

# 20 kW Industrial Diesel Generator

GENPOWERUSA GP-J20-60T4i

EPA Tier 4i Stationary Emergency



**GENERAL POWER**  
THE GENERATOR COMPANY



## Power Ratings

20kW 20kVA Standby ESP  
18kW 18kVA Prime PRP

## John Deere Engine

47bHP 3029TFU89-3047

EPA Tier 4i Stationary Emergency

## Leroy Somer Alternator

TAL-42-D-M1

## Deep Sea Controller

DSE7320

## ABB Circuit Breaker

T-Max Range

## Quality Standard

100% designed, engineered, assembled and tested in USA

## Your power generation solution

Powered by the most reliable components in the industry; Tier 4i John Deere diesel engines, Leroy Somer alternators, Deep Sea digital controllers, & ABB circuit breakers, GENPOWERUSA industrial diesel generators have been meticulously designed to deliver maximum ROI, versatility and dependability for even the most demanding standby and prime applications.

Voltage	Power ESP kWe/kVA	Power PRP kWe/kVA	Standby Amps	Prime Amps	Phase
240/120	20/20	18/18	83	75	1

### ATB (Air to Boil)

Unit mounted radiator with 25C (77F) ambient air capability at the standby (ESP) 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 G2

Open Skid Dimensions	Compact Enclosure Dimensions	Standard Enclosure Dimensions
L: 1,675 mm (65.9 in)	L: 1,899 mm (74.8 in)	L: 2,225 mm (87.6 in)
W: 923 mm (36.3 in)	W: 975 mm (38.4 in)	W: 975 mm (38.4 in)
H: 1,564 mm (61.6 in)	H: 1,623 mm (63.9 in)	H: 1,770 mm (69.7 in)

# John Deere Engine Specifications

## General Data

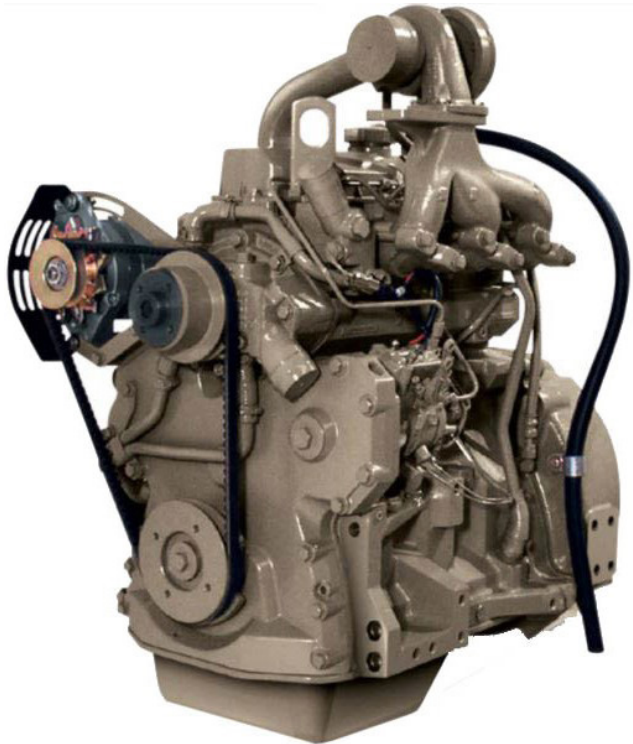
Manufacturer	John Deere 3029TFU89-3047 Turbocharged Tier 4i Stationary Emergency
Cylinders-arrangement	3-L
Displacement	2.9-L
Bore (mm) X Stroke (mm)	106X110
Compression Ratio	17.2:1
Speed (RPM)	1800
Maximum stand-by power at rated RPM	35 kW (47HP)
Governor	Mechanical

## Fuel Consumption

Fuel Consumption 100% Prime load	11 L/hr (2.4 Gal/hr)
Fuel Consumption 75% Prime load	8 L/hr (1.9 Gal/hr)

## U.S. EPA Compliance

EPA Tier	Tier 4i Stationary Emergency
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# Leroy Somer Alternator Specifications

## General Data

Manufacturer	Leroy Somer
Alternator	TAL-42-D-M1
Number of phases	1
Power factor (Cos Phi)	0.8
Altitude (M)	<1000
Overspeed (RPM)	2250
Number of poles	4
Excitation System	Shunt
Insulation class/ Temperature class	H / H
Automatic Voltage Regulator	Leroy Somer R120
Coupling	Direct / Single Bearing
Voltage regulation 0 to 100%	+/- 1.0%



# Control/Electronics Features

## Deep Sea DSE7320MKII 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	✓
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)	o
Fuel containment leak	o
Breaker safety switch	o
Voltage selector switched when engine running	o

✓ = Standard Feature    o = Optional Upgrade

## Deep Sea DSEA109 Digital AVR

Advanced digital automatic voltage regulator with CANBUS and LED indicators	o
↳ 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.	o

## Deep Sea DSEWEBNET Cloud-Based Remote Monitoring

Many Internet-access hardware options: 3G/4G/Ethernet	o
↳ 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	o

