



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

3 Phase,50 Hz, PF 0.8

Voltage (V)	STANDBY RATING (ESP)		PRIME RATING (PRP)		STANDBY CURRENT (A)
	kW	kVA	kW	kVA	
400 / 231	22.0	27.5	20.00	25	40

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	AC 28
Frequency (Hz)	50
Fuel Type	Diesel
Engine Make and Model	Cummins X2.5-G2
Alternator Make and Model	Aksa AK 222
Control Panel Model	DSE 6120
Canopy	AK 20

Engine Specifications

General Data

Manufacturer	Cummins
Engine Model	X2.5-G2
Number of Cylinders / Type	3 cylinders - in line
Bore mm (in)	91.4
Stroke mm (in)	127

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Displacement l (cu. In)	2.5
Compression Ratio	18.5:1
Engine Speed (rpm)	1500
Standby Power (kW/hp)	27/36.3
Prime Power (kW/hp)	24.4/32.7
Block Heater (QTY)	1
Block Heater Power (Watt)	500
Governor System	Mechanic
Air Filter	Dry Type
Aspiration	Naturally Aspirated

Lubrication System

Oil Capacity l (qal)	8
Max. Oil Temperature ºC (F)	121

Fuel System

Fuel Type	Diesel
Injection Type	Direct Injection
Type of Fuel Pump	Bosch Rotary Type

Electrical System

Operating Voltage (Vdc)	12 Vdc
Battery and Capacity (Qty/Ah)	1x55

Cooling System

Cooling Method	Water Cooled
Coolant Capacity (engine only) l (gal)	5.5

Exhaust System

Exhaust Back Pressure in-Hg (kPa)	3.38
Exhaust Gas Temperature ºC (F)	660
Heat Rejection to Exhaust kW (BTU/min)	22

Radiator

Total Coolant Capacity (l)	15
Cooling Fan Air Flow m³/min (ft³/min)	0.78
External Restriction to Cooling Airflow (Pa)	125

Fuel Consumption

Fuel Cons. @100% Prime Load l/h (kg/h)	6

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Fuel Cons. @75% Prime Load l/h (kg/h)	4.8
Fuel Cons. @50% Prime Load l/h (kg/h)	3.5

Alternator Characteristics

Manufacturer	Aksa
Alternator Model	AK 222
Frequency (Hz)	50
Power (kVA)	27.5
Voltage (V)	400
Phase	3
A.V.R.	AS460
Voltage Regulation	1,5%
Insulation Class	H
Protection Class	IP22
Rated Power Factor	0.8
Weight Complete Generator (kg)	151
Cooling Air (m³/min)	5,7

Open Generator Set Dımensıons

Length mm	1490
Width mm	900
Height mm	1217
Full Tank Capacity (l)	70

Canopy Characteristics

Length mm	2101
Width mm	956
Height mm	1482
Full Tank Capacity (l)	70

Control Panel

Manufacturer	DSE
Control Module Model	DSE 6120
Communication Ports	CANBUS

1. Menu navigation buttons
2. Close mains button
3. Main Status and instrumentation display
4. Alarm LED's
5. Close generator button

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6. Status LED's
7. Operation selecting buttons

Standard Devices

DSE model 6120, Auto Mains Failure control module, Static battery charger input 198-264 volt, output 27,6V 5A (24V) or 13,8 Volt 5A (12V), fuses for control circuits. This Control Module is suitable for a wide variety of single gen-set applications

Control Unit

- The DSE 6120 module has been designed to monitor generator frequency, volt, current, engine oil pressure, coolant temperature running hours and battery volts.
- Module monitors the mains supply and control the switch over to the generator when the mains power fails.
- The DSE6120 also indicates operational status and fault conditions, Automatically shutting down the Gen. Set and giving true first up fault condition of Gen. Set failure.The LCD display indicates the fault.

