

DIESEL GENERATOR DATA SHEET

Power By Cummins

Model: AC646



Output Ratings

Generator set model	Voltage	Hz	Phase	P.F.	Prime Power		Standby Power	
	(V)				KVA	KW	KVA	KW
AC646	127/220	60	3	0.8	588	470	646	517

•220/380V, 277/480V, 254/440V is available

Dimension & weight

Generator set model	Type	L*W*H(mm)	Weight(kg)
AC646	Open	3470*1550*2200	4350
	Silent	4200*1900*2420	5300

Other datas

Circuit Breaker capacity (A)	2000
Battery Brand	Varta
Base Fuel Tank Capacity (L)	1057

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 Features

•Engine include one set filters
•Brushless Alternator with AVR
•Radiator with engine driven fan
•Auto control system with LCD show
•3P circuit breaker
•Battery charger and Start battery
•Industrial silencer
•Anti-vibration pads
•8hrs bottom fuel tank ≤650KVA
•Standard tools kits
•User manual & Wiring diagrams
•Standard tools kits

Options

•Silent canopy (powder coated)
•ATS
•Remote Control panel
•Synchronization system
•Mobile trailer
•Engine heater (water/oil)
•Fuel and water separator
•Alternator space heater
•PMG
•ABB or 4P circuit breaker
•External fuel tank
•Double wall base fuel tank
•Residential exhaust silencer



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

Engine

GENERAL ENGINE DATA

Engine manufacturer	Chongqing Cummins Engine Co., Ltd.
Engine brand	Cummins
Engine model	KTAA19-G5
Engine speed (rpm)	1800
Engine output(kW)	
Standby power rating	605
Prime power rating	533
Type	4-Cycle, In line, 6 Cylinder
Aspiration	Turbocharged and air to air cooled
Bore * Stroke (mm)	159 * 159
Displacement (litre)	19
Compression Ratio	13.9:1

FUEL SYSTEM

Type Injection System	Direct Injection Cummins PT
Fuel Consumption (litre/hour)	
100% output power	132
75% output power	98.8
50% output power	70.2
25% output power	42.9

EXHAUST SYSTEM

Maximum Back Pressure (kPa)	7.8
Exhaust Gas Temperature (overload/prime power) (°C)	458 / 429
Exhaust Gas Flow(overload/prime power) (liter/s)	2171 / 1997

AIR INDUCTION SYSTEM

Maximum Intake Air Restriction (in. H ₂ O)	
with Dirty Filter Element	25
with Clean Filter Element	15
Intake Air Flow (overload/prime power) (liter/s)	798 / 722

COOLING SYSTEM

Coolant Capacity — Engine Only (liter)	23
Standard Thermostat Modulating Range	82-93
Maximum Coolant Temperature (°C)	96.1
Minimum Coolant Makeup Capacity(L)	6.1
Maxi. Top Tank Temp.(standby power/prime power) (°C)	104/100

LUBRICATION SYSTEM

Oil Pressure (kPa)	
Idle Speed	138
Governed Speed	345-483
Maximum Oil Temperature (°C)	121
Total System Capacity (Excluding By-Pass Filter) (liter)	50

ELECTRICAL SYSTEM

Cranking Motor (Heavy Duty, Positive Engagement) (volt)	24
Battery Charging System, Negative Ground (ampere)	35

ALTERNATOR

Alternator manufacturer	Cummins Generator Technologies(China) Co. Ltd
Alternator brand	Stamford
Alternator model	S5L1S-E
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)	60
Voltage (V)	220
Phase	3
Output ratings (kVA/kW)	
-----Cont.H-40°C	713/570
-----Standby-27°C	769/615
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

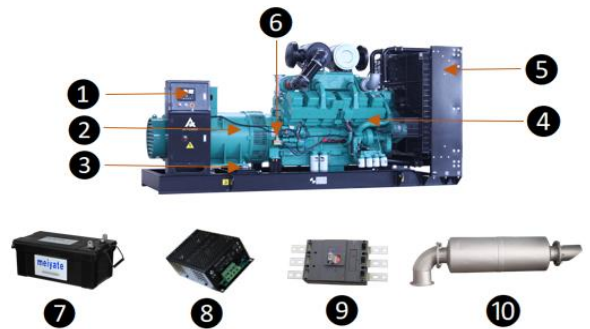
Ai Power silent generator is widely used in residential area which require quiet environment, its reasonable and elegant design not only reduce the noise to applicable to the environment protection, but also a good view on the road. Our 10kva to 650kva generator adopts normal silent canopy, from 650kva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



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.

