

# 500 kW Mobile Diesel Generator

GENPOWERUSA GPR-P500-60T4F

EPA/CARB Tier 4 FINAL



**GENERAL POWER™**  
THE GENERATOR COMPANY



## Power Ratings

500kW 625kVA Standby ESP  
450kW 563kVA Prime PRP

## USA-made Perkins engine

744bHP 2806F-E18TAG3

EPA/CARB Tier 4 Final

## Leroy Somer Alternator

TAL-47-D 3Phase (AREP)

## Deep Sea Electronics

DSE7310 Controller / DSEA109 AVR

## ABB Circuit Breaker

T-Max Range

## Quality Standard

100% designed, engineered, assembled and tested in USA

## Your mobile power generation solution

Powered by the most reliable components in the industry: USA-MADE Tier 4 Final Perkins engines, Leroy Somer alternators, Deep Sea digital controllers, & ABB circuit breakers, GENPOWERUSA mobile generator sets have been meticulously designed to deliver maximum ROI, versatility & dependability for even the most demanding mobile & prime applications.

Voltage	Power ESP kWe/kVA	Power PRP kWe/kVA	Standby Amps	Prime Amps	Phase
480/277	500/625	450/563	752	677	3
208/120	500/625	450/563	1735	1561	3
240/120	270/270	256/256	1125	1067	1

### ATB (Air to Boil)

Unit mounted radiator with 40C (104F) ambient air capability at the prime (PRP) rating

### POWER RATINGS

PRP: Prime Power is available for an unlimited number of annual operating hours in variable load applications, in accordance with ISO 8528-1:2018

ESP: Standby Power is applicable for supplying emergency power in variable load applications in accordance with ISO 8528-1:2018

### AMBIENT CONDITIONS

According to ISO 8528-1:2018

### LOAD ACCEPTANCE

According to ISO 8528-5, Class G3 (when equipped with the necessary electronic engine governor and digital AVR)

Standard Enclosure Dimensions	Fuel Tank Standard Capacity 2-wall, NON-UL	D.o.T Compliant Trailer
L: 5,842 mm (230 in)	2,271 L (600 Gal)	24,000 lbs GVWR
W: 2,134 mm (84 in)	18 Hours at 100% PRP	3-axle
H: 2,272 mm (89.4 in)	21 Hours at 75% PRP	Electric brakes

V3 03/2021



# Perkins Engine Specifications

## General Data

Manufacturer	Perkins 2806F-E18TAG3 Turbocharged & Aftercooled (air-to-air) EPA/CARB Tier 4 Final
Cylinders-arrangement	6-L
Displacement	18.1-L
Bore (mm) X Stroke (mm)	145X183
Compression Ratio	16.0:1
Speed (RPM)	1800
Maximum stand-by power at rated RPM	555 kW (744HP)
Governor	Electronic

## U.S. EPA Compliance

EPA Tier	EPA/CARB Tier 4 Final
Mobile Prime Application	Yes, compliant for mobile prime application
Stationary Standby Application	Yes, compliant for stationary standby applications
Stationary Prime Application	Yes, compliant for stationary prime applications

## Fuel Consumption

Fuel consumption 100% Prime load	126.7 L/hr (33.5 Gal/hr)
Fuel consumption 75% Prime load	106.7 L/hr (28.2 Gal/hr)

