

## 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	660,00	825,00	600,00	750,00	1190,82

**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 825
Frequency (Hz)	50
Fuel Type	Diesel
Engine Made and Model	PERKINS 4006-23TAG2A
Alternator Made and Model	ECO 40-VL/4 C
Control Panel Model	DSE 7320
Canopy	AK 91

## ENGINE SPECIFICATIONS

Engine	PERKINS
Engine Model	4006-23TAG2A
Number of Cylinder (L)	6 cylinders - in line
Bore (mm.)	160
Stroke (mm.)	190
Displacement (lt.)	22.921
Aspiration	Turbo Charged
Compression Ratio	13.6:1
RPM (d/dk)	1500



Oil Capacity (Total With Filter) (lt)	113.4
Standby Power (kW/HP)	721/966,48
Prime Power	658/882,03
Block Heater QTY	1
Block Heater Power (Watt)	4000
Fuel Type	Diesel
Injection Type and System	Direct
Type of Fuel Pump	Mechanical
Governor System	Electronic
Operating Voltage (Vdc)	24 Vdc
Battery and Capacity (Qty/Ah)	2x143
Charge Alternator (A)	55
Cooling Method	Water Cooled
Coolant Capacity (engine only / with radiator) (lt)	/120
Air Filter	Dry Type
Fuel Cons. Prime With %100 Load (lt/hr)	161
Fuel Cons. Prime With %75 Load (lt/hr)	122
Fuel Cons. Prime With %50 Load (lt/hr)	83

### ALTERNATOR CHARACTERISTICS

Manufacturer	Mecc Alte
Alternator Made and Model	ECO 40-VL/4 C
Frequency (Hz)	50
Power (kVA)	750
VOLTAGE (V)	400
Phase	3
A.V.R.	DER1
Voltage Regulation	(+/-)0.5%
Insulation System	H
Protection	IP23
Rated Power Factor	0.8
WEIGHT COMP. GENERATOR (Kg)	1750
COOLING AIR (m <sup>3</sup> /min)	54

### Open Gen.Set Dimensions (mm)

LENGTH	4100
WIDTH	1690
HEIGHT	2266
DRY WEIGHT (kg.)	5250
TANK CAPACITY (lt.)	1500

### Gen.Set Canopy Dimensions (mm)



LENGTH	5920
WIDTH	2200
HEIGHT	2353
DRY WEIGHT (kg.)	7300
TANK CAPACITY (lt.)	1100



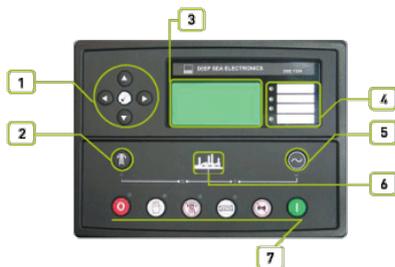
1. Steel structure made from steel sheet and steel profiles.
2. canopy and panels made from powder coated sheet steel.
3. Emergency stop push button.
4. Control panel is mounted on the baseframe . Located at the right side of the generator set.
5. Cables out locations are under or back of the canopy.
6. Corrosion.resistant locks and hinges.
7. oil could be drained via valve and a hose
8. Exhaust system in the canopy.
9. special large access doors (marine type) for easy maintenance
10. Fuel tank is at front of the canopy ,easy access to the fuel tank via lockable door.
11. Lifting points similar to ISO container , located on each top corner of the canopy.
12. the cap on the canopy provides easy access to radiator cap.
13. sound proofing materials
14. Integrated ladder built in to side of the canopy allows access to the top of the canopy.

**INTRODUCTION**

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



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 7320 Auto Mains Failure control module
- Static battery charger
- Emergency stop push button and fuses for control circuits

**CONSTRUCTION and FINISH**



Components installed in a sheet steel enclosure.

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

Polyester composite powder topcoat forms a high gloss and extremely durable finish

Lockable hinged panel door provides for easy component access

## INSTALLATION

Control panel is mounted to gen-set baseframe on robust steel stand or power module. Located on the side of generating set with proper panel visibility.

## GENERATING SET CONTROL UNIT

The DSE 7320 control module is a standard addition to our generator sets from 220 kVA upwards and it has been designed to start and stop diesel and gas 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, manual, 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

kVA<sub>r</sub>

kWh, kVAh, kVA<sub>r</sub>h



Phase sequence

MAINS

Voltage (L-L, L-N)

Frequency

WARNING

Charge failure

Battery under voltage

Fail to stop

Low fuel level (opt.)

kW overload

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

SHUTDOWN

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 overload

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

Additional 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, lightweight 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 the 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

Oil heater

#### ALTERNATOR

Anti-Condensation Heater

Over sized alternator

PMG excitation + AVR

Main line circuit breaker

#### CONTROL SYSTEM

Automatic synchronising and power control system ( multi gen-set Parallel )

Transition synchronization with mains

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

Electrical oil drain pump

Low and high fuel level alarm

Residential silencer

Enclosure: weater protective or sound attenuated

Duct adapter ( on radiator)

Inlet and outlet motorised louvers

Inlet and outlet acoustic baffles

Tool kit for maintenance

1500/3000 hours maintenance kit

Supplied with oil and coolant - 30 °C

#### AKSA CERTIFICATES

- TS ISO 8528

- CE

- SZUTEST

- 2000/14/EC