



DIESEL GENERATOR DATA SHEET

Power By Doosan

Model:AD509



Output Ratings

Generator set model	Voltage	Hz	Phase	P.F.	Prime Power		Standby Power	
	(V)				KVA	KW	KVA	KW
AD509	400/230	50	3	0.8	463	370	509	407

•380/220V,415/240V,440/254V is available

Dimension & weight

Generator set model	Type	L*W*H(mm)	Weight(kg)
AD509	Open	3000*1270*2040	3000
	Silent	3600*1700*2100	3850

Other datas

Circuit Breaker capacity(A)	800
Battery Brand	Varta
Base Fuel Tank Capacity(L)	797

Notes:

- Standby power: Continuous running at variable load for duration of an emergency. No overload is permitted on these ratings. In accordance with ISO 3046 .
- Prime power: Continuous running at variable load for unlimited periods with 10% overload available for 1 hour in any 12 hour period. In accordance with ISO 8528,ISO 3046.
- Standard reference conditions 25°C (77°F) Air Inlet Temp, 100m(328 ft) A.S.L. 30% relative humidity.

Warranty

- The standard warranty period: One year after ex-work or 1000 operation hours whichever come first shall apply.
- Consumable parts(air filter, fuel filter, lube oil filter) , All failures and damages due to the mal-operation, neglect of maintenance and operation not according to the operation manual, are out of the scope of warranty.

Standard Configuration

- Engine include air,fuel,oil filters, starting motor and charge alternator etc.
- Brushless AC alternator,single bearing, flange connection, w/AVR
- Radiator with engine driven fan mounted on skid
- Channel steel base frame, <550KW base 8hrs mounted fuel tank as standard
- Anti-vibration pads between engine/alternator and base frame
- Circuit breaker 3P as standard, 4P optional
- Auto control panel
- Start battery w/ connecting cable and floating battery charger
- Flexbile pipe, exhaust elbow, industrial silencer etc.
- Standard tools kit
- Electric drawing, test report ,operation & maintaince manual of generator etc.
- Optional soundproof/Container canopy, ATS cabinet, remote control panel, synchronization panel, movable trailers, heat exchanger, remote horizontal water tank system, external fuel tank, etc



Manufacturer reserves the right to make changes in model, technical specifications, color, equipment and accessories without prior notice.

Engine

GENERAL ENGINE DATA

Engine manufacture	Doosan Infracore Co., Ltd	
Engine brand	Doosan	
Engine model	DP158LC	
Engine speed (rpm)	1500	
Engine output(kWm)		
	Standby Power	449
	Prime Power	433
Engine Type	4-Cycle, V-type, 8-Cylinder, Turbo charged & intercooled (air to air)	
Bore x Stroke (mm)	128 x 142	
Displacement (litre)	14.618	
Compression Ratio	15:1	

FUEL SYSTEM

Type	Bosch type in-line pump with integrated, electromagnetic actuator	
Governor	Electric type (all speed control)	
Fuel Consumption (litre/hour)		
	25% prime load	27.6
	50% prime load	48.9
	75% prime load	72.9
	100% prime load	99.6

EXHAUST SYSTEM

Maximum Back Pressure (kPa)	5.9	
Exhaust gas temp. after turbo. (prime/standby power) (°C)	507/529	
Exhaust Gas Flow(prime/standby power) (m3/min)	81/88	

AIR INDUCTION SYSTEM

Maximum Intake Air Restriction (kPa)		
	with Clean Filter Element	2.16
	with Dirty Filter Element	6.23
Intake Air Flow(prime/standby power) (m3/min)	28.1/30.1	

COOLING SYSTEM

Cooling method	Fresh water forced circulation	
Coolant capacity	Engine Only : Approx. 20 lit., With Radiator : Approx 79 lit.(standard)	
Water Temperature		
	Maximum for standby and Prime (°C)	103
	Before start of full load (°C)	40
Thermostat Type and Range	Wax – pellet type, Opening temp. 71°C , Full open temp. 85°C	

