="" type="checkbox"/> As performed	<input type="checkbox"/> Yearly \$2,238.55
Fuel Tank	<input checked="" type="checkbox"/> As performed	<input type="checkbox"/> Yearly \$951.88
AES	<input type="checkbox"/> As performed	<input type="checkbox"/> Yearly

****See Next Page for a detailed Scope of Work to be completed.**

****State sales tax and misc supply fees to apply to quoted prices, and are not included in the above total****

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Authorization:

Accepted By: _____	PO #: _____	Quoted By: _____
Customer Print: _____		PSSR: Tyler Harden
Customer Sign: _____		Sign: _____
Date: _____		Date: _____

Salesperson: Tyler Harden	Office: (813) 671-3700	Cell: (813) 919-4292	Email: Tyler.Harden@RingPower.com
Service Dept: Levi Pauley	Office: (813) 865-2309	Cell: (813)-538-8338	Email: Levi.Pauley@ringpower.com

Normal Business Hours - 7:30am-4:00pm M-F EMERGENCY AFTER HOURS: (813) 781-8639

Scope of Work Description

Technical Analysis

- Qualified technician to perform 52 point Technical Analysis
- Chemically test engine coolant
- Take oil sample to have Ring Power Oil Laboratory analyze. If any problems are found we will advise you immediately to determine a plan of action.
- Provide service report, this will advise of any problems noted with unit.

Annual Maintenance and Technical Analysis

- Qualified technician to perform 52 point Technical Analysis and document in an inspection report.
- Take a coolant sample to have Ring Power Oil Laboratory analyze for wear metals, contaminants, and coolant condition.
- Take an oil sample to have Ring Power Oil Laboratory analyze for wear metals, contaminants, and condition.
- Change engine oil filter(s), Change fuel filter(s)
- Drain engine crankcase oil & refill to proper capacity
- Test run of the engine to ensure no leaks, will prime fuel system if necessary
- Dispose of used oil and filters adhering to EPA regulations
- Provide an Inspection report, this will advise of any problems noted with the unit. We will secure your authorization before proceeding with any repairs.
- A detailed report of all fluid analyses will be provided if any results appear to be actionable or as requested by the customer.

Load Bank Testing (LBT) and Technical Analysis (Annually at time of Annual Service)

- Provide load bank test equipment and technician to perform load bank testing.
- Thermal heat scan of engine, generator, and radiator

Annual Fuel Tank Inspection

In accordance with ASTM D-975 and FDEP Regulations 62-762.501 & 62-762.601

- Complete a field report of the covered equipment's condition, including but not limited to: emergency vents, vent tube, fuel gauge, fill cap, drop/fill tubes, gaskets and tank monitoring equipment.
- Notification of an non-compliance issues (written documentation)

Fuel Tank Inspection with Fuel Quality Analysis:

- Fuel samples taken depth equivalent of the pickup tube.
- Check sumps and fuel lines
- Add bacterial & fungal growth blend inhibitor

Chemical Lab Analysis Includes:

- API Gravity
- Cetane Index
- Bottom sediment & water
- Sulfur
- Distillation (Boiling point, end point, recovered percentages)
- Thermal stability
- Bacterial
- % Residue



Ring Power Corp.
 10421 Fern Hill Dr
 Riverview, FL 33578
 Normal Hours - 7:30am-4:00pm

3 Year - Customer Value Agreement (CVA)

Quote Date: January 9, 2024 Effective Date: Upon signature

Company: Town of Dundee Contact: Raymond Morales Address: PO Box 1000 City, St, Zip: Dundee FL, 133838 Account: 769970 Unit Location: Hickory Waste Water Plant	Service Contact Name: Raymond Morales Phone: 863-289-0755 Email: Rmorales@townofdundee.com Owner Contact Name: Raymond Morales Phone: 863-289-0755 Email: Rmorales@townofdundee.com
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Genset	Make: CAT	S/N: EKW00866	Model: LC7	KW: 600	Voltage: 480	GenEnd S/N: G7A02781
Engine	Make: CAT	S/N: EST00864	Model: C18	Arrangement:		
Fuel Tank	Make: Belly	S/N:		Primary Tank Capacity: 1500	Day Tank Capacity:	
Tfr Switch	Make:	S/N:	Model:	Amperage:		

