

# ■ Power Diesel Energy 44KVA



## Generator Specification

Service	PRP <sup>(1)</sup>	ESP <sup>(2)</sup>
Power (kVA)	40	44
Power (kW)	32	35
Rated speed (r.p.m)	1800	
Standard voltage (V)	220/127V	
Rated at power factor (cos phi)	0.8	

Model	PDE35S	
Engine brand	FAWDE	
Engine model	4DW92-45D-HMS20W	
Speed control type	Electronic	
Phase	3	
Control system	Digital	
Starter motor voltage	12V	
Frequency	60HZ	
Engine speed (RPM)	1800	
Fuel Consumption (L/H)	100% standby power	8.7
	100% prime power	8
	75% prime power	6.3
	50% prime power	4.7



Power gensets are compliant with ISO 9001 and CE standard, which include the following directives:

- 2006/42/EC Machinery safety.
- 2006/95/EC Low voltage
- EN 60204-1: 2006+A1: 2009, EN ISO 12100: 2010, EN ISO 13849-1: 2008, EN 12601 : 2010

### (1) PRP (Prime Power):

According to ISO 8528-1, prime power is the maximum power available during a variable power sequence, which may be run for an unlimited number of hours per year, between stated maintenance intervals. The permissible average power output during at 24 hours period shall not exceed 80% of the prime power. 10% overload available for governing purposes only.

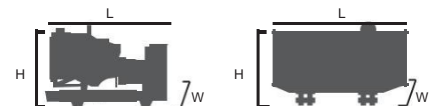
### (2) ESP (Standby Power):

According to ISO 8528-1, It is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500 hours of operation per year (of which no more than 300 hours for continuative use) with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. No overload capability is available.

Powers Voltage (V)	ESP		PRP		Standby Amps
	KVA	KW	KVA	KW	
480/277	44	35	40	32	52.9
440/254	44	35	40	32	57.7
400/230	44	35	40	32	63.5
380/220	44	35	40	32	66.9
220/127	44	35	40	32	115.5

### Standard reference Conditions

Note: Standard reference condition 25°C (77°F) air inlet temp, 100m(328ft) A.S.L 30% relative humidity. Fuel consumption data with diesel fuel with specific gravity of 0.85 and conforming to BS 2869: 1998 Class A2



Dimension and Weight	Dimension	
	Open	Silent
Length (L)	1745mm	2220mm
Width (W)	550mm	900mm
Height (H)	1180mm	1146mm
Net Weight	870 KG	1000 KG
Fuel Tank (L)	185 L	50 L

Note: These parameters allow for some acceptable deviations.



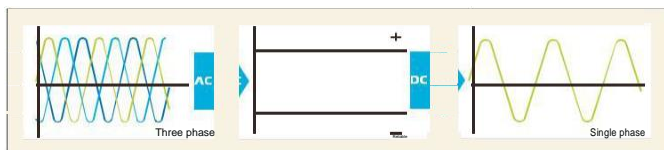
## Engine Specification: 4DW92-45D-HMS20W

Engine model	4DX21-53D	4DX21-53D	4DX21-53D
Type	4-cylinder 4-stroke		
Air intake type	Natural	Turbocharged	Turbo&intercooling
Cooling mode	Water cooling		
Governor mode	Mechanical&electronic		
Bore x Stroke(mm)	102 x 118		
Compression ratio	17:1		
Rated speed(rpm)	1500		
Dis placement(L)	3.86		
Rated power(without fan)(KW)	33	37	48
Standby power(without fan)(KW)	36	41	53
Fuel consumption(g/KWh)	230	220	215
Oil consumption(L/h)	0.06	0.05	0.05
Steady state speed regulation(%)	≤ 5	≤ 5	≤ 5
Oil capacity including filter(L)	12.5	13	13
Emission compliant	Stage II		
The flywheel shell interface	SAE3		
	Flywheel for 11.5"flexible coupling		
Dryweight base(kg)	350	380	380
Dryweight of Gen Pac(kg)	375	405	410
Overall dimension(base)(mm)	810X680X800	810X700X850	
Overall dimension(G.P)(mm)	1155X680X835		1480X705X900
Fan consumption(KW)	2	2.5	3
27°C air consumption(m <sup>3</sup> /min)	2.6	1 3.2	3.9
Heat rejection of exhaust(KW)	34.5	36.4	43.5
Exhaust gas temperature after turbine(°C)	580	480	480
Exhaust gas flow(m <sup>3</sup> /min)	8.3	8.4	10.4
Heat rejection from engine(KW)	2	2.6	3.3
Heat rejection of coolant(KW)	21.5	24.1	29
Base configuration	Standard configuration(add on the base)		
Engine with fan	Intake and exhaust system:Air filter and connecting pipes; Connecting flang of exhaust pipe		
Alternator 500W 14V Starter motor 3.5KW 12V	Cooling system:Radiator with connecting pipes;Fan guard; Belt guard		

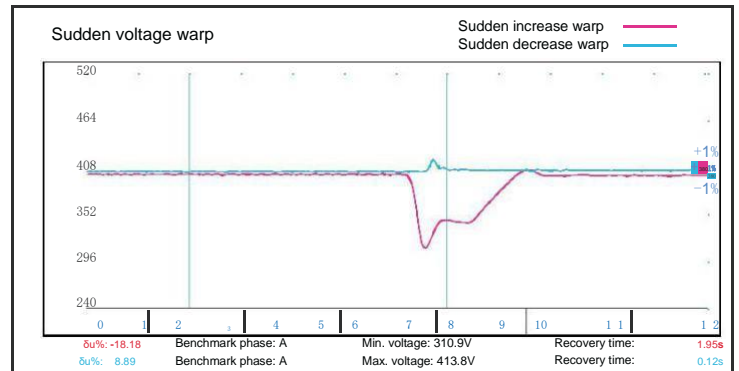
Note: Declared power denotes the power, under atmospheric pressure of 100kPa (750 mmHg), ambient temperature of 25°C and relative humidity of 30%, and without air filter and muffler,. When atmosphere condition is different from standard atmosphere, check-calculation should be made as per GB/T6072.1-2001 《Performance of Reciprocating Internal Combustion Engine, Part 1: Declaration and Testing Methods of Standard Basic Information, Power, Fuel and Engine Oil Consumption》 .

