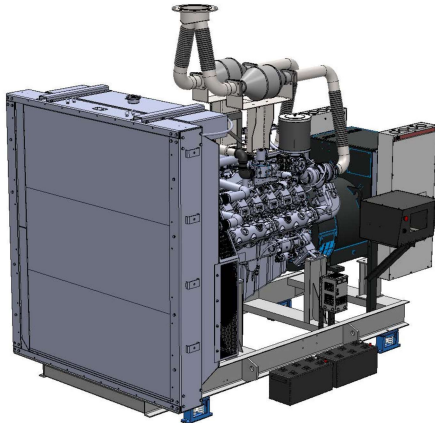


Version Code: A01



- 500                      **kWe**
- 208-4160              **Volt**
- 60    **Hz / 1800 RPM**
- Natural Gas          **Fuel Type**
- Standby                **Application**

### RATINGS

	VOLTAGE	Hz	PHASE	PF	PRIME POWER 105°C		STANDBY POWER 125°C		Standard Breaker*	Oversized Alternator Available
					kW/kVa	Amps	kW/kVa	Amps		
<input type="checkbox"/>	120/240 V	60	1	1	N / A	---	N / A	---	---	---
<input type="checkbox"/>	120/208 V	60	3	0.8	N / A	---	500 / 625	1734	2000A (100%)	N / A
<input type="checkbox"/>	139/240 V	60	3	0.8	N / A	---	500 / 625	1503	1600A (100%)	N / A
<input type="checkbox"/>	240/416 V	60	3	0.8	N / A	---	500 / 625	867	1000A (100%)	N / A
<input type="checkbox"/>	277/480 V	60	3	0.8	N / A	---	500 / 625	751	800A (100%)	N / A
<input type="checkbox"/>	347/600 V	60	3	0.8	N / A	---	500 / 625	601	600A (100%)	OPTIONAL
<input type="checkbox"/>	2400/4160 V	60	3	0.8	N / A	---	T.B.D.	T.B.D.	TBA	N / A

All ratings are based on ISO-8528-1 and ISO-3046-1 standards. Consult factory for other voltages/ratings.

Prime ratings are capable of 10% overload power for 1-hour in every 12-hours running.

\*Other circuit breaker ratings are available.

### STANDARD EQUIPMENT

#### Engine

- Radiator cooled unit mounted
- Pusher Fan & Fan Drive
- Starter & Alternator
- Oil Pump & Filter
- Oil Drain Extension with Valve
- Governor - Electronic Isochronous
- Battery System & Cables
- Air Cleaner (dry single stage)
- Flexible Fuel Connector

#### Generator

- Brushless Single Bearing
- Automatic Voltage Regulator
- ± .25% Voltage Regulator
- 4 Pole, Rotating Field
- Class F Temperature Rise
- Class H Insulation
- 100% of Rated Load - One Step
- 5% Maximum Harmonic Content
- Nema MG 1, IEEE and ANIS Standards

#### Additional

- Microprocessor Based Digital Controller
- Generator Mounted, NEMA, Control Panel
- Base - Structural Steel
- Main Line Circuit Breaker
- Battery Charger
- Jacket Water Heater with Isolation Valves
- Vibration Isolation Mounts (Spring)
- Single Source Supplier
- 1 YR/1500 HR Standby Warranty



## ENGINE SPECIFICATIONS

Model----- 22LHO-NG  
 Make----- Power Solutions Int'l.  
 Aspiration Type----- Turbo, Charge-Air-Cooled  
 Cylinder Arrangement----- Vee 12  
 Combustion Type----- Spark Ignition  
 Displacement: in3(L) ----- 1,336 (21.9)  
 Bore x Stroke: in(mm)----- 5.04 x 5.59 (128 x 142)  
 Compression Ratio----- 10.5:1  
 Governor Type----- Isochronous ECU  
 0-100% Load Frequency Regulation----- -17.6%  
 Steady State Frequency Regulation----- +/- 0.25%  
 Rated Speed:RPM----- 1800  
 Gross Power:BHP(kWm)----- 764 (570)

## FUEL SYSTEM

Fuel Type----- Natural Gas  
 Supply Inlet Connection----- 2" NPT  
 Recommended Inlet Pressure:--- 16" - 20" w.c. (4 - 5 kPa)  
 Max. Supply Piping Press. Drop: 1" w.c. (0.25 kPa)

## FUEL CONSUMPTION

Max Standby BTUH at 1000 BTU/Ft 3- 5,570,160  
 Max Prime BTUH at 1000 BTU/Ft 3--- N / A  
 75% Standby BTUH at 1000 BTU/Ft 3- 4,177,620  
 50% Standby BTUH at 1000 BTU/Ft 3- 2,785,080

## EXHAUST SYSTEM

Engine Manifold Type----- Water-Cooled  
 Exhaust Flow: cfm (m3/min)----- 2,870 (81)  
 Exhaust Temperature: °F (°C)----- 1,244 (674)  
 Max Back Press: "wc (kPa)----- 20,48 (5.1)