## Fuel Runtime Autonomy

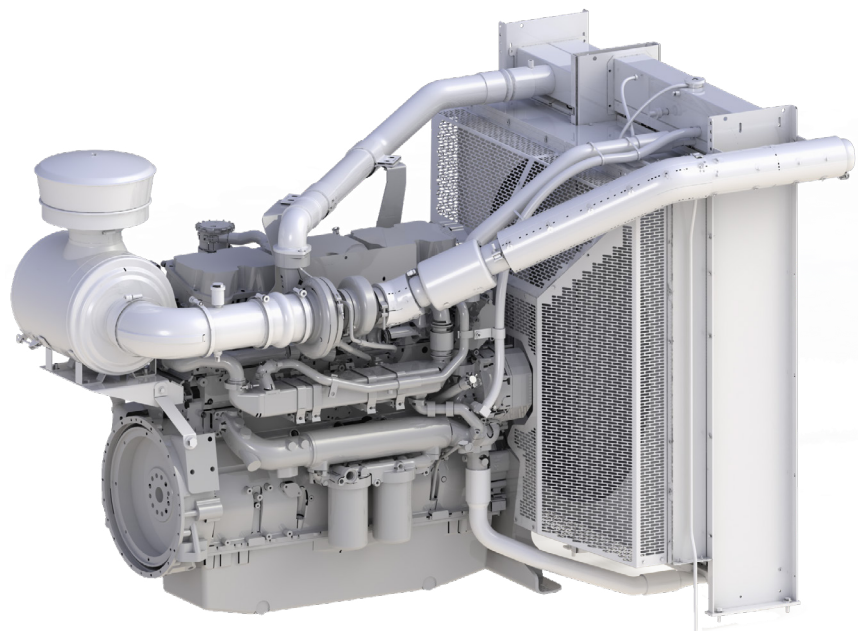
Integral Tank (600 Gal)	18 Hours @ 100% Prime 21 Hours @ 75% Prime
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## DEF Consumption

Fuel consumption 75% Prime load	2.5 L/hr (0.66 Gal/hr)
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## DEF Runtime Autonomy

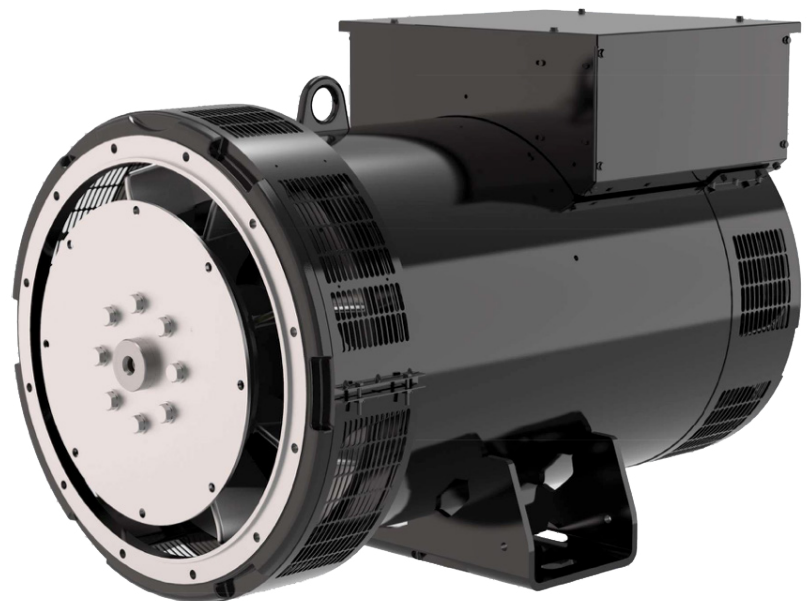
Integral Tank (24.7 Gal)	37 Hours @ 75% Prime
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# Leroy Somer Alternator Specifications

## General Data

Manufacturer	Leroy Somer
Alternator	TAL-47-D
Number of phases	3
Power factor (Cos Phi)	0.8
Altitude (M)	<1000
Overspeed (RPM)	2250
Number of poles	4
Excitation System	Auxiliary Winding Excitation (AREP)
Short Circuit Capability	250% for 5 seconds
Insulation class/ Temperature class	H / H
Automatic Voltage Regulator	Deep Sea DSEA109 Digital AVR
Coupling	Direct / Single Bearing
Voltage regulation 0 to 100%	+/- 1.0%



# Control/Electronics Features

## Deep Sea DSE7310MKII Digital Controller

Microprocessor-based generator controller with dual-core main processor and extended memory	✓
User friendly, large, 4-line back-lit LCD text display with support for up to 7 display languages	✓
Support for up to 3 wired-remote mimic display/control units	✓
Engine and alternator control	✓
J1939 Engine communication	✓
Manual, auto, and test operation mode	✓
Full range of engine and electrical measurements	✓
kW/kVA/kvar/hours counter	✓
250 event history log	✓
Push buttons for easy operation	✓
Operator Screens: Status, Engine, Alternator, Alarms, Event Log, and ECU Alarm	✓