## ■ Alternator Specification; KI 184HS

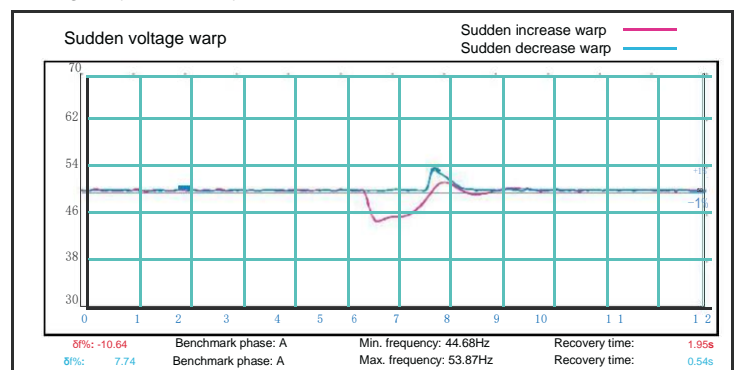
Alternator	
Number of phase	3
Power factor (Cos Phi)	0.8
Poles	4
Winding Connections (standard)	Star-serie
Terminals	12
Insulation type	H class
Winding Pitch	2/3
IP rating	IP23
Excitation system	Self-excited
Bearing	Single bearing
Coating	Vacuum impregnation
Voltage regulator	A.V.R
Couping	Flexible disc



Emergency voltage curve



Emergency frequency curve



## ■ Options

Engine	Alternator	Generator Sets	Fuel System
<ul style="list-style-type: none"> <li>Water Jacket Pre-heater</li> <li>Fuel heater</li> </ul>	<ul style="list-style-type: none"> <li>Winding Temp measuring Instrument</li> <li>Alternator Pre-heater</li> <li>PMG</li> <li>Anti-damp and anti-corrosion treatment</li> <li>Anti-condensation heater</li> <li>Winding and bearing RTD</li> </ul>	<ul style="list-style-type: none"> <li>Tools with the machine</li> <li>Extended range fuel tank</li> <li>Bunded fuel tank</li> </ul>	<ul style="list-style-type: none"> <li>Low fuel level alarm</li> <li>Automatic fuel feeding system</li> <li>Fuel T-valves</li> </ul>
Canopy	Lub oil system	Cooling System	Control Panel
<ul style="list-style-type: none"> <li>Rental type Canopy</li> <li>Trailer</li> </ul>	<ul style="list-style-type: none"> <li>Oil Pre-heater</li> <li>Oil temp sensor</li> </ul>	<ul style="list-style-type: none"> <li>Front heat protection</li> </ul>	<ul style="list-style-type: none"> <li>Remote control panel</li> <li>ATS</li> <li>Synchronizing controller</li> <li>Adjustable earth leakage relay</li> </ul>



## ■ Control Panel: ComAp IntelliNano

### Configuration

- Emergency stop button
- Protection MCB
- Battery charger
- Integrated aviation plug
- ATS connection
- Digital control module

### Features

- 3 phase generator set monitoring
- Support of engines equipped with electronic control unit
- Comprehensive diagnostic message
- Automatic or manual start/ stop of the gensets
- Push buttons for simple control, lamp test
- Graphic back-lit LCD display
- Parameters adjustable via keyboard or PC
- Mains measurements ( 50HZ/ 60HZ)
- Generator measurements ( 50HZ/ 60HZ)
- Comprehensive shutdown or warning on fault condition
- 3 phase Generator protections
  - Over- / under voltage
  - Over- / under frequency
  - Current/ voltage asymmetry
  - Over current/ overload
- 3 phase AMF function
  - Over-/under frequency
  - Over-/under voltage
  - Voltage asymmetry
- Configurable analog inputs
- Battery voltage, engine speed (pick-up) measurement
- Configurable programmable binary inputs and outputs
- Warm-up and cooling functions
- Generator C.B. and Mains C.B. control with feedback and return timer
- RS232 interface
- Modem communication support
- Hours counter
- Sealed to Ip65
- Event log

### Benefits

- Less wiring and components
- Integrated solution
- Less engineering and programming
- User friendly set-up and button layout
- Module can be configured to suit individual applications
- PC software for simplified configuration
- Wide range of communication capabilities

### Operation conditions

- Operation temp: -20 °C to + 70 °C
- Storage temp: -30 °C to + 80 °C
- Operating humidity: 95% w/o condensation
- Vibration 5-25Hz, ±1.6 mm  
5-100Hz, a= 4g
- Shocks: a= 500m/s<sup>2</sup>

### Options

- Ethernet interface (Remote monitoring and control)
- GSM modem/wireless internet (Remote monitoring and control)
- RS232-RS485 Dual port interface
- Synchronizing control panel
- Distribution board with sockets kit and power busbar
- Battery trickle charge ammeter
- Earth leakage protection
- Earth fault protection
- Low fuel level alarm
- Low fuel level shutdown
- High fuel level alarm
- Fuel transfer system control
- Low coolant level shutdown
- High lube oil temp shutdown
- Overload via alarm switch on breaker
- Engine coolant heater controls
- Control panel heater
- Speed adjust switch
- Oil temp displayed on LCD screen
- Additional 8 inputs and outputs