## EXHAUST EMISSIONS

Nitrogen Oxides(NOx)----- 0.013 g/kw-hr  
 Particulate Matter (PM)----- 0.0 g/kw-hr  
 NM Hydrocarbon (NMHC)----- 0.0 g/kw-hr  
 Carbon Monoxide (CO)----- 0.228 g/kw-hr  
 EPA Certification----- Stationary Emergency  
 MOE Standby Compliant----- O. Reg. 524/98  
 MOE Non-Emergency Compliant----- EBR # 010-2463

## ELECTRICAL SYSTEM

Starting Voltage: DCV----- 24  
 Alternator Ratings:AMPS----- 45  
 Min. Battery: QTY x CCA----- 2x 900

## LIQUID CAPACITY

Total Oil System: USG (L)----- 10.6 (40)  
 Engine Coolant: USG (L)----- 11.6 (44)  
 Engine + Radiator Coolant: USG(L)- 50.2 (190)

## LUBRICATION SYSTEM

Type ----- Full Pressure  
 Oil Filter: QTY x Type----- 2x Spin-On  
 Oil Cooler----- Integral

## COOLING SYSTEM

Cooler Type----- Unit-Mounted Radiator  
 Max Ambient Temp: °C----- 50  
 Water Pump Type----- Centrifugal  
 Fan Type----- Pusher  
 Fan Power: HP (kWm)----- 42 (31)

## AIR REQUIREMENTS

Combustion Air: cfm (m3/min)----- 917 (26)  
 Cooling Air: cfm (m3/min)----- 39,995 (1,133)  
 Max Back Press: "wc (kPa)----- 0.5 (0.12)

## HEAT REJECTION TO AMBIENT AIR

Engine: BTUM (kW)----- 1,565 (27.5)  
 600V Alternator: BTUM (kW)----- 1,649 (29)

## AC ALTERNATOR

Make ----- Stamford  
 Type----- S5 Series  
 Exciter Type----- Permanent Magnet  
 Voltage Regulator----- MX321  
 Winding Insulation----- Class H  
 Stator Pitch----- 2/3  
 Bearing: QTY, Type----- Single, Sealed  
 Coupling----- Flexible Disc  
 Amortisseur Windings----- Full  
 V. REG. 0-100% Load: %----- +/- 0.5  
 Sustained Short Circuit----- 300% for 10 seconds

## PEAK MOTOR STARTING kVa (600V Alternator)

Standard Alternator at 35% V-Dip-- 1,900  
 Standard Alternator at 15% V-Dip-- 625  
 Oversize Alternator at 35% V-Dip-- 2,100  
 Overside Alternator at 15% V-Dip-- 675

## AGC-150, ALL IN ONE GENERATOR CONTROLLER



### Six different applications can be programmed:

**Island Mode:** Prime power with stand alone or synchronized generators

**Automatic Mains Failure:** Critical and emergency standby, black-start

**Base-Load Fixed Power:** Fixed kW setpoint with building load

**Peak Shaving:** Generator supplies peak load demand paralleled to the grid

**Load Take-Over:** Load is moved from grid power to generator power

**Mains Power Export:** Generator supplies power back to the grid.

- Easy to use powerful microprocessor controller with graphical anti-glare LDC display
- Synchronize 3 ways: Dynamic, Static, Close before Excitation
- CANbus, R5-485 Modbus RTU, Ethernet Modbus TCP/IP
- Smart Buttons: only the relevant function buttons appear
- 500 Event log / 500 Alarm log
- 3-Phase Sensing with +/- 1% accuracy
- Emulation mode for testing and commissioning

#### Measurements

AC Voltage (V)  
AC Frequency (Hz)  
AC Current (A)  
Power Factor (PF)  
Real Power (kW)  
Apparent Power (kVA)  
Reactive Power (kvar)  
Oil Pressure (psi)  
Coolant Temperature (C)  
Fuel Level (%)  
Engine Run Time (hrs)  
Engine Speed (rpm)

#### Panel Mounted Devices

Audible Alarm Horn  
Emergency Stop Button

#### Timers

Engine Start  
Engine Cooldown  
Oil Pressure Bypass  
Overcrank  
Cycle Crank

#### Digital Outputs

Generator Running  
Common Alarm  
Common Shutdown

#### Synchronizing Protection

Sync Check  
Reverse Power  
Breaker External Trip  
Breaker Command Failure  
Under/Over Excitation

#### Alarms

Not in Auto  
Low Engine Temperature  
High Engine Temperature  
Low Oil Pressure  
Low Fuel Level  
Day Tank Leak  
Underfrequency  
Overcurrent  
Undervoltage  
Low Battery Voltage  
High Battery Voltage  
Weak Battery  
Intake Damper Failure  
ATS Bypass / Not in Auto  
Breaker Not Closed  
Gas Valve Closed