## Warning Alarms

50+ fully configurable alarms	✓
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## Automatic Shutdowns

Under and Over voltage alarm (ANSI 27, ANSI 59)	✓
Over load alarm (ANSI 32)	✓
Over current alarm (ANSI 50)	✓
Under and Over frequency (ANSI 81)	✓
Under and Over speed	✓
High coolant temperature	✓
Low oil pressure	✓
Low coolant level	✓
Earth fault alarm (ANSI 87G)	✓
Fuel containment leak	✓
Breaker safety switch	✓
Voltage selector switched when engine running	✓

✓ = Standard Feature    ○ = Optional Upgrade

## Deep Sea DSEA109 Digital AVR

Advanced digital automatic voltage regulator with CANBUS and LED indicators	✓
↳ Under frequency roll off protection with optional instantaneous step	
↳ Loss of voltage sensing protections	
↳ Over excitation protection	
↳ Soft start ramping mode with ON/OFF switch. Temporarily reduces the load & torque in the powertrain and current surge of motor during start-up, permitting the sizing of a genset with a lower power rating.	○

## Deep Sea DSEWEBNET Cloud-Based Remote Monitoring

Many Internet-access hardware options: 3G/4G/Ethernet	○
↳ Free 24/7 multi-user, powerful, industry leading remote monitoring software (requires Internet hardware/access)	
↳ Available via free desktop, iOS and Android app	
↳ Customizable branding for corporate accounts	
↳ Configurable event triggers and automated reporting for up to 25 users	
↳ Geo-fencing and asset tracking via GPS	○

## Load-Sharing Configuration Upgrades

Set-to-set synchronizing and load sharing package, set mounted, Deep Sea DSE8610	○
Set-to-set synchronizing and load sharing package, set mounted, DEIF AGC 150	○
Remote "overview" display panel kit (multi-genset), 10" touch-enabled, multi-color, Deep Sea DSE8004 <sup>(1)</sup>	○

## Control and Communication Accessories

Remote "mimic" control/display panel kit (single genset), Deep Sea DSE7310MKII <sup>(1)</sup>	○
Remote annunciator panel kit (single genset), Deep Sea DSE2548: 8;16; or 24x lights <sup>(1)</sup>	○
Output expansion module kit, Deep Sea DSE2157 8x configurable relay contacts	○
Input expansion module kit, Deep Sea DSE2130 8x configurable digital inputs (up to 4 analog)	○

(1) Available either as indoor-rated for surface mounting or outdoor-rated inside NEMA3R box



# General Features

## Engine System

Electrolyte-charged battery with rack, cables, and rubber boot connections	✓
Oil drain extension with in-line valve	✓
Electronic isochronous governing	✓
Racor water/fuel separator filter	○
Hotstart oil pan heater	○
Hotstart battery heater	○
Hotstart automatic coolant heater	○
Hotstart automatic forced circulation coolant heater	○
5 AMP ELECTRONIC automatic battery charger	○
3 AMP SOLAR automatic battery charger	○
10 AMP ELECTRONIC UL intelligent automatic battery charger with configurable 2-3-4 stage charging	○
AMOT Positive air intake shutdown	○
Extended engine warranty: 3 years or 4,000 hours	○
Extended engine warranty: 4 years or 5,000 hours	○
Extended engine warranty: 5 years or 10,000 hours	○

## Cooling System

Industrial grade cooling system	✓
Coolant drain extension with in-line valve	✓
Fan guards	✓
Belt guards	○
Radiator and oil drains plumbed to a convenient ports box on the exterior of the skid	✓