Pricing for Service Levels:	Price Each	Qty	Total
Technical Analysis (T/A) -	\$560.00	1	\$560.00
Annual Maintenance with T/A -	\$2,668.25	1	\$2,668.25
Load Bank Testing Only -	\$3,157.62	1	\$3,157.62
Fuel Tank Inspection with Fuel Quality Analysis -	\$1,133.43	1	\$1,133.43

Annual Total \$ 7,519.30

Payment Options:

PM	<input checked="" type="checkbox"/> As performed	<input type="checkbox"/> Yearly \$6,385.87
Fuel Tank	<input checked="" type="checkbox"/> As performed	<input type="checkbox"/> Yearly \$1,133.43
AES	<input type="checkbox"/> As performed	<input type="checkbox"/> Yearly

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Accepted By: _____	PO #: _____	Quoted By: _____
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Customer Sign: _____		Sign: _____
Date: _____		Date: _____

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Service Dept: Levi Pauley	Office: (813) 865-2309	Cell: (813)-538-8338	Email: Levi.Pauley@ringpower.com

Normal Business Hours - 7:30am-4:00pm M-F EMERGENCY AFTER HOURS: (813) 781-8639

Scope of Work Description

Technical Analysis

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- Chemically test engine coolant.
- Take oil sample to have Ring Power Oil Laboratory analyze. If any problems are found we will advise you immediately to determine a plan of action.
- Provide service report, this will advise of any problems noted with unit.

Annual Maintenance and Technical Analysis

- Qualified technician to perform 52 point Technical Analysis and document in an inspection report.
- Take a coolant sample to have Ring Power Oil Laboratory analyze for wear metals, contaminants, and coolant condition.
- Take an oil sample to have Ring Power Oil Laboratory analyze for wear metals, contaminants, and condition.
- Change engine oil filter(s), Change fuel filter(s)
- Drain engine crankcase oil & refill to proper capacity
- Test run of the engine to ensure no leaks, will prime fuel system if necessary
- Dispose of used oil and filters adhering to EPA regulations
- Provide an Inspection report, this will advise of any problems noted with the unit. We will secure your authorization before proceeding with any repairs.
- A detailed report of all fluid analyses will be provided if any results appear to be actionable or as requested by the customer.

Load Bank Testing (LBT) and Technical Analysis (Annually at time of Annual Service)

- Provide load bank test equipment and technician to perform load bank testing.
- Thermal heat scan of engine, generator, and radiator

Annual Fuel Tank Inspection

In accordance with ASTM D-975 and FDEP Regulations 62-762.501 & 62-762.601

- Complete a field report of the covered equipment's condition, including but not limited to: emergency vents, vent tube, fuel gauge, fill cap, drop/fill tubes, gaskets and tank monitoring equipment.
- Notification of an non-compliance issues (written documentation)

Fuel Tank Inspection with Fuel Quality Analysis:

- Fuel samples taken depth equivalent of the pickup tube.
- Check sumps and fuel lines
- Add bacterial & fungal growth blend inhibitor

Chemical Lab Analysis Includes:

- API Gravity
- Cetane Index
- Bottom sediment & water
- Sulfur
- Distillation (Boiling point, end point, recovered percentages)
- Thermal stability
- Bacterial
- % Residue



Power Systems Division

Ring Power Corp.
10421 Fern Hill Dr
Riverview, FL 33578
Normal Hours - 7:30am-4:00pm

3 Year - Customer Value Agreement (CVA)

Quote Date: January 9, 2024 Effective Date: Upon signature

Table with company and service contact information. Includes fields for Company, Contact, Address, City, St, Zip, Account, Unit Location, Service Contact Name, Phone, Email, Owner Contact Name, Phone, Email.

Table with equipment specifications. Includes fields for Genset, Engine, Fuel Tank, Tfr Switch, Make, S/N, Model, KW, Voltage, GenEnd S/N, Arrangement, Primary Tank Capacity, Day Tank Capacity, Amperage.

Table for Pricing for Service Levels. Columns: Service Level, Price Each, Qty, Total. Rows include Technical Analysis (T/A), Annual Maintenance with T/A, Load Bank Testing Only, and Fuel Tank Inspection with Fuel Quality Analysis.