#### Shutdowns

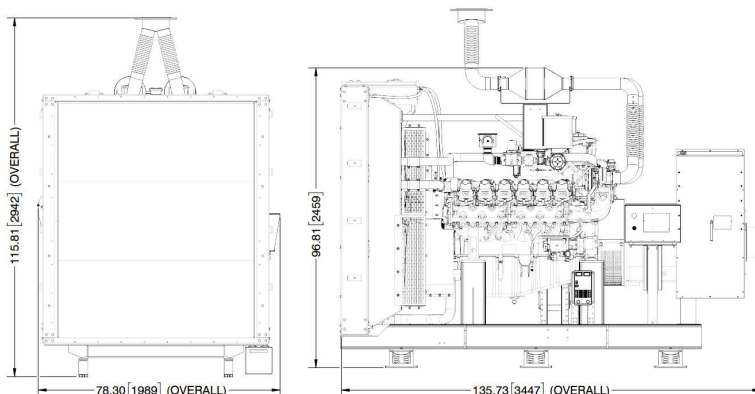
Overcrank  
Overspeed  
High Engine Temperature  
Low Oil Pressure  
Emergency Stop  
Low Coolant Level  
Underfrequency  
Overcurrent  
Undervoltage  
Overvoltage  
Sensor Fail / Wire-Break  
ECU Comms Fail

#### User Configurable

1x Analog Input  
6x Digital Input  
3x Digital Input

Complies with CSA-C282-19 Table 1 Requirements

## GENERATOR SPECIFICATIONS



Open Unit Wet Weight: Lbs. (kg)  
11,717 (5,314)

### STANDARD FEATURES

- Alternator Protection
- Battery, Battery Rack and Cables
- 10A Automatic Battery Charger
- Local Emergency Stop Button
- Oil Drain Extension
- Standard Air Cleaner w/ Restriction Indicator
- Block Heater w/ Thermostat
- Radiator Duct Flange
- Engine Fluids
- Spring Vibration Isolators
- Submittal Package
- Owner's Manual
- 1-Year / 1500-Hour Parts & Labour Standby Warranty

### AVAILABLE OPTIONS

#### Certifications and Specifications Available:

- ESA Electrical Certification
- ULC-S601 Sub-Base Fuel Tank Certification
- TSSA Sub-Base Fuel Tank Pre-Certification
- Seismic Approval
- CSA-C282 Compliance
- CSA-Z32 Compliance

#### Cooling System Options:

- Remote Radiator (Horizontal or Vertical Options)
- Heat Exchanger(s)

#### Controller Options:

- 8-Relay Output Board
- 16-Light Remote Serial Annunciator Panel
- Insight Remote Monitoring Service
- Protocol Converter

#### Fuel System Options:

- Sub-Base Fuel Tank (diesel/bi-fuel units only)
- Inlet Filter (natural gas/propane/bi-fuel units only)
- Stainless Steel Flexible Fuel Connector

#### Miscellaneous Options:

- Alternator Anti-Condensation Heater
- Seismic Mounts
- Crankcase Ventilation Filter
- Permanent Load Bank (Loose)
- Oversized Alternator for increased motor starting

#### Circuit Breaker Options:

- 100% CSA Current Rating
- Thermal-Magnetic Emergency Power Breaker
- Electronic LI Emergency Power Breaker
- Electronic LSI Emergency Power Breaker
- Electronic LSIG Emergency Power Breaker
- Unit-Mounted Load Bank Breaker

#### Enclosure Options:

- Skin-Tight Sound Enclosure -  Floor Plate
- Walk-In Sound Enclosure  
(All enclosures c/w internal exhaust silencer to match enclosure dBA rating)
- Exhaust Stack Extension, 1m above encl. roof (Loose)
- CSA-C282 Enclosure Pkg. (Heater, Lighting & Panel)
- Exterior Load Bank Camlock Connections

#### Exhaust Options for Indoor Units:

- Exhaust Silencer (various grades & style available)
- Stainless Steel Flexible Exhaust Connector

#### Paralleling Options:

- Motorized Circuit Breaker
- Master Interface Panel (Loose)
- Custom Switchgear Controls Only (Field-Installed)
- Custom Switchgear c/w Controls (Factory-Installed)

#### Testing Options:

- Extended Duration Factory Test
- Witness Factory Acceptance Test
- Rated Power Factor Test
- CSA-C282 On-Site Start-Up Testing

#### Warranty Options:

- 2-Year / 1500-Hour Parts & Labour Standby
- 5-Year / 1500-Hour Parts & 2-Year Labour Standby
- 5-Year / 1500-Hour Parts & Labour Standby
- 1-Year / Unlimited-Hours Parts & Labour Prime Power

#### Maintenance Options:

- Basic Spares Kit: Oil & Fuel Filters plus Drive Belts
- Weekly Contract to CSA-C282 Table-2
- Monthly Contract to CSA-C282 Table-3
- Semi-Annual Contract to CSA-C282 Table-4
- Annual Contract to CSA-C282 Table-5
- Quinquennial Contract to CSA-C282 Table-6

*Looking for another option? Please contact Paramount Power Systems to find a suitable solution for you.*