

#### **INTRODUCTION**

**AKSA** POWER GENERATION

Aksa power generation system, providing optimum performance, and reliability, for stationary standby, prime power, and continuous duty applications. All generator sets are factory build, and production tested.

	Power (kVA	Phase, 50Hz, PF 0.8				
	VOLTAGE	STANDBY RATING (ESP)		PRIME RATING (PRP)		Standby Current
		kWe	kVA	kWe	kVA	(A)
	400/231	32	40	29,6	37	57,7

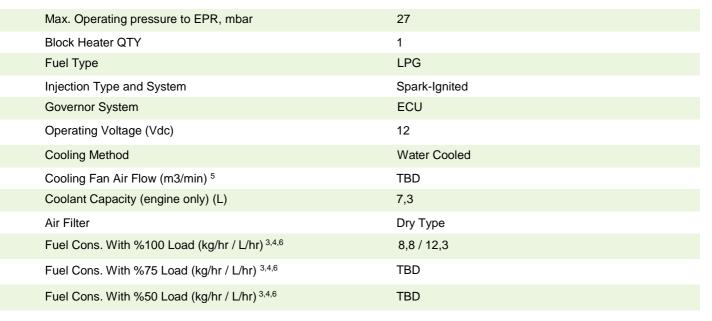
**STANDBY RATING (ESP)** Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. ESP is in accordance with ISO 8528-1. Overload is not allowed.

**PRIME RATING (PRP)** Applicable for supplying power to varying electrical load for unlimited hours. PRP is in accordance with ISO 8528-1. 10 % overload capability is available for a period of 1 hour within 12-hour period of operation.

#### **General Characteristics**

Model Name	APG 40 LPG
Frequency (Hz)	50
Fuel Type	LPG
Engine Made and Model	PSI 4,3L (4X)
Alternator	Mecc Alte
Control Panel Model	DSE 6120
Canopy	AUL3-APG50-LPG
Genset Gas Inlet Pressure	300mbar
ENGINE SPECIFICATIONS	
Engine	PSI
Engine Model	4,3L (4X)
Number of Cylinder	6V
Bore (mm)	101,6
Stroke (mm)	88
Displacement (L)	4,3
Aspiration	Naturally Aspirated
Compression Ratio	9,8:1
Engine Speed (rpm)	1500
Oil Capacity (L)	4,3
Standby Power (kWm / HP) 1,2,3,4 Per ISO 3046	50,7 / 68,0
Prime Power (kWm / HP) <sup>1,2,3,4</sup> Per ISO 3046	<u>.</u>

Prime Power (kWm / HP) <sup>1,2,3,4</sup> Per ISO 3046



# **ALTERNATOR CHARACTERISTICS**

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Manufacturer	Mecc Alte
Alternator Made and Model	ECP32 1S4C
Frequency (Hz)	50
Power (kVA)	37,5
Voltage (V)	400
Phase	3
A.V.R.	DSR
Voltage Regulation	(+/-)1%
Insulation System	н
Protection	IP23
Rated Power Factor	0,8
Weight Comp. Generator (kg)	153
Cooling Air (m³/min)	15,7

#### **Canopy Dimensions**

Length (mm)	2278	
Width (mm)	1063	
Height (mm)	1395	

1 Max load and overload ratings based on ISO 3046 gross flywheel power.

2 Technical data based on ISO 3046-1 standards of 77°F(25°C), 14.5Psia (100kPa) and 30% relative humidity.

3 Production tolerances in engines and installed components can account for power variations of ± 5%. Altitude, temperature and excessive exhaust and intake restrictions should be applied to power calculations.

4 All fuel and thermal calculations unless otherwise noted are done at ISO 3046 rated load using LHV for NG of 48.17 MJ/kg.

5 At 0.5 in-H2O of Package Restriction at STP

6. Volume calculated using density of 0.717 kg/m3 for NG, 0.51 kg/L for LPG

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- 1.Steel structures
- 2. Emergency stop push button
- 3. Canopy and panels made from powder coated sheet steel.
- **4.** Control panel is mounted on the baseframe. Located at the right side of the generator set
- 5. Oil could be drained via valve and a hose
- 6. Exhaust system in the canopy
- 7. Special large access doors for easy maintanance
- 8. In front and back side special large access doors for
- easy maintanance
- 9. Base frame
- 10. Lifting points
- **11.** The cap on the canopy provides easy access to radiator cap.
- 12. Sound proofing materials
- 13. Plastic air intake pockets.

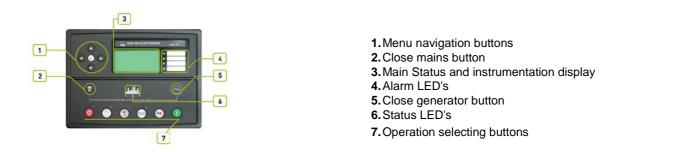
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Sound-attenuated and weather protective enclosures for generating sets from Aksa, meet event the sound requirements and provide optimum protection from inclement weather and development by our specialist acoustic engineers. Our modular designed sound insulated canopies provide ease of access for servicing and general maintenance and interchangeable components permitting on-site repair. Enclosures are designed to optimize genset cooling performance, providing you with confidence that genset ratings and ambient capability.