## Alternator System

Full load rated with thermo-magnetic switch protection	✓
Skewed rotor and 2/3 pitch winding suppress triple harmonics and guarantee a superior voltage waveform	✓
Windings are vacuum-impregnated with fungus resistant epoxy	✓
Class H insulation and self-ventilated drip-proof design	✓
Digital automatic voltage regulator (DAVR)	✓
Auxiliary-excited advanced AVR power and control (by auxiliary winding or permanent magnet generator)	✓
Alternator oversizing	○
Anti-condensation heater	○
Reinforced impregnation, coastal environment	○
Reinforced impregnation, marine/harsh environment, alternator air filter	○
Winding temperature sensors	○

✓ = Standard Feature    ○ = Optional Upgrade

## Main Line Breaker System

Main line circuit breaker, output rated, 80% rating	✓
Main line circuit breaker, output rated, 80% rating, UL listed	○
2nd main line circuit breaker, output rated, 80% rating, UL listed	○
Breaker shunt trip	✓
Electronic trip breaker	○
Grounding system: TN-S (PE and N via separate conductors that are connected together only near power source)	✓

## Base Tank System

Extended capacity/runtime: 600 Gal/18 hours @100%PRP	✓
2-PSI factory pressure tested	✓
Sloped-surface basin design for 110% containment of engine fluids	✓
Electronic fuel level sender with programmable alarms	✓
Mechanical float level with visual gauge	✓
Supply line with in-line check valve	✓
Heavy-duty AVM's isolate engine/radiator/generator from base tank to reduce vibration and noise	✓
Single walled, non UL-142 listed	○
Double walled, non UL-142 listed, 110% containment	✓
Double walled, UL142 listed, 110% containment	○
Specialty fuel tanks: UL2085, MDEQ, FDEP/DERM	○
Aluminum or stainless steel construction	○
Fuel leak containment detection switch	✓
Herculiner® poly-urethane and rubber granule coating for maximum chip/abrasion/solvent/corrosion/UV resistance	✓
Automatic Fuel Transfer Kit. PLC-controlled to maintain a predetermined level in the primary tank as well as automatic start, stop, and fuel overflow check.	○

## Maintenance Kits

1,000 Hour Engine Maintenance Kit includes OIL/FUEL/AIR/COOLANT filters as applicable for mandatory <1,000 hours service intervals	○
2,000 Hour Engine Maintenance Kit includes OIL/FUEL/AIR/COOLANT filters as applicable for mandatory <2,000 hours service intervals	○
Zero-Downtime prevention kit includes: 1x AVR, 1x Diodes Kit, 1x Varistor, 1x Starter Relay, 1x Control Relay, 1x 2 AMP minibreaker, 1x 4 AMP minibreaker, 1x 6 AMP minibreaker, 1x Fuel level sender unit, 1x Fuel lines set	○

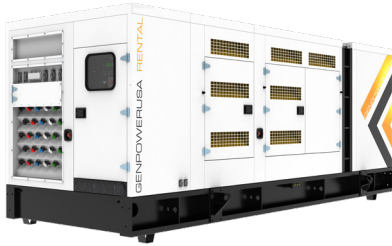
## Quality Control

90-point quality control inspection	✓
Standard load bank testing: full load, 30 min, 1.0PF	✓
Extended load bank testing: full load, 1 hour, 1.0PF	○
Extended load bank testing: full load, 1 hour, 0.8PF	○
Customizable witness testing: on-site at factory or remote via virtual session	○



