

PLE15S



Main Features

Frequency	Hz	50
Voltage	V	400
Power factor	cos ϕ	0.8
Phase		3

Power Rating

Emergency Standby Power ESP	kVA	14.00
Emergency Standby Power ESP	kW	11.20
Prime power PRP	kVA	12.71
Prime power PRP	kW	10.17

Ratings definition (ISO-8528)

ESP - Emergency Standby Power:

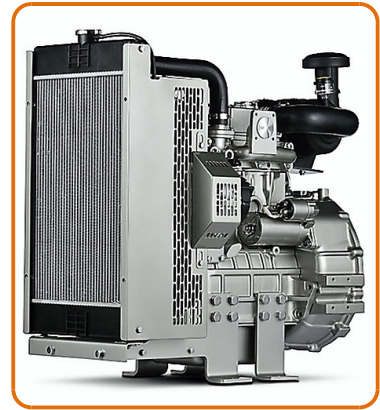
It is the maximum power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of a utility power outage or under test conditions for up to 200 h of operation per year with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. The permissible average power output over 24 h of operation shall not exceed 70 % of the ESP.

PRP - Prime Power:

It is defined as being the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operating conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output over 24 h of operation shall not exceed 70 % of the prime power.

Engine specifications

Engine Brand	Perkins	
Model	403D-15G	
[50Hz] Exhaust emission level	Unregulated	
Engine cooling system	Water	
Nr. of cylinder and disposition	3 in line	
Displacement	cm ³	1496
Aspiration	Natural	
Speed governor	Mechanical	
Prime gross power PRP	kW	12.2
Maximum gross power LTP ESP	kW	13.5
Oil capacity	l	6
Coolant capacity	l	6
Fuel	Diesel	
Specific fuel consumption 75% PRP	g/kWh	252
Specific fuel consumption PRP	g/kWh	248
Starting system	Electric	
Starting engine capability	kW	2
Electric circuit	V	12



Engine Equipment

Standards

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS 5514/1

Fuel system

Rotary type pump

Lube oil system

Wet steel sump with filler and dipstick

Filter

- Fuel filter
- Air filter
- Oil filter

Cooling system

- Mounted radiator
- Thermostatically-controlled system with belt driven coolant pump and pusher fan

Alternator Specifications

Alternator	Leroy Somer	
Model	LSA40 VS2	
Voltage	V	400
Frequency	Hz	50
Power factor	$\cos \phi$	0.8
Poles	4	
Type	Brushless	
Voltage tolerance	%	0.5
Efficiency @ 75% load	%	85.3
Class	H	
IP protection	23	



SPECIALLY ADAPTED TO APPLICATIONS

The LSA 40 alternator is designed to be suitable for typical generator applications, such as: backup, marine applications, rental, telecommunications, etc.

TOP OF THE RANGE ELECTRICAL PERFORMANCE

- Class H insulation.
- Standard 12 wire re-connectable winding, 2/3 pitch, type no. 6.
- High efficiency and motor starting capacity.
- R 791 interference suppression conforming to standard EN 55011 group 1 class B standard for European zone (CE marking).

EXCITATION AND REGULATION SYSTEM

- Excitation system: AREP

REINFORCED MECHANICAL STRUCTURE

- Compact rigid assembly to better withstand generator vibrations.
- Steel frame.
- Aluminium flanges and shields.
- single-bearing designed to be suitable for heat engines.
- Half-key balancing

PROTECTION SYSTEM SUITED TO THE ENVIRONMENT

- The LSA 40 is IP 23.
- Winding Protection for clean environments with relative humidity $\leq 95\%$, including indoor marine environments.

COMPLIANT WITH INTERNATIONAL STANDARDS

The LSA 40 alternator conforms to the main international standards and regulations:

- IEC 60034, NEMA MG 1.32-33, ISO 8528-3, CSA C22.2 n°100-14, UL 1146 (UL 1004 on request), marine regulations, etc.

It can be integrated into a CE marked generator.

The LSA 40 is designed, manufactured and marketed in an ISO 9001 environment and ISO 14001.



Genset equipment

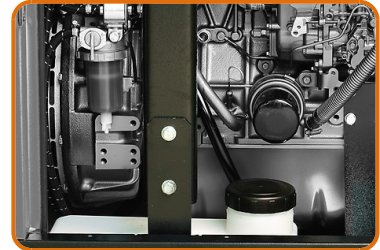
BASE FRAME MADE OF WELDED STEEL PROFILE, COMPLETE WITH:

- Anti-vibration mountings properly sized
- Welded support legs



PLASTIC FUEL TANK WITH THE FOLLOWING COMPONENT:

- Filler neck
- Air breather (ventilation pipe)
- Minimum fuel level sensor



OIL DRAINING PIPE WITH CAP:

- Oil draining facilities



ENGINE COMPLETE WITH:

- Battery
- Liquids (no fuel)

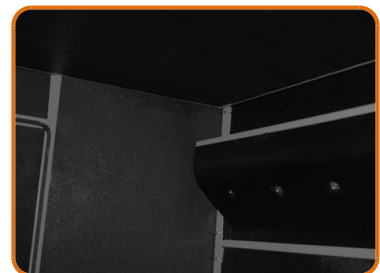
CANOPY:

- Soundproof canopy made up of modular panels, realized with zinc-coated steel as treatment against corrosion and aggressive conditions, properly fixed and sealed allowing a full weatherproof enclosure.
- Easy access to the genset for maintenance purposes thanks to: Wide lateral access doors fixed by stainless steel hinges and provided with plastic lockable handles and internal perforated galvanized steel-sheet; Detachable panels, with screws holes protected by rubber tap.
- Control panel protection door provided with suitable window and lockable handle.
- Lateral air inlet opening properly protected and soundproofed. Exhaust air outlet from the roof, through wet section protected by proper grid.
- Single detachable lifting eye placed on the roof.