Annual Total \$ 7,551.21

Payment Options:

Form for payment options with checkboxes for PM, Fuel Tank, AES and frequency options (Yearly).

**See Next Page for a detailed Scope of Work to be completed.

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Authorization:

Form for authorization with fields for Accepted By, Customer Print, Customer Sign, Date, Quoted By, PSSR, Sign, Date.

Salesperson: Tyler Harden Office: (813) 671-3700 Cell: (813) 919-4292 Email: Tyler.Harden@RingPower.com
Service Dept: Levi Pauley Office: (813) 865-2309 Cell: (813)-538-8338 Email: Levi.Pauley@ringpower.com

Normal Business Hours - 7:30am-4:00pm M-F EMERGENCY AFTER HOURS: (813) 781-8639

Scope of Work Description

Technical Analysis

- Qualified technician to perform 52 point Technical Analysis
- Chemically test engine coolant.
- Take oil sample to have Ring Power Oil Laboratory analyze. If any problems are found we will advise you immediately to determine a plan of action.
- Provide service report, this will advise of any problems noted with unit.

Annual Maintenance and Technical Analysis

- Qualified technician to perform 52 point Technical Analysis and document in an inspection report.
- Take a coolant sample to have Ring Power Oil Laboratory analyze for wear metals, contaminants, and coolant condition.
- Take an oil sample to have Ring Power Oil Laboratory analyze for wear metals, contaminants, and condition.
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- A detailed report of all fluid analyses will be provided if any results appear to be actionable or as requested by the customer.

Load Bank Testing (LBT) and Technical Analysis (Annually at time of Annual Service)

- Provide load bank test equipment and technician to perform load bank testing.
- Thermal heat scan of engine, generator, and radiator

Annual Fuel Tank Inspection

In accordance with ASTM D-975 and FDEP Regulations 62-762.501 & 62-762.601

- Complete a field report of the covered equipment's condition, including but not limited to: emergency vents, vent tube, fuel gauge, fill cap, drop/fill tubes, gaskets and tank monitoring equipment.
- Notification of an non-compliance issues (written documentation)

Fuel Tank Inspection with Fuel Quality Analysis:

- Fuel samples taken depth equivalent of the pickup tube.
- Check sumps and fuel lines
- Add bacterial & fungal growth blend inhibitor

Chemical Lab Analysis Includes:

- API Gravity
- Cetane Index
- Bottom sediment & water
- Sulfur
- Distillation (Boiling point, end point, recovered percentages)
- Thermal stability
- Bacterial
- % Residue



Ring Power Corp.
 10421 Fern Hill Dr
 Riverview, FL 33578
 Normal Hours - 7:30am-4:00pm

3 Year - Customer Value Agreement (CVA)

Quote Date: January 9, 2024	Effective Date: Upon signature
Company: Town of Dundee	Service Contact Name: Raymond Morales
Contact: Raymond Morales	Phone: 863-289-0755
Address: PO Box 1000	Email: Rmorales@townofdundee.com
City, St, Zip: Dundee FL, 133838	Owner Contact Name: Raymond Morales
Account: 769970	Phone: 863-289-0755
Unit Location: Fire Department	Email: Rmorales@townofdundee.com

Genset Make: Generac	S/N: 3002361870	Model: QT15068JNAC	KW: 150	Voltage: 240	GenEnd S/N:
Engine Make:	S/N:	Model:	Arrangement:		
Fuel Tank Make: NG	S/N:		Primary Tank Capacity:	Day Tank Capacity:	
Tfr Switch Make:	S/N:	Model:	Amperage:		

Pricing for Service Levels:	Price Each	Qty	Total
Technical Analysis (T/A) -	\$560.00	1	\$560.00
Annual Maintenance with T/A -	\$1,007.37	1	\$1,007.37
Load Bank Testing Only -	\$1,144.52	1	\$1,144.52

Annual Total \$ 2,711.89

Payment Options:

PM	<input checked="" type="checkbox"/>	As performed	<input type="checkbox"/>	Yearly \$2,711.89
Fuel Tank	<input type="checkbox"/>	As performed	<input type="checkbox"/>	Yearly
AES	<input type="checkbox"/>	As performed	<input type="checkbox"/>	Yearly

