



INTRODUCTION

Aksa power generation system, providing optimum performance, and reliability, for stationary standby 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	360,00	450,00	320,00	400,00	649,54

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	APD 450 CE
Frequency (Hz)	50
Fuel Type	Diesel
Engine Made and Model	CUMMINS QSZ13-G7 50Hz EPA Tier 3
Alternator Made and Model	AK 6371
Control Panel Model	DSE 7320
Canopy	MS 70 CK

ENGINE SPECIFICATIONS

Engine	CUMMINS
Engine Model	QSZ13-G7 50Hz EPA Tier 3
Number of Cylinder (L)	6 cylinders - in line
Bore (mm.)	130
Stroke (mm.)	163
Displacement (lt.)	13
Aspiration	Turbo Charged and Charge Air Cooled
Compression Ratio	17:1
RPM (d/dk)	1500
Oil Capacity (Total With Filter) (lt)	61.2
Standby Power (kW/HP)	419/561
Prime Power	367/492
Block Heater QTY	1
Block Heater Power (Watt)	4000
Fuel Type	Diesel
Injection Type and System	XPI
Governor System	Electronic
Operating Voltage (Vdc)	24 Vdc
Battery and Capacity (Qty/Ah)	2x120



Cooling Method	Water Cooled
Cooling Fan Air Flow (m3/min)	543.6
Coolant Capacity (engine only / with radiator) (lt)	23.1/62.1
Air Filter	Dry Type
Fuel Cons. Prime With %100 Load (lt/hr)	89.2
Fuel Cons. Prime With %75 Load (lt/hr)	72
Fuel Cons. Prime With %50 Load (lt/hr)	52.9

ALTERNATOR CHARACTERISTICS

Manufacturer	Aksa
Alternator Made and Model	AK 6371
Frequency (Hz)	50
Power (kVA)	464
VOLTAGE (V)	400
Phase	3
A.V.R.	SX440
Voltage Regulation	(+/-)1%
Insulation System	H
Protection	IP23
Rated Power Factor	0.8
WEIGHT COMP. GENERATOR (Kg)	1263
COOLING AIR (m³/min)	62.1

Open Gen.Set Dimensions (mm)

LENGTH	3180
WIDTH	1550
HEIGHT	2291
DRY WEIGHT (kg.)	3650
TANK CAPACITY (lt.)	700

Gen.Set Canopy Dimensions (mm)

LENGTH	4463
WIDTH	1606
HEIGHT	2559
DRY WEIGHT (kg.)	4520
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 maintenance
8. In front and back side special large access doors for easy maintenance
9. Base frame -fuel tank.
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 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

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 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
SHUTDOWNS
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 Seperator Filter

Low water level alarm

Oil heater

ALTERNATOR

Anti-Condensation Heater

Main line circuit breaker

CONTROL SYSTEM

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

Enclosure: weater protective or sound attenuated

Trailer

Tool kit for maintenance

AKSA CERTIFICATES

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