



ALPHA Marine Series Heat-Exchanger Cooled Generating Sets

**LLDM 95(A), LLDM 135, LLDM 140(A), LLDM 190(A),
LLDM 200, LLDM 250(A), LLDM 275, LLDM 400**

**50 Hz; 1500/3000 r/min; power outputs: 5.9–43.5 kVA
60 Hz; 1800 r/min; power outputs: 7.3–25.3 kVA**

Heat-exchanger cooled gensets with electronic control module

Basic Characteristics

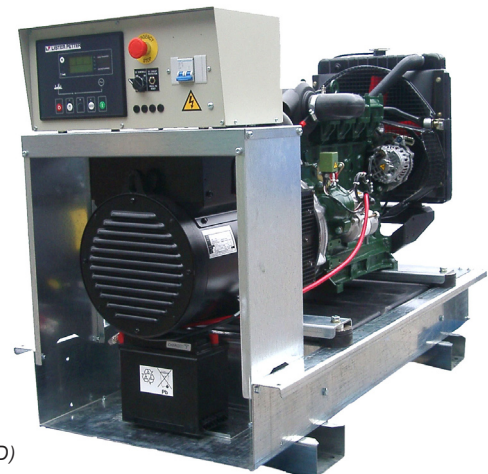
- ✓ Lister Petter ALPHA series Marine engine
- ✓ 2, 3 or 4 cylinders
- ✓ heat-exchanger cooled
- ✓ direct or indirect injection
- ✓ naturally aspirated or turbocharged
- ✓ open set (LLDM) or acoustic set (LLDAM)

Standard Features

- heat-exchanger cooling
- water-cooled exhaust manifold
- water-injected exhaust bend
- raw water connectors
- control system with electronic digital control module (for features see page 3)
- single-bearing, 2 or 4-pole brushless alternator
- 66-litre polypropylene fuel tank with contents gauge
- galvanised steel base-plate with forklift pockets and bunding for the fuel tank
- anti-vibration mountings
- 12 V starter battery and leads
- mechanical governing
- emergency stop button (lock-down type)
- Operators' Handbook
- electrical diagrams

Open Sets Only:

- engine-mounted exhaust silencer



Open Set (LLD)

Acoustic Sets Only:

- acoustic canopy
- central point lifting eye
- external emergency stop button



Acoustic Set (LLDA)

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Engine Accessories

- medium-duty air cleaner
- oil and fuel filters
- fuel-lift pump
- 12 V electric starting system

Alternator Specification

- single-bearing, 2 or 4-pole brushless alternator
- solid state AVR with $\pm 1.5\%$ as standard
- class H insulation on the rotor and stator, with ingress protection rating 23

Optional Items

- residential exhaust silencer for open sets (as fitted to acoustic)
- acoustic canopy kit (including residential silencer kit) for retro-fitting to electric-start open sets only
- basic tool kit

Control Cubicle

All LLDM and LLDAM sets have a control cubicle mounted on a vibration-isolated support, which has the following features:

- 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 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 cooldown
- solid-state automatic battery charger that maintains charge when set is not running

The wall-mounted cubicle features:

- mains monitoring unit to control set operation
- load-transfer contactors, mechanically and electrically interlocked (rated for set output)
- indicator for mains-on-load or plant-on-load

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Power Outputs to ISO 8528-1¹ and Emissions Compliance

50 Hz, 1500 r/min						
Model	Engine	Rating	Single Phase		Three Phase	
			220V 230 V 240 V		380/220 V 400/230 V 415/240 V	
			kVA	kW	kVA	kW
LLDM 95(A)	LPW2	Prime	5.6	5.6	7.0	5.6
		Standby	6.1	6.1	7.6	6.1
	LPWS2	Prime	5.6	5.6	7.0	5.6
		Standby	6.1	6.1	7.6	6.1
LLDM 140(A)	LPW3	Prime	8.7	8.7	10.9	8.7
		Standby	9.5	9.5	12.0	9.6
	LPWS3	Prime	8.7	8.7	10.9	8.7
		Standby	9.5	9.5	12.0	9.6
LLDM 190(A)	LPW4	Prime	12.2	12.2	15.0	12.0
		Standby	13.5	13.5	16.5	13.2
	LPWS4	Prime	12.2	12.2	15.0	12.0
		Standby	13.5	13.5	16.5	13.2
LLDM 250(A)	LPWT4	Prime	15.4	15.4	20.0	16.0
		Standby	17.0	17.0	21.9	17.6
	LPWST4	Prime	15.4	15.4	19.7	15.8
		Standby	17.0	17.0	21.7	17.4