LUBRICATION SYSTEM

Lub. Method	Fully forced pressure feed type	
Oil pan capacity	Max. 22 liters , Min. 13 liters	
Lub oil pressure (kPa)		
	Idle Speed Min.	100
	Governed Speed Min.	250
Maximum Oil Temperature (°C)	120	

ELECTRICAL SYSTE

Battery Charging Alternator	24V x 45A alternator	
Starting motor	24V x 7.0 kW	
Battery Voltage	24V	
Battery Capacity	2 x 200 Ah (recommended)	

ALTERNATOR

Alternator manufacturer	Cummins Generator Technologies(China) Co. Ltd
Alternator brand	Stamford
Alternator model	S5L1D-C4
Control system	SELF EXCITED
A.V.R.	Included
Voltage regulation	±1.0%
Insulation system	Class H
Protection	IP23
Rated power factor	0.8
Winding pitch	Two thirds
Winding leads	12
Frequency (Hz)	50
Voltage (V)	400
Phase	3
Output ratings (kVA/kW)	
-----Cont.H-40°C	500/400
-----Standby-27°C	520/416
THF	<2%
TIF	<50
Max. overspeed (Rev/Min)	2250
Bearing	Single

Control System

Ai Power adopts ComAp AMF9 or Deepsea DSE6120 as the standard controller for single gen-set applications..
AMF25 or DSE7320 for option.



ComAP AMF9



Deepsea DSE6120

Features

- Single-genset controller for stand-by and prime power applications
- 3 phase AMF function
- 3 phase generator protections
 - over/under frequency, over/under voltage, over current
- True RMS voltage measurement
- True RMS current measurement
- Event and performance log
 - Gen-set ext alarm, Engine hours history, ECU Text alarm, Test Run scheduler
- Power Measurements
- User interface
- Inputs and outputs
 - Configurable analogue/digital, binary
- Direct communication with EFI engines
- Engine Protections
 - Oil pressure, Coolant temperature, Fuel level
- Breaker control via fasica buttons
- Fuel Pump control
- Optional Active Calls(SMS alarm/event)
- Miscellaneous features
- Communication interface
 - USB plug-in, Optional RS232, RS485, GSM
- Multiple display languages
- Start on low battery
- Real-time clock
- Zero power mode
- LCD and LED alarm indication
- Configuration Suite PC Software.
- IP65 protection class
- Remote monitoring

Protection function:

- Low oil Pressure
- High water temperature
- High voltage and low voltage
- Over current
- Over speed
- Emergency stop
- Low fuel alarm and shutdown
- Fail to start

Open and Silent Generator

Ai Power silent generator is widely used in residential area which require quiet environment, its reasonable and elegant design not only reduce the noise to applicable to the environment protection, but also a good view on the road. Our 10kva to 650kva generator adopts normal silent canopy, from 650kva to 1500kva adopts 20ft container canopy, the higher power adopts 40HQ container canopy.



Open Generator Standard Supply

The Open Type Generator Includes:

1. Automatic control panel.
2. 3 phases or single phase brushless alternator.
3. anti-vibration pad.
4. different brand engine.
5. water cooled radiator.
6. battery protection switch.
7. sealed lead acid free maintenance battery.
8. trickle battery charger.
9. 3P Chinese brand Circuit breaker.
10. Exhaust silencer, elbow and flange.



Silent Generator Standard Supply

Silent Generator Standard Supply:

1. AMF automatic control system
2. Fresh air inlet cooling system
3. Emergency stop
4. 3P Chinese brand Circuit Breaker
5. Cable output placement
6. 8hrs strong base fuel tank
7. stainless steel hinges
8. maintenance door



Silent Canopy Features

Silent Canopy Features:

1. more than 2mm thick steel canopy.
2. High quality paint and strict powder paint processing.
3. large-scale impedance combined type silencer.
4. Stainless steel door locks and hinges.
5. High quality fireproof, soundproof and insulation materials.
6. Clear monitoring control panel and outer emergency stop.
7. Lifting ear is mounted in the base frame for easy pull.
8. Fuel and lub oil drainout is all connected to the canopy.
9. Fuel refill opening is on the outer canopy.