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Accepted By: _____	PO #: _____	Quoted By: _____
Customer Print: _____		PSSR: Tyler Harden _____
Customer Sign: _____		Sign: _____
Date: _____		Date: _____

Salesperson: Tyler Harden	Office: (813) 671-3700	Cell: (813) 919-4292	Email: Tyler.Harden@RingPower.com
Service Dept: Levi Pauley	Office: (813) 865-2309	Cell: (813)-538-8338	Email: Levi.Pauley@ringpower.com

Normal Business Hours - 7:30am-4:00pm M-F **EMERGENCY AFTER HOURS:** (813) 781-8639

Scope of Work Description

Technical Analysis

- Qualified technician to perform 52 point Technical Analysis
- Chemically test engine coolant.
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- Provide service report, this will advise of any problems noted with unit.

Annual Maintenance and Technical Analysis

- Qualified technician to perform 52 point Technical Analysis and document in an inspection report.
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- Test run of the engine to ensure no leaks, will prime fuel system if necessary
- Dispose of used oil and filters adhering to EPA regulations
- Provide an Inspection report, this will advise of any problems noted with the unit. We will secure your authorization before proceeding with any repairs.
- A detailed report of all fluid analyses will be provided if any results appear to be actionable or as requested by the customer.

Load Bank Testing (LBT) and Technical Analysis (Annually at time of Annual Service)

- Provide load bank test equipment and technician to perform load bank testing.
- Thermal heat scan of engine, generator, and radiator



Power Systems Division

Ring Power Corp.
10421 Fern Hill Dr
Riverview, FL 33578
Normal Hours - 7:30am-4:00pm

3 Year - Customer Value Agreement (CVA)

Quote Date: January 9, 2024 Effective Date: Upon signature

Table with company and service contact information. Includes fields for Company, Contact, Address, City, St, Zip, Account, Unit Location, Service Contact Name, Phone, Email, Owner Contact Name, Phone, Email.

Table with equipment specifications. Includes fields for Genset, Engine, Fuel Tank, Tfr Switch, Make, Model, S/N, KW, Voltage, GenEnd S/N, Arrangement, Primary Tank Capacity, Day Tank Capacity, Amperage.

Table for Pricing for Service Levels. Columns: Description, Price Each, Qty, Total. Rows include Technical Analysis (T/A), Annual Maintenance with T/A, Load Bank Testing Only, Fuel Tank Inspection with Fuel Quality Analysis.

Annual Total \$ 4,117.41

Payment Options:

- PM [x] As performed [] Yearly \$3,165.53
Fuel Tank [x] As performed [] Yearly \$951.88
AES [] As performed [] Yearly

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Authorization:

Accepted By: PO #:
Customer Print:
Customer Sign:
Date:

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Sign:
Date:

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Scope of Work Description

Technical Analysis

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Load Bank Testing (LBT) and Technical Analysis (Annually at time of Annual Service)

- Provide load bank test equipment and technician to perform load bank testing.
- Thermal heat scan of engine, generator, and radiator

Annual Fuel Tank Inspection

In accordance with ASTM D-975 and FDEP Regulations 62-762.501 & 62-762.601

- Complete a field report of the covered equipment's condition, including but not limited to: emergency vents, vent tube, fuel gauge, fill cap, drop/fill tubes, gaskets and tank monitoring equipment.
- Notification of an non-compliance issues (written documentation)

Fuel Tank Inspection with Fuel Quality Analysis:

- Fuel samples taken depth equivalent of the pickup tube.
- Check sumps and fuel lines
- Add bacterial & fungal growth blend inhibitor

Chemical Lab Analysis Includes:

- API Gravity
- Cetane Index
- Bottom sediment & water
- Sulfur
- Distillation (Boiling point, end point, recovered percentages)
- Thermal stability
- Bacterial
- % Residue



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 Riverview, FL 33578
 Normal Hours - 7:30am-4:00pm

3 Year - Customer Value Agreement (CVA)

Quote Date: January 9, 2024	Effective Date: Upon signature
Company: Town of Dundee	Service Contact Name: Raymond Morales
Contact: Raymond Morales	Phone: 863-289-0755
Address: PO Box 1000	Email: Rmorales@townofdundee.com
City, St, Zip: Dundee FL, 133838	Owner Contact Name: Raymond Morales
Account: 769970	Phone: 863-289-0755
Unit Location: Riner Plant	Email: Rmorales@townofdundee.com

