



INTRODUCTION

Akxa 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)

400V, 3Phase, 50Hz, PF0.8

| VOLTAGE | STANDBY RATING (ESP) | | PRIME RATING (PRP) | | Standby Current (A) |
|---------|----------------------|-------|--------------------|-------|---------------------|
| | kWe | kVA | kWe | kVA | |
| 400/230 | 144.0 | 180.0 | 144.0 | 180.0 | 259.8 |

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 180 LPG |
| Frequency (Hz) | 50 |
| Fuel Type | LPG |
| Engine Made and Model | PSI10L |
| Alternator | Mecc Alte |
| Control Panel Model | DSE 6120 |
| Canopy | MS 60 |
| Genset Gas Inlet Pressure | 300 mbar |

ENGINE SPECIFICATIONS

| | |
|--|-------------------------|
| Engine | PSI |
| Engine Model | 10L |
| Number of Cylinder | 6 Inline |
| Bore (mm) | 126 |
| Stroke (mm) | 130 |
| Displacement (L) | 9.73 |
| Aspiration | Turbo Charge Air Cooled |
| Compression Ratio | 10.5:1 |
| Engine Speed (rpm) | 1500 |
| Oil Capacity (Total With Filter) (L) | 24 |
| Standby Power (kWm / HP) ^{1,2,3,4} Per ISO 3046 | 162 / 217 |
| Prime Power (kWm / HP) ^{1,2,3,4} Per ISO 3046 | 162 / 217 |



| | |
|---|---------------|
| Block Heater QTY | 1 |
| Max. Operating pressure to EPR, mbar | 27 |
| Fuel Type | LPG |
| Injection Type and System | Spark-Ignited |
| Governor System | ECU |
| Operating Voltage (Vdc) | 24 |
| Cooling Method | Water Cooled |
| Cooling Fan Air Flow (m ³ /min) ⁵ | 330 |
| Coolant Capacity (engine only / with radiator) (L) | 27 / 59 |
| Air Filter | Dry Type |
| Fuel Cons. Prime With %100 Load (kg/hr / L/hr) ^{3,4,6} | 40 / 77.7 |
| Fuel Cons. Prime With %75 Load (kg/hr / L/hr) ^{3,4,6} | TBD |
| Fuel Cons. Prime With %50 Load (kg/hr / L/hr) ^{3,4,6} | TBD |

ALTERNATOR CHARACTERISTICS

| | |
|-----------------------------------|--------------|
| Manufacturer | Mecc Alte |
| Alternator Made and Model | ECP 38 1S/4C |
| Frequency (Hz) | 50 |
| Power (kVA) | 180 |
| Voltage (V) | 400 |
| Phase | 3 |
| A.V.R. | DSR |
| Voltage Regulation | (+/-)1% |
| Insulation System | H |
| Protection | IP23 |
| Rated Power Factor | 0.8 |
| Weight Comp. Generator (kg) | 525 |
| Cooling Air (m ³ /min) | 32 |

Canopy Dimensions

| | |
|-------------|------|
| Length (mm) | 3960 |
| Width (mm) | 1356 |
| Height (mm) | 2040 |

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

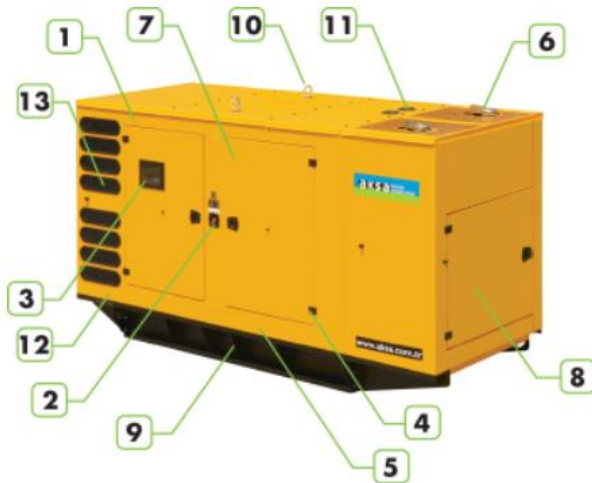
2 Technical data based on ISO 3046-1 standards of 77°F(25°C), 14.5Psia (100kPa) and 30% relative humidity.

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



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 maintenance
8. In front and back side special large access doors for easy maintenance
8. Base frame
9. Special large access doors for easy maintenance
10. Lifting points
11. The cap on the canopy provides easy access to radiator cap.
12. Sound proofing materials
13. Plastic air intake pockets.

INTRODUCTION

Sound-attenuated and weather protective enclosures for generating sets from Aksa, meet even 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 |



1. Menu navigation buttons
2. Close mains button
3. Main Status and instrumentation display
4. Alarm LED's
5. Close generator button
6. Status LED's
7. Operation selecting buttons

Devices

DSE, model 6120 Auto Mains Failure control module, 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

Components 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

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 DSE 6120 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 (utility) 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

WARNING

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

Electrical 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 efficiency.

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

WISE 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