## Load-Sharing Configuration Upgrades

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

## Control and Communication Accessories

Remote "mimic" control/display panel kit (single genset), Deep Sea DSE7320MKII <sup>(1)</sup>	o
Remote annunciator panel kit (single genset), Deep Sea DSE2548: 8;16; or 24x lights <sup>(1)</sup>	o
Output expansion module kit, Deep Sea DSE2157 8x configurable relay contacts	o
Input expansion module kit, Deep Sea DSE2130 8x configurable digital inputs (up to 4 analog)	o

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

## Cooling System

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

## Exhaust System (Open-type units)

Stainless steel flexible exhaust connector	o
10dB industrial class silencer	o
29dB residential class silencer	o
35dB critical class silencer	o

## 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	✓
Analog automatic voltage regulator (AVR)	✓
Digital automatic voltage regulator (DAVR)	o
Self-excited AVR power and control	✓
Auxiliary-excited advanced AVR power and control (by auxiliary winding or permanent magnet generator)	o
Alternator oversizing	o
Anti-condensation heater	o
Reinforced impregnation, coastal environment	o
Reinforced impregnation, marine/harsh environment, alternator air filter	o
Winding temperature sensors	o

## Main Line Breaker System

Main line circuit breaker, output rated, 80% rating	✓
Main line circuit breaker, output rated, 80% rating, UL listed	o
2nd main line circuit breaker, output rated, 80% rating, UL listed	o
Breaker shunt trip	o
Electronic trip breaker	o
Grounding system: TN-C (combined PEN conductor performs the function of both PE and N conductor)	✓
Grounding system: TN-S (PE and N via separate conductors that are connected together only near power source)	o

## Base Tank System

Customizable capacity/runtime: 39 Gal to 500 Gal	o
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	o
Double walled, non UL-142 listed, 110% containment	o
Double walled, UL142 listed, 110% containment	o
Specialty fuel tanks: UL2085, MDEQ, FDEP/DERM	o
Aluminum or stainless steel construction	o
Fuel leak containment detection switch	o
Herculiner® poly-urethane and rubber granule coating for maximum chip/abrasion/solvent/corrosion/UV resistance	o
Automatic Fuel Transfer Kit. PLC-controlled to maintain a predetermined level in the primary tank as well as automatic start, stop, and fuel overfill check.	o

## Maintenance Kits

1,000 Hour Engine Maintenance Kit includes OIL/FUEL/AIR/COOLANT filters as applicable for mandatory <1,000 hours service intervals	o
2,000 Hour Engine Maintenance Kit includes OIL/FUEL/AIR/COOLANT filters as applicable for mandatory <2,000 hours service intervals	o
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	o

## 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	o
Extended load bank testing: full load, 1 hour, 0.8PF	o
Customizable witness testing: on-site at factory or remote via virtual session	o

✓ = Standard Feature    o = Optional Upgrade

# Additional Features

## Enclosure System: COMPACT-TYPE



- TYPE: IP56, outdoor rated, weather-proof design with Level 1 sound attenuation o
- ↳ FINISH: UV/fade-resistant, high temp cured, RAL9003-white polyester powder paint
- ↳ HOT AIR DISCHARGE: Direct, forward facing, horizontal outlet yields higher sound levels but features a minimized footprint
- ↳ ACOUSTIC INSULATION: Hydrocarbon film for max sound/flame/moisture resistance
- ↳ ACCESS: XXL Maintenance friendly access with beam-less design for industry leading access to engine and radiator from both sides
- ↳ STEEL MATERIAL: 12GA, steel panels construction with stainless steel hardware o
- ↳ ALUMINUM MATERIAL: 12GA, AL5052 marine-grade aluminum alloy panels and stainless steel hardware for maximum corrosion resistance o
- ↳ FINISH UPGRADE: Herculiner® poly-urethane and rubber granule coating for maximum chip/abrasion/solvent/corrosion/UV resistance o

## Enclosure System: SILENT-TYPE



- TYPE: Includes all standard and optional features of our COMPACT-TYPE enclosure plus: o
- ↳ SILENCER: MIRATECH COWL aluminized-steel critical silencer 35dBA sound reduction
- ↳ LEVEL-2 DISCHARGE PLENUM: Dedicated enclosure compartment with a built-in air deflecting shield and 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
- ↳ HOT AIR DISCHARGE: Indirect, upward-facing, vertical air discharge outlet redirects cooling air up and above enclosure

## Heavy-Duty Highway Trailer



- DOT heavy-duty road/highway trailer with running lights and 7-wire connector, G.V.W.R.: 5,000 lbs o
- ↳ Single-axle with electric brakes on all axles, battery back-up & auto breakaway system
- ↳ 2x bias 6 ply load range C tires
- ↳ 1x ea, 2 5/16" ball hitch coupler with adaptability for Lunette eye
- ↳ 1x 7K top wind tongue mounted jack, 2x 7K side wind jacks on rear, and 1/4" x 30" safety chains
- Lockable tool box and full-sized spare tire o
- Hydraulic brakes o

## Rental-Grade Features



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

✓ = Standard Feature o = 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*