# Additional Features

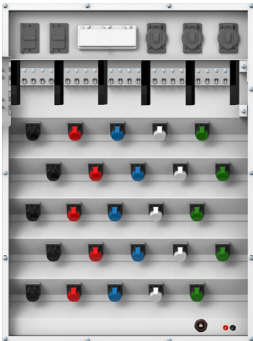
## Enclosure System: SILENT-TYPE



Illustrations may show optional equipment

- TYPE: IP56, outdoor rated, weather-proof design ✓
- ↳ MATERIAL-ALUMINUM: 12GA, AL5052 Marine-Grade aluminum alloy panels and stainless steel hardware for maximum corrosion resistance
- ↳ HOT AIR DISCHARGE: Indirect, upward-facing, vertical air discharge outlet redirects cooling air up and above enclosure to minimize sound
- ↳ LEVEL-2 DISCHARGE PLENUM: Dedicated enclosure compartment with a built-in air deflecting shield & completely lined with sound-absorbing material. It houses the silencer and redirects both the discharge air from the radiator and the exhaust gases from the engine upwards above the generator for a maximum level of sound reduction
- ↳ ACOUSTIC INSULATION: with hydrocarbon sealing film for max sound/flame/moisture resistance
- ↳ ACCESS: XXL maintenance-friendly access featuring beam-less design for industry-leading access to the engine and radiator from both sides
- ↳ FINISH: UV/fade-resistant, high temp cured, RAL9003-white polyester powder paint
- ↳ FINISH UPGRADE: Herculiner® poly-urethane & rubber granule coating for maximum chip/abrasion/solvent/corrosion/UV resistance ○

## Power Distribution and Quick-Connections System



- Rental-grade power distribution panel with externally accessible/surface mounted features ✓
- ↳ 2x 20A Duplex Outlets
- ↳ 3x 50A 125/250V Twist Locks
- ↳ 25x 400A E1016-series female camlock connectors with flip covers
- ↳ 5x quadruple-conductor, 350kcmil-6 AWG wire range, mechanical lugs
- ↳ Individual branch breakers with easy access see-through protector cover
- ↳ Interface/programming USB-B connector & remote start/stop screw-on contacts
- ↳ Simultaneous 1-phase/3-phase duplex-output upgrade: 139V output on duplex outlets while genset operates on 480/277V (does not require buck transformer)

## Heavy-Duty Highway Trailer



- DOT heavy-duty road/highway trailer with running lights and 7-wire connector, G.V.W.R.: 24,000 lbs ○
- ↳ Triple-axle with electric brakes on all axles, battery back-up & auto breakaway system
- ↳ 6x bias 6 ply load range C tires
- ↳ 1x pintle ring hitch
- ↳ 1x 10K top wind tongue mounted jack, 2x 10K side wind jacks on rear, and 1/4" x 30" safety chains
- Lockable tool box and full-sized spare tire ○
- Hydraulic brakes ○

## Rental-Grade Features



- 3 position voltage selector switch: 3PH low-wye, 3PH high-wye, 1PH zig-zag ✓
- 4-position voltage selector switch (3ph low-wye, 3ph high-wye, 3ph delta, 1ph zig-zag) ○
- External shore power connector (for auto battery charger and auto coolant heater) ✓
- Breaker cabinet LED light with auto on/off ✓
- On/off battery switch ✓
- Enclosure lighting kit (AC/DC) ○
- System-wide differential protection: LOVATO earth leakage relay ✓

