

**Standby Power (ESP)**

Standby power is defined as the maximum power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of a utility power outage or under test conditions for up to 500 hours of operation per year under average of 70% load. Overloading is not permissible

**Prime Power (PRP)**

Prime power is defined as being the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load. Average load should be 70%. The generator can be overloaded 10% for 1 hour per 12 hours.

**DESIGN SPECIFICATIONS**

High quality, reliable and complete power unit, Compact design, Easy start and maintenance possibility, Every generating set is subjected to a comprehensive test programme which includes full load testing and checking and providing of all control and safety shut down functions testing, Full engineered with a wide range of options and accessories: Canopy, soundproof and on road trailer

**STANDARD GENSET SPECIFICATIONS**

**ENGINE**

PERKINS heavy duty diesel engine,  
Four stroke, water cooled, turbocharged, charge air cooled  
Direct injection fuel system,  
24 VDC starter and charge alternator,  
Replaceable fuel filter, oil filter and dry element air filter,  
Cooling radiator and fan,  
Starter battery (with lead acid) including Rack and Cables,  
Flexible fuel connection hoses and oil sump drain valve,  
Industrial capacity exhaust silencer and steel bellows,  
Jacket water heater (at all models)  
Operation manuals documents

**ALTERNATOR**

Brushless, single bearing system, 4 poles,  
Insulation class H,  
Standard degree of protection IP21-IP23,  
Self-exciting and self-regulating,  
Impregnation with tropicalised epoxy varnish,  
Solid state Automatic Voltage Regulator

**BASE FRAME**

The complete genset is mounted as whole on a heavy-duty fabricated, steel base frame. Antivibration pads are fixed between the engine/ alternator feet and the base frame.  
Base frame design incorporates an integral fuel tank.  
The generating set can be lifted or carefully pushed / pulled by the base frame,  
Lifting eyes allow easy transportation by a crane.  
Dial type fuel gauge and drain plug on the fuel tank.

**CANOPY**

All canopy parts are designed with modular principles without welding assembly.  
Doors on each side.  
All metal canopy parts are painted by electrostatic.  
Exhaust silencer is protected against environment influences polyester powder paint.  
Thermally insulated engine exhaust system.  
Emergency stop push button is installed outside of canopy  
Easy lifting and moving  
Easy maintenance and operation



**CONTROL SYSTEM**

Panel Equipments;  
Control, supervision and protection panel is mounted on the genset base frame.  
The control panel is equipped as follows:

**1-Auto. Mains Failure Control Panel**

Control Panel Equipments:  
Control panel with DKG 309 module  
Static battery charger  
Emergency stop push button  
Circuit Breaker



**DATAKOM**

**1.1 Generating Set control module DKG 309 features:**

The module is used to monitor a mains supply and automatic start a stand-by generating set.  
Micro-processor based design  
Monitors engine performance and AC power output  
LED and LCD alarm indication  
Front panel configuration of timers and alarm trip points  
provides signal to change over switch panel  
event logging of shutdown alarms  
Remote communication via RS232 port or RS485 modbus output  
easy push button control  
STOP/RESET-MANUAL-AUTO-TEST-START  
Operation indicators accessed by the LCD display scroll push button.

**a) Metering via LCD Display:**

Generator Volts (F-F/F-N)	Engine hours run
Generator Amps (L1-L2-L3)	Engine speed RPM
Generator Frequency (Hz)	Engine oil pressure (PSI&Bar)
Generator power factor	Engine coolant temperature (C & F)
Generator kW	Engine Oil temperature
Mains Frequency (Hz)	Fuel Level
Mains Volts (F-F/F-N)	Plant battery volts

**b) Automatic shutdown on fault conditions**

Under/Over Speed	Fail to start
High Engine Temperature	Fail to stop
Low Oil Pressure	Charge fail
Under/over generator volts	Over current
Under/over generator frequency	Emergency stop
Under/over mains voltage	
Low/High battery volts	

**LED indications**

Mains available	Generator available
Mains on load	Generator on Load

ISO 9001:2008

OHSAS 18001:2007

LED indications



ISO 14001:2004

ISO 1002:2004



<b>MODEL</b>		<b>NPP 450</b>	
Power Output Ratings		50 Hz - 400/231 V	
Standby Power (ESP)	kVA	450	
	kW	360	
Prime Power (PRP)	kVA	405	
	kW	324	

<b>ENGINE</b>			
Manufacturer		PERKINS	
Model		2206C-E13TAG3	
Engine Stand-by Power	kWm	413	
Speed	rpm	1500 rpm	
No of Cylinder / Configuration		6-In line	
Displacement	lt	12,5	
Bore x Stroke	mm	130x157	
Compression Rate		16.3:1	
Aspiration		Turbo Charged and Air-to-Air Charge Cooled	
Governor Type		Electronics	
Cooling System		Water cooled	
Coolant Capacity	lt	51	
Lubrication Oil Capacity	lt	40	
Electrical System		24V. DC	
Fuel Consumption lt/h	100%	85	
	75%	65	
	50%	46	

<b>ALTERNATOR</b>			
Brand		WATTPOWER	
Model		WPA 450	
Voltage Output	VAC	231/400	
Frequency	Hz	50	
Power Factor	Cos $\phi$	0,8	
No of Bearing		1	
No of Poles		4	
No of Leads		12	
Voltage Regulation		Automatic voltage regulation $\pm$ 2%	
Insulation		H	
Degree of Protection		IP 21	
Excitation System		Self excitation	

<b>OPEN TYPE</b>			
Diemensions (LxWxH)	mm	4500x1500x1850	
Dry Weight	kg	3800	
<b>SILENT CANOPY TYPE</b>			
Diemensions (LxWxH)	mm	4500x1500X2100	
Dry Weight	kg	4200	