GenSet Make: Generac	S/N: 2084042	Model: 5482450100	KW: 230	Voltage: 480	GenEnd S/N:
Engine Make: T.R.A.D	S/N:	Model:	Arrangement:		
Fuel Tank Make: Belly	S/N:		Primary Tank Capacity: 500	Day Tank Capacity:	
Tfr Switch Make:	S/N:	Model:	Amperage:		

Pricing for Service Levels:	Price Each	Qty	Total
Technical Analysis (T/A) -	\$560.00	1	\$560.00
Annual Maintenance with T/A -	\$1,723.01	1	\$1,723.01
Load Bank Testing Only -	\$1,761.53	1	\$1,761.53
Fuel Tank Inspection with Fuel Quality Analysis -	\$951.88	1	\$951.88

Annual Total \$ 4,996.43

Payment Options:

PM As performed
 Yearly \$4,044.55
 Fuel Tank As performed
 Yearly \$951.88
 AES As performed
 Yearly

****See Next Page for a detailed Scope of Work to be completed.**

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Customer Print: _____		PSSR: Tyler Harden
Customer Sign: _____		Sign: _____
Date: _____		Date: _____

Salesperson: Tyler Harden **Office:** (813) 671-3700 **Cell:** (813) 919-4292 **Email:** Tyler.Harden@RingPower.com
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Scope of Work Description

Technical Analysis

- Qualified technician to perform 52 point Technical Analysis
- Chemically test engine coolant.
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Load Bank Testing (LBT) and Technical Analysis (Annually at time of Annual Service)

- Provide load bank test equipment and technician to perform load bank testing.
- Thermal heat scan of engine, generator, and radiator

Annual Fuel Tank Inspection

In accordance with ASTM D-975 and FDEP Regulations 62-762.501 & 62-762.601

- Complete a field report of the covered equipment's condition, including but not limited to: emergency vents, vent tube, fuel gauge, fill cap, drop/fill tubes, gaskets and tank monitoring equipment.
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- API Gravity
- Cetane Index
- Bottom sediment & water
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- Distillation (Boiling point, end point, recovered percentages)
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- Bacterial
- % Residue



Power Systems Division

Ring Power Corp.
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Riverview, FL 33578
Normal Hours - 7:30am-4:00pm

3 Year - Customer Value Agreement (CVA)

Quote Date: January 9, 2024 Effective Date: Upon signature

Company: Town of Dundee Contact: Raymond Morales Address: PO Box 1000 City, St, Zip: Dundee FL, 133838 Account: 769970 Unit Location: <u>Town Hall</u>	Service Contact Name: Raymond Morales Phone: 863-289-0755 Email: Rmorales@townofdundee.com Owner Contact Name: Raymond Morales Phone: 863-289-0755 Email: Rmorales@townofdundee.com
---	--

Genset	Make: Generac	S/N: 3002349593	Model: QT15068JNAC	KW: 150	Voltage: 240	GenEnd S/N:
Engine	Make:	S/N:	Model:	Arrangement:		
Fuel Tank	Make: NG	S/N:		Primary Tank Capacity:		Day Tank Capacity:
Tfr Switch	Make:	S/N:	Model:	Amperage:		

Pricing for Service Levels:	Price Each	Qty	Total
Technical Analysis (T/A) -	\$560.00	1	\$560.00
Annual Maintenance with T/A -	\$1,007.37	1	\$1,007.37
Load Bank Testing Only -	\$1,144.52	1	\$1,144.52

Annual Total \$ 2,711.89

Payment Options:

PM As performed Yearly \$2,711.89
 Fuel Tank As performed Yearly
 AES As performed Yearly

****See Next Page for a detailed Scope of Work to be completed.**

****State sales tax and misc supply fees to apply to quoted prices, and are not included in the above total****

This estimate is made subject to the buyer's acceptance within thirty (30) days from this date. Pricing is guaranteed for the term of the agreement. In the event the Consumer Price Index published by the US Bureau of Labor Statistics described by the identifier CUUR000SA0 - Consumer Price Index All Urban Consumers exceeds 3% for the previous 12 months of the agreement, Ring Power reserves the right to adjust the pricing of this agreement, not to exceed the 12-month CPI change more than 3%. Agreements will auto-renew at the expiration date without interruption for 12 months and are subject to annual pricing adjustments. The agreement can be canceled by either party at any time. All Ring Power standard terms and conditions apply.

