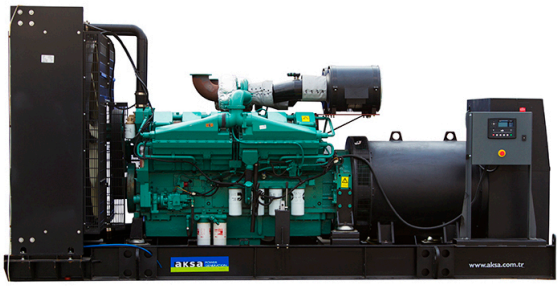
aksa POWER GENERATION

AC 1594-6



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,60 Hz, PF 0.8

Voltage	STANDBY RATING (ESP)		PRIME RATING (PRP)		Standby Amper
	kW	kVA	kW	kVA	
380/220	1160,80	1451,00	1056,00	1320,00	2204,63
480/277	1275,20	1594,00	1122,40	1403,00	

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	AC 1594-6
Frequency (Hz)	60
Fuel Type	Diesel
Engine Made and Model	CUMMINS KTA50-G3 60Hz
Alternator Made and Model	ECO 43-2L/4 A - 60Hz
Control Panel Model	DSE 7320
Canopy	AK 98

ENGINE SPECIFICATIONS

Engine	CUMMINS
Engine Model	KTA50-G3 60Hz
Number of Cylinder (L)	16 cylinders - V type
Bore (mm.)	159
Stroke (mm.)	159
Displacement (lt.)	50.3
Aspiration	Turbo Charged and AfterCooled

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Compression Ratio	13.9:1
RPM (d/dk)	1800
Oil Capacity (Total With Filter) (lt)	177
Standby Power (kW/HP)	1380/1850
Prime Power	1220/1635
Block Heater QTY	2
Block Heater Power (Watt)	3000
Fuel Type	Diesel
Injection Type and System	Direct
Type of Fuel Pump	Cummins PT
Governor System	Electronic
Operating Voltage (Vdc)	24 Vdc
Battery and Capacity (Qty/Ah)	4x143
Charge Alternator (A)	35
Cooling Method	Water Cooled
Cooling Fan Air Flow (m3/min)	1770
Coolant Capacity (engine only / with radiator) (lt)	161/415
Air Filter	Dry Type
Fuel Cons. Prime With %100 Load (lt/hr)	291
Fuel Cons. Prime With %75 Load (lt/hr)	222
Fuel Cons. Prime With %50 Load (lt/hr)	157

ALTERNATOR CHARACTERISTICS

Manufacturer	Mecc Alte
Alternator Made and Model	ECO 43-2L/4 A - 60Hz
Frequency (Hz)	60
Power (kVA)	1056
Voltage (V)	380
Phase	3
A.V.R.	DER1
Voltage Regulation	(+/-)0.5%
Insulation System	H
Protection	IP23
Rated Power Factor	0.8
WEIGHT COMP. GENERATOR (Kg)	2660
COOLING AIR (m^3/min)	108

Open Gen.Set Dimensions (mm)

LENGTH	4935
WIDTH	2100
HEIGHT	2500

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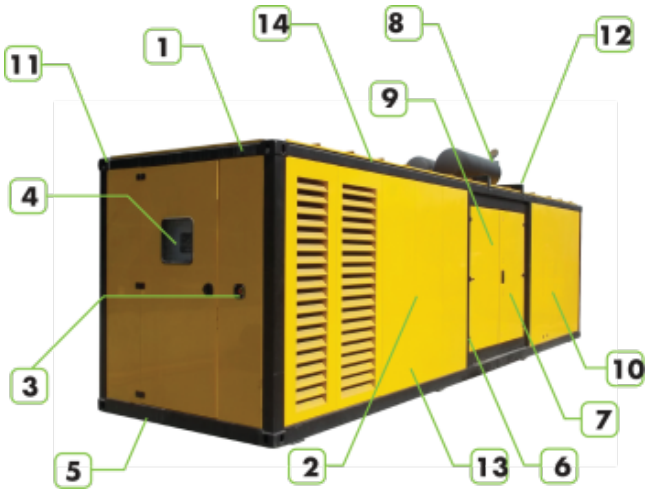
DRY WEIGHT (kg.)	10000
TANK CAPACITY (lt.)	2000

Gen.Set Canopy Dimensions (mm)

LENGTH	9000
WIDTH	2270
HEIGHT	2581
DRY WEIGHT (kg.)	14350
TANK CAPACITY (lt.)	1900



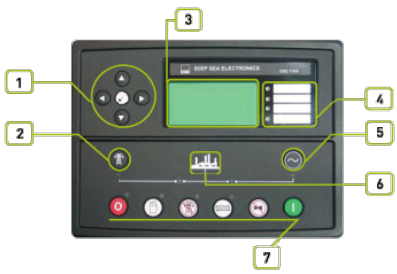
1. Steel structure made from steel sheet and steel profiles.
2. Canopy and panels made from powder coated sheet steel.
3. Emergency stop push button.
4. Control panel is mounted on the baseframe . Located at the back of the generator set
5. Cables out locations are under of the canopy.
6. Corrosion.resistant locks and hinges.
7. Oil could be drained via valve and a hose
8. Exhaust system on the canopy.
9. special large access doors (marine type) for easy maintanance
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 accsess 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

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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

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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

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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)

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

- Heavy duty, 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
- Steel base frame and anti-vibration isolators
- Spare external fuel tank (open set)
- Flexible fuel connection hoses
- Single bearing, class H alternator
- Industrial exhaust silencer and steel bellows supplied separately
- Static battery charger

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- Manual for application and installation

OPTIONAL EQUIPMENTS

TRANSFER SWITCH

- Three or four pole motor operated circuit breaker
- Four Pole Contactor
- Three Pole Contactor

OTHER ACCESSORIES

- Tool kit for maintenance
- Trailer
- Inlet and outlet acoustic baffles
- Automatic transfer switch
- Main Fuel Tank
- Supplied with oil and coolant - 30 °C
- Inlet and outlet motorised louvers
- Low and high fuel level alarm
- Electrical oil drain pump
- Automatic or manual fuel filling system
- Duct adapter (on radiator)
- Enclosure: weater protective or sound attenuated
- Residential silencer

CONTROL SYSTEM

- Remote communication with modem
- Alarm output relays
- Charge Ammeter
- Earth fault, single set
- Remote relay output
- Paralel system with mains.
- Automatic synchronising and power control system (multi gen-set

Parallel)

- Remote annunciator panel
- Transition synchronization with mains

ENGINE

- Oil heater
- Fuel-Water Seperator Filter
- Remote Radiator Cooling

ALTERNATOR

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

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AKSA CERTIFICATES

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

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