60 Hz, 1800 r/min						
Model	Engine	Rating	Single Phase		Three Phase	
			220 or 110 V 230 or 115 V 240 or 120 V		220/127 230/133	
			kVA	kW	kVA	kW
LLDM 95(A)	LPW2	Prime	6.9	6.9	8.6	6.9
		Standby	7.5	7.5	9.5	7.6
	LPWS2	Prime	6.9	6.9	8.6	6.9
		Standby	7.5	7.5	9.5	7.6
LLDM 140(A)	LPW3	Prime	10.5	10.5	13.3	10.6
		Standby	11.5	11.5	14.6	11.7
	LPWS3	Prime	10.5	10.5	13.3	10.6
		Standby	11.5	11.5	14.6	11.7
LLDM 190(A)	LPW4	Prime	14.8	14.8	18.5	14.8
		Standby	16.3	16.3	20.3	16.2
	LPWS4	Prime	14.8	14.8	18.5	14.8
		Standby	16.3	16.3	20.3	16.2
LLDM 250(A)	LPWT4	Prime	19.0	19.0	24.4	19.5
		Standby	20.9	20.9	26.9	21.5
	LPWST4	Prime	19.0	19.0	24.4	19.5
		Standby	20.9	20.9	26.9	21.5

50 Hz, 3000 r/min						
Model	Engine	Rating	Single Phase		Three Phase	
			220V 230 V 240 V		380/220 V 400/230 V 415/240 V	
			kVA	kW	kVA	kW
LLDM 135	LPW2	Prime	10.2	10.2	13.7	11.0
		Standby	11.2	11.2	15.1	12.1
	LPWS2	Prime	10.2	10.2	13.7	11.0
		Standby	11.2	11.2	15.1	12.1
LLDM 200	LPW3	Prime	15.4	15.4	20.3	16.3
		Standby	16.9	16.9	22.4	17.9
	LPWS3	Prime	15.4	15.4	20.3	16.3
		Standby	16.9	16.9	22.4	17.9
LLDM 275	LPW4	Prime	20.9	20.9	28.1	22.5
		Standby	23.0	23.0	30.9	24.8
	LPWS4	Prime	20.9	20.9	28.1	22.5
		Standby	23.0	23.0	30.9	24.8
LLDM 400	LPWT4	Prime			39.5	31.6
		Standby			43.5	34.8

Approximate Fuel Consumption					
Values refer to litres/hour			50 Hz		60 Hz
Genset	Engine	Load	1500 r/min	3000 r/min	1800 r/min
LLDM 95(A)	LPW2	100%	1.9		2.3
		75%	1.5		1.8
	LPWS2	100%	2.1		2.5
		75%	1.6		2.0
LLDM 135	LPW2	100%		3.9	
		75%		3.1	
	LPWS2	100%		4.4	
		75%		3.4	
LLDM 140(A)	LPW3	100%	2.8		3.4
		75%	2.2		2.7
	LPWS3	100%	3.1		3.7
		75%	2.4		2.9
LLDM 200	LPW3	100%		5.9	
		75%		4.6	
	LPWS3	100%		6.6	
		75%		5.1	
LLDM 190(A)	LPW4	100%	3.8		4.6
		75%	2.9		3.6
	LPWS4	100%	4.1		5.0
		75%	3.2		3.9
LLDM 275	LPW4	100%		7.8	
		75%		4.6	
	LPWS4	100%		8.8	
		75%		6.9	
LLDM 250(A)	LPWT4	100%	4.9		6.0
		75%	3.7		4.6
	LPWST4	100%	5.4		6.6
		75%	4.1		5.1
LLDM 400	LPWT4	100%		10.6	
		75%		8.3	
	LPWST4	100%			
		75%			

1. For rating definitions see page 4. Power Factor: single phase, 1.0 pf; three phase, 0.8 pf. Other voltages are available on request. Power outputs are based on standard Lister Petter alternators (but see 2).
 2. LPWT4 single-phase outputs are based on Mecc Alte alternators.

Sound Pressure ³					
Acoustic sets, 75% load at 7m					
50 Hz, 1500 r/min					
LPW2/3	LPW4	LPWT4	LPWS2/3	LPWS4	LPWST4
64 dBA	65 dBA	62 dBA	64 dBA	65 dBA	N/D

3. In accordance with European Noise Directive 2001/14/EC.

N/D = No data available at going to press. Please ask your distributor.

Key to Colour Coding

	Fully compliant with EU Stage 3A, USA EPA Interim Tier 4 and India GSR 448(E) legislation.		Compliant with EU Stage 3A and India GSR 448(E) legislation.
	Compliant with USA EPA Interim Tier 4 legislation only.		Compliant with EU Stage 3A legislation only.

