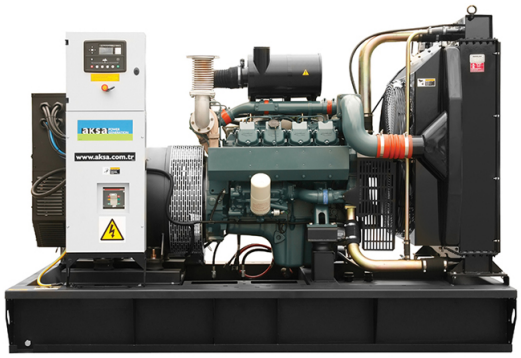
aksa POWER GENERATION

AD 410



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	328,00	410,00	296,00	370,00	591,80

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 perod of operation.

General Characteristics

Model Name	AD 410
Frequency (Hz)	50
Fuel Type	Diesel
Engine Made and Model	HYUNDAI DP126LB
Alternator Made and Model	AK 5300
Control Panel Model	DSE 7320
Canopy	MS 70

ENGINE SPECIFICATIONS

Engine	HYUNDAI
Engine Model	DP126LB
Number of Cylinder (L)	6 cylinders - in line
Bore (mm.)	123
Stroke (mm.)	155
Displacement (lt.)	11.051
Aspiration	Turbo Charged and Intercooled (Air to Air)
Compression Ratio	17.2:1
RPM (d/dk)	1500

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Oil Capacity (Total With Filter) (lt)	44
Standby Power (kW/HP)	362/485,25
Prime Power	327/438,33
Block Heater QTY	1
Block Heater Power (Watt)	3000
Fuel Type	Diesel
Injection Type and System	Direct
Type of Fuel Pump	INLINE P TYPE
Governor System	Electronic
Operating Voltage (Vdc)	24 Vdc
Cooling Method	Water Cooled
Cooling Fan Air Flow (m3/min)	312
Coolant Capacity (engine only / with radiator) (lt)	23/57.4
Air Filter	Dry Type
Fuel Cons. Prime With %100 Load (lt/hr)	76
Fuel Cons. Prime With %75 Load (lt/hr)	57.1
Fuel Cons. Prime With %50 Load (lt/hr)	38.4

ALTERNATOR CHARACTERISTICS

Manufacturer	Aksa
Alternator Made and Model	AK 5300
Frequency (Hz)	50
Power (kVA)	375
Voltage (V)	400
Phase	3
A.V.R.	SX440
Voltage Regulation	(+/-)1%
Insulation System	H
Protection	IP22
Rated Power Factor	0.8
WEIGHT COMP. GENERATOR (Kg)	1160
COOLING AIR (m³/min)	29.16

Open Gen.Set Dimensions (mm)

LENGTH	2965
WIDTH	1550
HEIGHT	2079
DRY WEIGHT (kg.)	3050
TANK CAPACITY (lt.)	700

Gen.Set Canopy Dimensions (mm)

LENGTH	4434

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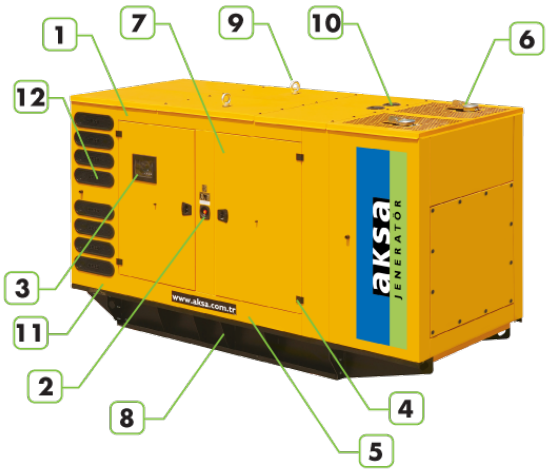
WIDTH	1606
HEIGHT	2496
DRY WEIGHT (kg.)	3920
TANK CAPACITY (lt.)	700



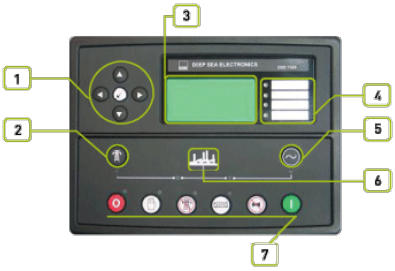
1. Steel structures.
2. Emergency stop push button.
3. Control panel is mounted on the baseframe . Located at the right side of the generator set.
4. Corrosion-resistant locks and hinges.
5. Oil could be drained via valve and a hose
6. Exhaust system in the canopy.
7. Special large access doors for easy maintanance
8. In front and back side special large access doors for easy maintanance
9. Base frame -fuel tank.
11. The cap on the canopy provides easy accsess 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 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, 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

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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

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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

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Editional LED module (2548)

Expension relay module (2157)

Expansion input module (2130)

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

2405 has fully output shot circuit protection and ıt 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 Seperator Filter

Oil heater

ALTERNATOR

Anti-Condensation Heater

Over sized alternator

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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
Earth fault, single set
Charge Ammeter
TRANSFER SWITCH
Three Pole Contactor
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
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
Trailer
Tool kit for maintenance
1500/3000 hours maintenance kit
Double wall chassis

AKSA CERTIFICATES

- TS ISO 8528
- CE
- 2000/14/EC

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