Construction and Finish

Components installed in sheet steel enclosure. Phosphate chemical, pre-coating of steel provides corrosion corrosion-resistant surface. Polyester composite powder topcoat forms a high gloss and extremely durable finish. Lockable and hinged panel door provides easy access to components.

Installation

Control panel is mounted on baseframe with steel stand. Located at the right side of the generator set (When you look at the Gen.Set. from Alternator side)

Engine

- Engine speed
- Oil pressure
- Coolant temperature
- Run time
- battery volts
- Configurable timing

Shut Down

- Fail to start
- Emergency stop
- Low oil pressure
- High coolant temperature
- Over /Under speed
- Under/over generator frequency
- Under/over generator voltage
- Oil pressure sensor open
- Coolant temperature sensor open

Warnings

- Charge failure
- Battery Low/High voltage
- Fail to stop.
- Low /High generator voltage
- Under /Over generator frequency
- Over /Under speed
- Low oil pressure
- High coolant temperature

Generator

- Voltage (L-L, L-N)

Electrical Trip

- Generator over current

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- Current (L1-L2-L3)
- Frequency
- Gen. Set ready
- Gen. Set enabled

Mains

- Mains ready
- Mains enabled

Options

- Flexible sensor can be controlled with temperature, pressure, percentage (warning/shutdown/electrical trip)
- Local setting parameters and monitoring from PC to control module with USB connection (max 6 mt).

Control Panel Compliance List

- Electrical Safety / Electro Magenetic Compatibility (EMC)
- BS EN 60950 Electrical Safety
- BS EN 61000-6-2 EMC Generic Immunity Standard
- BS EN 61000-6-4 EMC Generic Emission Standard

Static Battery Charger

- Battery charger is manufactured with switching-mode and SMD technology and ıt has high efficiency.
- Battery charger models' output V-I characteristic is very close to square and output is 5 amper, 13,8 V for 12 volt and 27,6 V for 24 V . Input 198 - 264 volt AC.
- The charger is fitted with a protection diode across the output.
- Connect charge fail relay coil between positive output and CF output.
- They are equipped with RFI filter to reduce electrical noise radiated from the device.
- Galvanically isolated input and output typically 4kV for high reliability.

Standard Equipment

- 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

Optıonal Equıpment

Engine

- Fuel-Water Seperator Filter
- Oil heater

Alternator

- Anti-Condensation Heater
- Over sized alternator
- PMG excitation + AVR
- Main line circuit breaker

Control Panel

Transfer Panel

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- Automatic synchronising and power control system (Multi gen-set Parallel)
- Parallel system with mains
- Transition synchronization with mains
- Alarm output relays
- Earth fault, single set
- Parallel system with mains
- Remote relay output
- Remote communication with modem
- Charge Ammeter

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

Auxiliary Equipment

- Main Fuel Tank
- Automatic or manual fuel filling system
- Electrical or manual oil drain pump
- Low and high fuel level alarm
- Inlet and outlet motorized louvers
- Inlet and outlet acoustic baffles
- Tool kit for maintenance
- 1500/3000 hours maintenance kit
- Supplied with oil and coolant (-30°C)

Exhaust

- Residential Silencer
- Silencer Spark Arrester
- Critical Silencer
- Catalytic Convertor

Canopy

- Galvanized Coating
- ISO Container
- Marine Grade Paint

Optional Alternator and Control Panel

Please contact to your reseller for additional Alternator, Control Panel and Breaker Switch options.

Aksa Certificates

Directive

- 2006/42/EC : Machinery Safety Directive
- 2014/30/EU : Electromagnetic Compatibility Directive
- 2014/35/EU : Low Voltage Directive

Standarts

- TS ISO 8528-5:2022 / TS EN ISO 8528-13:2018 : Reciprocating internal combustion engine-driven alternating current generating sets- Part:13: Safety

Quality Management Systems
ISO 9001:2015
ISO 14001:2015
ISO 45001:2018
ISO 50001:2018
ISO 27001:2013
ISO 10002:2018

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