Ring Power Systems technicians are covered by Workman's Compensation insurance. In no event shall Ring Power Systems be liable for any indirect, special or consequential damages, such as, but not limited to, loss of anticipated profits or other economic loss in connection with, or arising out of, furnishing, functioning or the use of any items of equipment or services provided for in this agreement. If the equipment is not available for service at the scheduled time, the customer will be billed time and travel costs.

Authorization:

Accepted By: _____	PO #: _____	Quoted By: _____
Customer Print: _____		PSSR: <u>Tyler Harden</u>
Customer Sign: _____		Sign: _____
Date: _____		Date: _____

Salesperson: Tyler Harden **Office:** (813) 671-3700 **Cell:** (813) 919-4292 **Email:** Tyler.Harden@RingPower.com
Service Dept: Levi Pauley **Office:** (813) 865-2309 **Cell:** (813)-538-8338 **Email:** Levi.Pauley@ringpower.com

Normal Business Hours - 7:30am-4:00pm M-F EMERGENCY AFTER HOURS: (813) 781-8639

Scope of Work Description

Technical Analysis

- Qualified technician to perform 52 point Technical Analysis
- Chemically test engine coolant
- Take oil sample to have Ring Power Oil Laboratory analyze. If any problems are found we will advise you immediately to determine a plan of action.
- Provide service report, this will advise of any problems noted with unit.

Annual Maintenance and Technical Analysis

- Qualified technician to perform 52 point Technical Analysis and document in an inspection report.
- Take a coolant sample to have Ring Power Oil Laboratory analyze for wear metals, contaminants, and coolant condition.
- Take an oil sample to have Ring Power Oil Laboratory analyze for wear metals, contaminants, and condition.
- Change engine oil filter(s), Change fuel filter(s)
- Drain engine crankcase oil & refill to proper capacity
- Test run of the engine to ensure no leaks, will prime fuel system if necessary
- Dispose of used oil and filters adhering to EPA regulations
- Provide an Inspection report, this will advise of any problems noted with the unit. We will secure your authorization before proceeding with any repairs.
- A detailed report of all fluid analyses will be provided if any results appear to be actionable or as requested by the customer.

Load Bank Testing (LBT) and Technical Analysis (Annually at time of Annual Service)

- Provide load bank test equipment and technician to perform load bank testing.
- Thermal heat scan of engine, generator, and radiator

**TOWN OF DUNDEE
PRICE QUOTE SHEET**



DATE: 4-18-2024

DEPARTMENT: Public Utilities

NAME OF PERSON SECURING THE QUOTE: Raymond Morales

GENERAL DESCRIPTION OF ITEM: Required Emergency Generators Inspections & Preventative Maintenance

Vendor Selected:

VENDOR #1

COMPANY NAME: Mid Florida Diesel Generator
CONTACT NUMBER: 07262023 NAME OF REPRESENTATIVE: Suzanns McCoy
PRICE: \$10,730.00 SHIPPING: _____
COMMENTS: _____

Vendor Selected:

VENDOR #2

COMPANY NAME: Ring Power - CAT
CONTACT NUMBER: 769970 NAME OF REPRESENTATIVE: Tyler Harden
PRICE: \$41,484.86 SHIPPING: _____
COMMENTS: _____

Vendor Selected:

VENDOR #3

COMPANY NAME: TWA Tampa Armature Works
CONTACT NUMBER: No Bid NAME OF REPRESENTATIVE: _____
PRICE: _____ SHIPPING: _____
COMMENTS: Failed to Make Site Visit - NO RESPONSE

DEPARTMENT DIRECTOR/SUPERVISOR: Tracy Mercer *Tracy Mercer* DATE: 4-18-2024

FINANCE DIRECTOR APPROVAL: _____ DATE: _____

TOWN MANAGER APPROVAL: _____ DATE: _____

ADDITIONAL COMMENTS: _____

SOLE SOURCE JUSTIFICATION: _____