



## INTRODUCTION

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)

3 Phase, 50 Hz, PF 0.8

Voltage	STANDBY RATING (ESP)		PRIME RATING (PRP)		Standby Amper
	kW	kVA	kW	kVA	
400/231	176,00	220,00	160,00	200,00	317,55

**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	AP 220
Frequency (Hz)	50
Fuel Type	Diesel
Engine Made and Model	PERKINS 1106A-70TAG4
Alternator Made and Model	ECO 38-2S/4 C
Control Panel Model	DSE 7320
Canopy	AK 49 TRP

## ENGINE SPECIFICATIONS

Engine	PERKINS
Engine Model	1106A-70TAG4
Number of Cylinder (L)	6 cylinders - in line
Bore (mm.)	105
Stroke (mm.)	135
Displacement (lt.)	7.01
Aspiration	Turbo Charged and Charge Air Cooled
Compression Ratio	16.0:1
RPM (d/dk)	1500
Oil Capacity (Total With Filter) (lt)	18
Standby Power (kW/HP)	196.3/263,13
Prime Power	178.9/239,81
Block Heater QTY	1
Block Heater Power (Watt)	1500
Fuel Type	Diesel
Injection Type and System	Direct
Type of Fuel Pump	Delphi DP210G Rotary Type
Governor System	Electronic
Operating Voltage (Vdc)	12 Vdc



Battery and Capacity (Qty/Ah)	1x85
Charge Alternator (A)	65
Cooling Method	Water Cooled
Coolant Capacity (engine only / with radiator) (lt)	/21
Air Filter	Dry Type
Fuel Cons. Prime With %100 Load (lt/hr)	45.8
Fuel Cons. Prime With %75 Load (lt/hr)	34.7
Fuel Cons. Prime With %50 Load (lt/hr)	23.1

### ALTERNATOR CHARACTERISTICS

Manufacturer	Mecc Alte
Alternator Made and Model	ECO 38-2S/4 C
Frequency (Hz)	50
Power (kVA)	200
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)	550
COOLING AIR (m <sup>3</sup> /min)	32

### Open Gen.Set Dimensions (mm)

LENGTH	2300
WIDTH	1080
HEIGHT	1655
DRY WEIGHT (kg.)	1750
TANK CAPACITY (lt.)	340

### Gen.Set Canopy Dimensions (mm)

LENGTH	3404
WIDTH	1136
HEIGHT	2020
DRY WEIGHT (kg.)	2220
TANK CAPACITY (lt.)	340

1. Steel structures
2. Emergency stop push button
3. Control panel is right side of the set.
4. Corrosion.resistant locks and hinges
5. Sump drains valves
6. Sound proof foam metarial



## 7. Lifting Points

### INTRODUCTION

Sound-attenuated and Weather-protective Enclosures 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 7320
Communication Ports	MODBUS
	<ol style="list-style-type: none"> <li>1. Menu navigation buttons</li> <li>2. Close mains button</li> <li>3. Main Status and instrumentation display</li> <li>4. Alarm LED's</li> <li>5. Close generator button</li> <li>6. Status LED's</li> <li>7. Operation selecting buttons</li> </ol>

### Devices

DSE, model 7320 Auto Mains Failure control module Static battery charger 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

Control panel is mounted generating set baseframe on robust steel stand or power module. Located at side of generating set with properly panel visibility.

### GENERATING SET CONTROL UNIT

The DSE 7320 conrol module is a standard addition to our generator sets from 220 kVA upwards and it has been designed to start and stop diesel andgas generating sets that include electronic and non electronic engines.

The DSE 7320 includes the additional capability of being able to monitor a mains (utility) supply and is therefore suitable for controlling a standby generating set in conjunction with an automatic transfer switch.

The DSE7320 also indicates operational status and fault conditions, automatically shutting down the generating set and indicating faults by means of its LCD display on the front panel.

### STANDARD SPECIFICATIONS

Microprocessor controlled

- 132 x 64 pixel LCD display makes information easy to read
- Front panel programming and also via PC software
- Soft touch membrane keypad and five key menu navigation
- Remote communications via RS232, RS485 and ethernet.
- Event logging (50) showing date and time
- Multiple date and time engine exercise mode and maintenance scheduler
- Engine block heater control.



- Controls; stop, manuel, auto, test, start, mute lamb test/transfer to generator, transfer to mains, menu navigation.

### Instruments

#### ENGINE

Engine speed

Oil pressure

Coolant temperature

Run time Battery volts

Engine maintenance due

#### GENERATOR

Voltage (L-L, L-N)

Current (L1-L2-L3)

Frequency

Earth current

kW

Pf

kVAr

kWh, kVAh, kVArh

Phase sequence

#### MAINS

Voltage (L-L, L-N)

Frequency

#### WARNING

Charge failure

Battery under voltage

Fail to stop

Low fuel level (opt.)

kW over load

Negative phase sequence

Loss of speed signal

#### PRE-ALARMS

Low oil pressure

High engine temperature

Low engine temperature

Over /Under speed

Under/over generator frequency

Under/over generator voltage

ECU warning

#### SHUT DOWNS



Fail to start  
Emergency stop  
Low oil pressure  
High engine temperature  
Low coolant level  
Over /Under speed  
Under/over generator frequency  
Under/over generator voltage  
Oil pressure sensor open  
Phase rotation  
ELECTRICAL TRIP  
Earth fault  
kW over load  
Generator over current  
Negative phase sequence

#### Options

High oil temperature shut down  
Low fuel level shut down  
Low fuel level alarm  
High fuel level alarm  
EXPANSION MODULES  
Editional LED module (2548)  
Expansion relay module (2157)  
Expansion input module (2130)

#### 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

2405 has fully output short circuit protection and it can be used as a current source.

2405 charger has high efficiency, long life, low failure rate, light weight and low heat radiated in accordance with linear alternatives.

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.



Input: 196-264V.

Output: 27,6V 5A or 13,8V 5A.

### STANDARD SPECIFICATIONS

- Water cooled, Diesel engine
- Radiator with mechanical fan
- Protective grille for rotating and hot parts
- Electric starter and charge alternator
- Starting battery (with lead acid) including rack and cables
- Engine coolant heater
- Base frame design incorporates an integral fuel tank and anti-vibration isolators
- Flexible fuel connection hoses
- Single bearing, class H alternator
- Industrial exhaust silencer and steel bellows supplied separately(for open sets)
- Static battery charger
- Manual for application and installation

### OPTIONAL EQUIPMENTS

#### ENGINE

- Fuel-Water Separator Filter
- Low water level alarm
- Oil heater

#### ALTERNATOR

- Anti-Condensation Heater
- Over sized alternator
- Main line circuit breaker

#### CONTROL SYSTEM

- Remote annunciator panel
- Remote relay output
- Alarm output relays
- Remote communication with modem
- Earth fault, single set
- Charge Ammeter

#### TRANSFER SWITCH

- Three or four pole contactor
- Three or four pole motor operated circuit breaker

#### OTHER ACCESSORIES

- Main Fuel Tank
- Automatic or manual fuel filling system
- Manual oil drain pump
- Residential silencer



Enclosure: weater protective or sound attenuated

Duct adapter ( on radiator)

Inlet and outlet motorised louvers

Inlet and outlet acoustic baffles

Trailer

Tool kit for maintenance

Supplied with oil and coolant - 30 °C

Battery isolating switch

### **AKSA CERTIFICATES**

- TS ISO 8528

- TS ISO 9001-2008

- CE

- SZUTEST

- 2000/14/EC