



## DIESEL GENERATOR DATA SHEET

**Power By Perkins**

**Model:AP1650**



### Output Ratings

Generator set model	Voltage	Hz	Phase	P.F.	Prime Power		Standby Power	
	(V)				KVA	KW	KVA	KW
AP1650	230/400	50	3	0.8	1500	1200	1650	1320

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

### Dimension & weight

Generator set model	Type	L*W*H(mm)	Weight(kg)
AP1650	Open	5100*2100*2400	10800
	Silent	5800*2430*2650	12750

### Other datas

Circuit Breaker capacity (A)	2500
Battery brand	Varta
Base Fuel Tank Capacity(L)	N/A

### 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
- Flexible pipe, exhaust elbow, industrial silencer etc.
- Standard tools kit
- Electric drawing, test report ,operation & maintenance 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	Perkins Engines Company Limited		
Engine brand	Perkins		
Engine model	4012-46TAG2A		
Engine speed (rpm)	1500		
	Baseload power	Prime power	Standby power
Gross engine power (kWb)	1069	1331	1459
Typical Genset electrical output 0.8pf 25°C (100 kPa) (KW)	976	1225	1346
Cylinders	12-cylinder, 60° Vee		
Cycle	4 stroke		
Induction system	Turbocharged		
Combustion system	Direct injection		
Compression ratio	13:01		
Bore * Stroke (mm)	160 * 190		
Cubic capacity (Litre)	45.842		

## FUEL SYSTEM

Injection system	Direct		
Governor type	electronic		
Fuel Consumption (litre/hour)			
	Standby	341	
	Prime	310	
	Baseload	249	
	75% output power	234	
	50% output power	157	

## COOLING SYSTEM

COOLING SYSTEM		
Total coolant capacity: Jacket Water (Litres)		
	engine only	73
	Temperate cooling (engine and radiator)	207
	Tropical cooling (engine and radiator)	210
Thermostat operating range (°C)		71-85
Shutdown switch setting (°C)		101

## LUBRICATION SYSTEM

Total system capacity (liter)	177		
Maximum sump capacity (liter)	157.5		
Minimum sump capacity (liter)	115		
Oil temperature at normal operating conditions (°C)	105		
Oil pressure at rated speed (kPa)	400		
Oil pressure Minimum @80°C (kPa)	340		
Shutdown switch - pressure setting (kPa)	193 (falling)		

## INDUCTION SYSTEM

Maximum air intake restriction of engine (kPa)		
	Clean filter	2
	Dirty filter	4
Combustion air flow(standby/prime power) (m <sup>3</sup> /min)		128 / 120

## EXHAUST SYSTEM

Back pressure for total system (kPa)	5		
Exhaust gas temp. after turbo(standby/prime power)(°C)	455		
Exhaust gas flow (standby/prime power) (m <sup>3</sup> /min)	320		

## ELECTRICAL SYSTEM

Alternator voltage (volts)	24		
Alternator output (amps)	55		
Stater motor type (volts)	24		
Starter motor power (kw)	8.2		

## ALTERNATOR

Alternator manufacturer	Cummins Generator Technologies(China) Co. Ltd
Alternator brand	Stamford
Alternator model	PI734C
Control system	PMG
A.V.R.	Included
Voltage regulation	±1%
Insulation system	Class H
Protection	IP23
Rated power factor	0.8
Winding pitch	Two thirds
Winding leads	6
Frequency (Hz)	50
Voltage (V)	400
Phase	3
Output ratings (kVA/kW)	
-----Cont.H-40°C	1550/1240
-----Standby-27°C	1660/1328
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

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## 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.