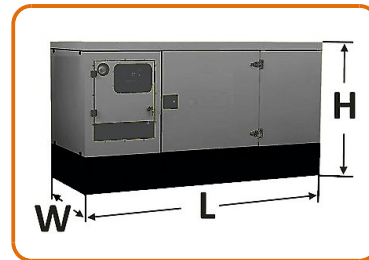
SOUNDPROOF:

- Noise attenuation thanks to soundproofing material
- Efficient residential silencer placed inside the canopy



Dimensional data

Length	(L) mm	1800
Width	(W) mm	850
Height	(H) mm	1260
Dry weight	kg	736
Fuel tank capacity	l	68
Fuel tank material		Plastic



Autonomy

Fuel consumption @ 75% PRP	l/h	2.74
Fuel consumption @ 100% PRP	l/h	3.60
Running time 75% PRP	h	24.82
Running time 100% PRP	h	18.89

Noise level

Guaranteed noise level (LWA)	dB(A)	87
Noise pressure level @ 7 m	dB(A)	58

Installation data

Total air flow	m ³ /min	41.30
Exhaust gas flow	m ³ /min	2.7
Exhaust gas temperature	°C	445

Electrical Data

Battery capacity	Ah	70
Max current	A	20.21
Circuit breaker	A	20

Control panel availability

AUTOMATIC CONTROL PANEL	ACP
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ACP - Automatic control panel

Mounted on the genset, complete with digital control unit for monitoring, control and protection of the generating set, protected through door with lockable handle.

DIGITAL INSTRUMENTATION

- Generating set voltage (3 phases).
- Mains voltage.
- Generating set frequency.
- Generating set current (3 phases).
- Battery voltage.
- Power (kVA - kW - kVAr).
- Power factor Cos ϕ .
- Hours-counter.
- Engine speed r.p.m.
- Fuel level (%).
- Engine temperature (depending on model)

COMMANDS AND OTHERS

- Four operation modes: OFF - Manual starting - Automatic starting - Automatic test.
- Pushbutton for forcing Mains contactor or Genset contactor.
- Push-buttons: start/stop, fault reset, up/down/page/enter selection.
- Remote starting availability.
- DC system disconnection switch.
- Acoustic alarm.
- Automatic battery charger.
- RS232 Communication port.
- Settable PASSWORD for protection level.

PROTECTIONS WITH ALARM

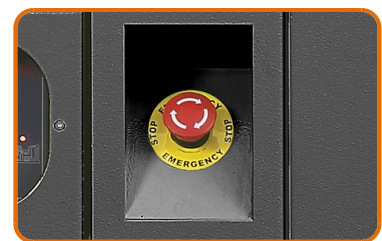
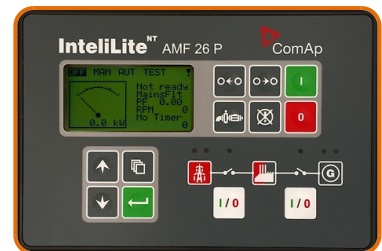
- Engine protections: low fuel level, low oil pressure, high engine temperature.
- Genset protections: under/over voltage, overload, under/over frequency, starting failure, under/over battery voltage

PROTECTIONS WITH SHUTDOWN

- Engine protections: low fuel level, low oil pressure, high engine temperature,
- Genset protection: under/over voltage, overload, under/over battery voltage, battery charger failure.
- Circuit breaker protection: III poles.
- Earth Fault included in the control unit.

OTHERS PROTECTIONS

- Emergency stop button.
- Panel protected through door with lockable handle.



OUT PUT PANEL ACP

Plinth row for connection from ACP to LTS panel.	✓
Power cables connection to Circuit Breaker.	✓



Supplements:

To be ordered with equipment (when necessary) :

CONTROL PANEL SUPPLEMENT

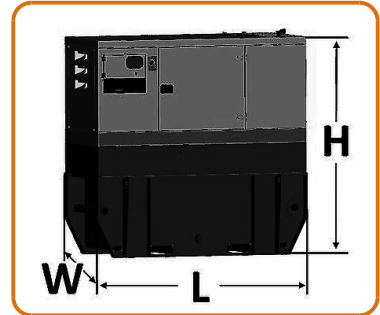
RCG - Various supplements for remote controls - available for models:	ACP
TLP - Various supplements for remote signals - available for models:	ACP
ADI - Adjustable Differential Intensity - available only for models:	ACP
TIF - IV Poles Circuit Breaker instead of III - available for models:	ACP
ETB - External Terminal Board - available for models:	ACP



GENSET EQUIPMENT

KPR - Premium Kit (Leak Proof Tray - Leakage detection sensor - Manual oil drain pump)	
AFP - Automatic Fuel Pump	ACP

Extended Fuel Tank



ENGINE SUPPLEMENTS

PHS - Coolant Pre-Heating System	ACP
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Accessories

Items available as accessory equipment

LTS - Load Transfer Switch [Accessories for ACP Automatic Control Panel]

The Load Transfer Switch (LTS) panel operates the power supply changeover between the generator and the Mains in backup applications, guarantying the feeding to the load within a short period of time. It consists of a standalone cabinet which can be installed separate from the generating set. The logic control of the power supply changeover is operated by means of the Automatic Control panel mounted on the generating set, so therefore none logic device is required on the LTS panel.



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