

# GFE1650PLC (Canopied)



Available as an open set: **GFE1650PLO**

Engine	Alternator	Model	Power factor	Emissions
Perkins 4012 - 46TAG2A	Leroy Somer LSA50.2L8	GFE1650PLC (Canopied)	Factor $\Phi = 0.8$	N/A
50Hz	1500rpm	3-Phase		

Ratings	Prime Power		Standby Power		Rated current	Fuel consumption
Voltage	(PRP)		(ESP)		Amps	@100% load
(V)	kWe	kVA	kWe	kVA	(A)	L/h
400	1200	1500	1320	1650	2165	301

**Ratings** All three phase generator sets are rated at 0.8 power factor.  
All single-phase generator sets are rated at unity or 1.0 power factor.

**Prime output** This rating is applicable for supplying continuous electrical power at variable load. There is no limitation to the annual hours of operation and this model can supply 10% overload power for 1 hour in 12 hours.

**Standby output** This rating is applicable for supplying electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings.

The above ratings are in accordance with ISO8528-1 and ISO3046-1. Standard reference conditions: 25°C, 100m A.S.L., 30% relative humidity.

# Engine

Perkins 4012 - 46TAG2A

		Units	
<b>General performance</b>	Frequency	Hz	50
	Engine speed	r/min	1500
	Number of cylinders / arrangement		8 cyl / vertical in-line
	Displacement	Litres	45.8
	Aspiration		Turbocharged
	Combustion system		Direct injection
	Governor type		Electronic
	Bore / stroke	mm	160 x 190
	Compression ratio		13.6:1
	Engine power (net)	kWm	Prime: 1331      Standby: 1459
Cooling system		Water cooled	
Rotation		Anti-clockwise viewed on flywheel	
<b>Fuel system</b>	Fuel consumption at 110% Prime Power	Litres/hour	331
	Fuel consumption at 100% Prime Power	Litres/hour	301
	Fuel consumption at 75% Prime Power	Litres/hour	237
	Fuel consumption at 50% Prime Power	Litres/hour	162
	Standard fuel tank capacity	Litres	N/A
<b>Air system</b>	Air inlet		Mounted air filter
	Air filter type		Dry
<b>Fuel and fuel system</b>	Mechanically governed		No
	Rotary type pump		YES
	Ecoplus fuel filter		YES
<b>Oil system</b>	Total oil system capacity	Litres	177
	Maximum sump capacity	Litres	N/A
	Wet sump with filler and dipstick		YES
	Spin-on oil filter		YES
<b>Cooling system</b>	Total system capacity		
	- With radiator	Litres	210
	- Without radiator	Litres	N/A
	Thermostat operation range	°C	up to 40°C
Maximum top tank temperature	°C	N/A	
<b>Electric system</b>	Electrical system voltage	V	24
	Battery		Maintenance-free
	Connecting cables		Available as option
<b>Available options</b>	Battery charger		Available as option
	Engine water heater		Available as option
	Battery isolator switch		Available as option

# Alternator

Leroy Somer LSA50.2L8

		Units	
<b>General data</b>	Manufacturer / brand		Leroy Somer
	Model		LSA50.2L8
	Coupling / number of bearings		Flexible Disc / Single Bearing
	Phase / Poles		3-Phase / 4-Pole
	Power factor		Cos $\Phi$ = 0.8
	AVR Regulation		Yes
	Voltage Regulation		±1 %
	Insulation class		H
	Drip proof		IP23
	Excitation		Shunt
	Altitude	m	≤1000
	Overspeed	min -1	2250

# DSE Controller Summary

Controller model / Deepsea DSE	Optional: DSE4520	Standard: DSE6110	Optional: DSE7310/20	Optional: DSE8610/20
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## Controller photos



Standard supply	○	○	●	○
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## Viewable parameters

Parameter	DSE4520	DSE6110	DSE7310/20	DSE8610/20
Phase voltage	×	3	3	3
Current	Instrumentation	●	●	●
Frequency	●	●	●	●
Active power	○	●	●	●
Reactive power	○	●	●	●
Apparent power	×	●	●	●
Power factor	○	●	●	●
Electric energy metering	×	●	●	●

## Generator protection

Protection Feature	DSE4520	DSE6110	DSE7310/20	DSE8610/20
Abnormal voltage	●	●	●	●
Overcurrent warning	○	●	●	●
Overcurrent protection	●	●	●	●
Over frequency protection	●	●	●	●
Short circuit protection	MCCB / ●	MCCB / ●	MCCB / ●	MCCB / ●

## Engine figure

Engine Figure	DSE4520	DSE6110	DSE7310/20	DSE8610/20
Oil pressure	●	●	●	●
Water temperature	●	●	●	●
Fuel meter / fuel sensor	●/○	●/○	●/○	●/○
Speed	●	●	●	●
Battery voltage	●	●	●	●
Elapsed time	●	●	●	●