✓ = Standard Feature ○ = Optional Upgrade

# Generator Photos

## ISOMETRIC VIEW



*Illustrations may show optional equipment*

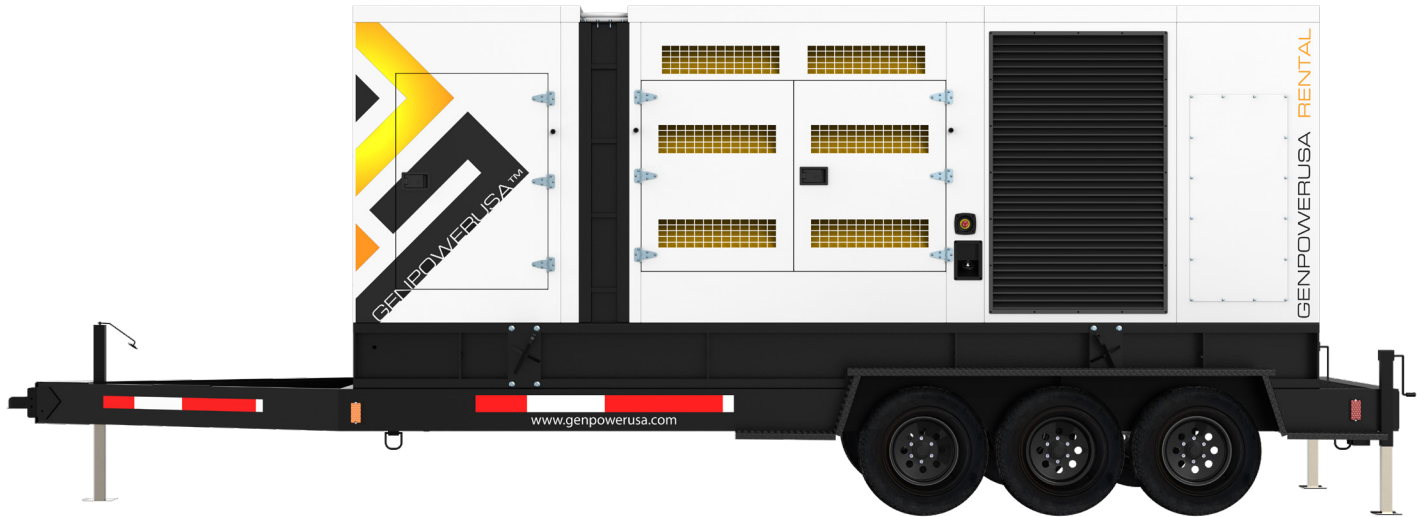
## ISOMETRIC VIEW



*Illustrations may show optional equipment*

# Generator Photos

## LEFT SIDE VIEW



*Illustrations may show optional equipment*

## RIGHT SIDE VIEW



*Illustrations may show optional equipment*



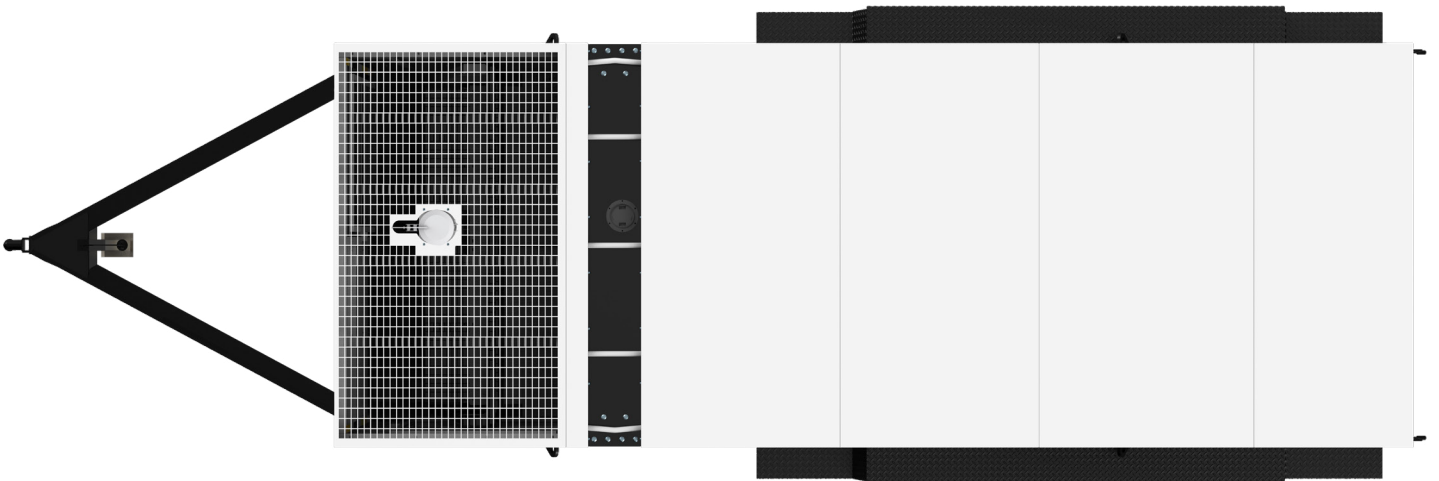
# Generator Photos

## REAR VIEW



*Illustrations may show optional equipment*

## TOP VIEW



*Illustrations may show optional equipment*