

# OPEN GENSETS (50 & 60 HZ)

**LLG 30, LLG 50, LLG 70, LLG 100, LLG 110, LLG 140**

*50 Hz, 1500 r/min; 60 Hz, 1800 r/min*

*Prime power outputs: 30—138 kVA; 24—110 kWe*

*Standby power outputs: 33—150 kVA; 26—120 kWe*

## LIQUID COOLED OPEN GENSET WITH ELECTRONIC CONTROL MODULE

### SPECIAL ATTRIBUTES

- low fuel consumption
- shutdown fault protection
- easy maintenance
- continuous operation in ambient temperatures up to 45°C (113°F)
- cold start down to -20°C (-4°F)

### DESIGN FEATURES

- Lister Petter Gamma Series diesel engine
- Leroy Somer single bearing, 4-pole, brushless alternator
- control system with electronic digital control module
- choice of manual/remote start and AMF operating modes
- integral fuel tank: 100-litre for LLG 30; 300-litre for LLG 50 and LLG 70; 400-litre for all other models
- emergency stop button (lock-down type)
- lifting points
- steel base frame
- mechanical or electric governing
- output voltage 380/220V
- 12V or 24V DC isolation switch
- battery leads



**GAMMA OPEN GENSET**

- anti vibration mountings
- residential exhaust silencer
- flexible exhaust pipe
- pusher fan
- operators' handbook
- basic tool kit

### ENGINE SPECIFICATION

- Gamma Series diesel engine
- three, four or six cylinders
- liquid cooled
- direct injection
- LLG 30: naturally aspirated (GW3 engine)
- LLG 50: naturally aspirated (GW4 engine)
- LLG70, LLG 100, LLG 110: turbocharged (GWT4, GWT6 engines)
- LLG 140: turbocharged and intercooled (GWTA6 engine)
- cyclonic dry type air cleaner
- standard oil and fuel filters
- fuel lift pump
- 12V electric starting system with battery-charge alternator (24V optional)

### ALTERNATOR SPECIFICATION

- Leroy Somer
- single bearing, 4-pole, brushless
- solid state AVR with  $\pm 1.5\%$  as standard
- class H insulation on the rotor and stator
- IP23 protection class

### CONTROL SYSTEM FEATURES

#### CONTROL CUBICLE

The control cubicle has the following features:

- three position key start
- electronic digital control module with monitoring/control facility and warning indicators
- automatic shutdown protection
- emergency stop button (lock-down type)
- AC output circuit breaker with over-current protection
- DC circuit control switch and overload circuit breaker

**The control module gives digital readouts of:**

- generator voltage (phase-to-phase

- and phase-to-neutral)
- generator current (each phase displayed separately)
- output frequency
- engine speed
- engine oil pressure
- engine coolant temperature
- battery voltage
- engine hours run

**The control module has indicators for:**

- overspeed / underspeed
- emergency stop
- engine oil pressure
- engine temperature
- failure to start
- battery charger failure

**Automatic shutdown occurs under:**

- low engine oil pressure
- high engine temperature
- overspeed / underspeed
- failure to start after three attempts

### MANUAL/REMOTE START SETS

These sets have the flexibility of either manual or remote automatic operation:

- manual operation is by **START** and **STOP** push-buttons on the control module
- remote operation is achieved by connecting a 2-wire circuit to the relevant terminals on the control module and is activated by setting the control module to **AUTO**

### AUTOMATIC MAINS FAILURE SETS (AMF)

In the event of a mains failure, the generating set will automatically operate to supply the electrical load. In addition to the standard features, automatic mains failure sets have:

- wall mounted cubicle governing automatic mains failure operation
- control module timer circuits set to delay start, delay transfer back to mains and delay stop to allow for engine cool down

POWER OUTPUTS						
			50 Hz, 1500 r/min		60 Hz, 1800 r/min	
			Three phase		Three phase	
Model	Engine	Rating	kVA	kWe	kVA	kWe
LLG 30	GW3	Prime	30	24	31	25
		Standby	33	26	34	27
LLG 50	GW4	Prime	45	36	48	38
		Standby	50	40	53	42
LLG 70	GWT4	Prime	63	50	69	55
		Standby	69	55	75	60
LLG 100	GWT6-1A	Prime	90	72	94	75
		Standby	100	80	106	85
LLG 110	GWT6-2A	Prime	100	80	113	90
		Standby	110	88	125	100
LLG 140	GWTA6	Prime	125	100	138	110
		Standby	138	110	150	120

Power factor: 08. Voltages available: 380 V/220 V, three phase, four wire.

**RATING DEFINITIONS TO ISO 8528-1**

All ratings are in accordance with ISO 8528-1. Power outputs are based on the optimum make of alternator for the set. Gensets fitted with other manufacturers' alternators may not achieve the above ratings

**Rating Conditions**

A standard generating set is designed to operate in environmental reference conditions of 25 °C, 100 kPa and 30% humidity.

**Prime Power**

This rating is for the supply of continuous electrical power (at variable load). There is no limit on the annual hours of operation and 10% overload power can be supplied for 1 hour in 12.

**Standby Power**

This rating is for the supply of continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted.

APPROXIMATE FUEL CONSUMPTION			
litres/hour at 100% load			
Model	Engine	50 Hz, 1500 r/min	60 Hz, 1800 r/min
LLG 30	GW3	7.0	7.5
LLG 50	GW4	10.8	11.5
LLG 70	GWT4	14.7	15.9
LLG 100	GWT6-1A	20.5	22.0
LLG 110	GWT6-2A	22.6	26.0
LLG 140	GWTA6	27.7	30.9

APPROXIMATE WEIGHT AND DIMENSIONS



Model		LLG 30	LLG 50	LLG 70	LLG 100	LLG 110	LLG 140
Dry Weight	kg	775	802	802	1043	1095	1175
	lb	1707	1764	1764	2295	2409	2585
Length (A)	mm	1900	1900	1900	2103	2103	2289
	in	74.8	74.8	74.8	84.1	84.1	91.6
Width (B)	mm	710	710	710	820	820	820
	in	28.4	28.4	28.4	32.8	32.8	32.8
Height (C)	mm	1300	1300	1300	1347	1347	1380
	in	51	51	51	53.9	53.9	55.2

A comprehensive range of options allows you to select a specification that matches your requirements. Please ask your Lister Petter distributor (see panel below right).

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