## Engine protection

Engine Protection	DSE4520	DSE6110	DSE7310/20	DSE8610/20
Low oil pressure warning	×	●	●	●
Low oil pressure protection	●	●	●	●
High temperature warning	○	●	●	●
High temperature protection	●	●	●	●
Overspeed warning	×	●	●	●
Overspeed protection	○	●	●	●
Alternator charger	●	●	●	●

## Functions

Function	DSE4520	DSE6110	DSE7310/20	DSE8610/20
Remote start	●	●	●	●
AMF (Auto Main Failure)	●	●	●	●
Programmable input	●	●	●	●
Programmable output	●	●	●	●
Expand module	×	○	○	○
Communication function	×	×	RS232 / 484	RS232 / 485
Communication port	USB	USB	RS232 / 484	RS232 / 485
CAN	●	○	●	●
Service indicate	○	○	●	●
Fault history	●	●	●	●
Gen-gen synchronising	×	×	×	●
Gen-mains synchronising (20)	×	×	×	●

**Remark:** ● Standard supply ○ Available as optional × Not available

# Enclosure / Canopy

“Ensure a quieter life with our sound attenuation system.”

Sound-attenuated or open option

## Features

### Extremely rugged and highly corrosion resistant construction

- Unique appearance with high sound absorbing and thermal properties
- 8-12 hours built-in fuel tank integrated into the skid-mount base
- Excellent design and craftsmanship
- Full weatherproof enclosure, suitable for operations in harsh conditions
- Thermo-acoustic installation which can withstand fire, high temperature and severe conditions
- Residential exhaust muffler manufactured from galvanised steel
- High quality polyester powder paint
- Designed on modular principles with interchangeable components permitting on-site repairs

### Easy commissioning and maintenance

- Control panel viewing window with lockable access door for quick, safe and easy monitoring
- Side doors allowing 180° opening for easy accessibility
- Lifting point for easy mobility
- Lube oil drain and radiator drain
- Internally mounted exhaust silencers constructed to withstand rough conditions

### Security and safety

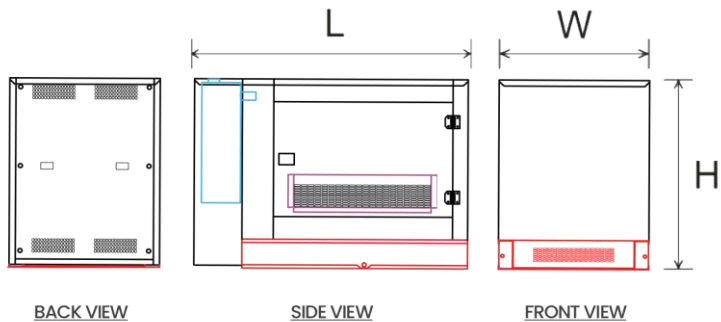
- Earth leakage protection
- Secure and lockable access doors for fuel fill and battery
- Fully guarded cooling fan and battery charging alternator
- Emergency stop push button mounted on the enclosure exterior for urgent and safe shutdown
- Efficient management of cooling air to avoid high water temperature

### Transportability

- Top access lifting points for crane lifting
- Fork lift pockets for easy moveability

## Overall dimensions, weight and noise

Frame type	Dimensions ( L x W x H ) mm	Weight kg	Base tank @100% load		Noise level dB(A) at 7m
Canopied	9100x2600x3950	17550	Hours	Litres	86



# Automatic Transfer Switch

A.T.S - 4 Poles

GFE offers as an optional accessory, not only a changeover switch but also an integrated mains detection and switch system for your 24 hour power protection. The system enables automatic start-up and operation of the generating set in the event of a mains power failure, overvoltage or loss of a mains automatic retransfer once it comes back.

## System advantages

Automatically transfer and re-transfer load from main power to gen-power without operator intervention (both automatic and manual)

ATS Controller (AMF function), seamless integration with all GFE ATSS

Available from 32 - 4000A

Available in standard, bypass isolation and service-entrance configurations

Configurable in open, closed and programmed transition operating modes

Designed to interface seamlessly with GFE generators and switchgear

Drip proof IP42 enclosure

Easy installation: wall-mounted and floor standing



\*image for illustration purposes only, actual product may differ

## Warranty

GFE distributors, dealers or authorized representatives have warranty providing the operator performs a start-up within 6 months of the date of shipment from the factory, warranty coverage will begin on the start-up date (registering the start-up date to GFE within 6 months is essential and can be enforced). This warranty does not apply to malfunction caused by damages, unreasonable use, misuse, repair or service by unauthorized persons, or normal wear and tear. Warranty is supplied strictly in accordance with GFE's terms and conditions of sale and as per the warranty manual available on request.

## Warranty coverage

Generators used with commercial utility source: One (1) year or 1000 hours (whichever occurs first) from date of shipment from the factory or registered start-up date.

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