## **Control Panel**

Control Module	DSE
Control Module Model	DSE 6120
Communication Ports	MODBUS



#### **Devices**

DSE, model 6120 Auto Mains Failure control modüle, Battery charger input 198-264 volt, output 27,6 V 5 A (24 V) or 13,8 Volt 5A (12V), Emergency stop push button and fuses for control circuits

#### **CONSTRUCTION and FINISH**

Comonents installed in sheet steel enclosure.

Phosphate chemical, pre-coating of steel provides corrosion resistant surface

Polyester composite powder topcoat forms high gloss and extremely durable finish

Lockable hinged panel door provides for easy component access



#### **INSTALLATION**

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Control panel is mounted on baseframe with steel stand. Located at the right side of the generator set (When you look at the Gen.Set. from Alternator).

#### **GENERATING SET CONTROL UNIT**

The DSE 6120 module has been designed to monitor generator frequency, volt, current, engine oil pressure, coolant temperature running hours and battery volts.

Module monitors the mains supply and switch over to the generator when the mains power fails.

The DSE6120 also indicates operational status and fault conditions, Automatically shutting down the Gen. Set and giving true first up fault condition of Gen. Set failure. The LCD display indicates the fault.

#### STANDARD SPECIFICATIONS

- Microprocessor controlled.
- LCD display makes information easy to read
- Automatically transfers between mains (utilty) and generator power.
- Manual programming on front panel.
- User-friendly set-up and button layout. communications via RS232, RS485 and ethernet.
- Remote start.
- Event logging (50) showing date and time.
- Controls: Stop/Reset, Manual, Auto, Test, Start, buttons. An additional push button next to the LCD display is used to scroll

through the modules' metering display.

# Instruments ENGINE

Engine speed Oil pressure Coolant temperature Run time Battery volts Configurable timing GENERATOR Voltage (L-L, L-N) Current (L1-L2-L3) Frequency Gen.Set ready Gen.Set enabled MAINS

Gen.Set ready Gen.Set enabled

## **AKSA** POWER GENERATION





Charge failure

Battery Low/High voltage

Fail to stop

Low/High generator voltage

Under/over generator frequency

Over /Under speed

Low oil pressure

High coolant temperature.

#### SHUT DOWNS

Fail to start

Emergency stop

Low oil pressure

High coolant temperature

Over /Under speed

Under/Over generator frequency

Under/over generator voltage

Oil pressure sensor open

ELECTRICAL TRIP

Generator over current

#### Options

Flexible sensor can be controlled with temperature, pressure, percentage (warning/shutdown/electrical trip) Local setting parameters and monitoring from PC to control module with USB connection (max 6 m)

#### Standards

Elecrical Safety / EMC compatibility BS EN 60950 Electrical business equipment BS EN 61000-6-2 EMC immunity standard BS EN 61000-6-4 EMC emission standard

#### **STATIC BATTERY CHARGER**

Battery charger is manufactured with switching-mode and SMD technology and it has high efficincy.

Battery charger models' output V-I characteristic is very close to square and output is 5 amper, 13,8 V for 12 volt and 27,6 V for 24 V . Input 198 - 264 volt AC.

The charger is fitted with a protection diode across the output.

Charge fail output is available.

Connect charge fail relay coil between positive output and CF output.

They are equipped with RFI filter to reduce electrical noise radiated from the device

Galvanically isolated input and output typically 4kV for high reliability



### **STANDARD SPECIFICATIONS**

- Heavy duty, water cooled naturalgas engine
- Radiator with mechanical fan
- Protective grille for fan and rotating parts
- Electric starter and charge alternator
- Starting battery (with lead acid) including rack and cables
- Engine jacket cooling heater
- Static battery charger
- Flexible gas connection hoses
- Single bearing, class H alternator
- Industrial exhaust silencer and steel belows supplied separately
- Manual for use and installation

## **OPTIONAL EQUIPMENTS**

ALTERNATOR
Anti-Condensation heater
Over sized alternator
Main line circuit breaker
CONTROL SYSTEM
Remote annunciator panel
Remote alarm panel
Alarm output relays
Erath fault, single set
Charging ammeter
TRANSFER SWITCH
Three Pole Contactor
Four Pole Contactor
VISE ACCESSORIES
Manuel oil drain pump
Electrical oil drain pump
Enclosure: weather protective or sound attenuated
Duct adapter (on radiator)
Inlet and outlet motorised louvers
Tool kit for maintenance
Supplied with oil and coolant- 30 °C

### **AKSA CERTIFICATES**

- CE
- 2000/14/EC