



**Diesel**



**Watercooled**

**60  
Hz**

**Model: ETPG165**

**INDUSTRIAL RANGE**

**Powered by Perkins**



## Generating Rates

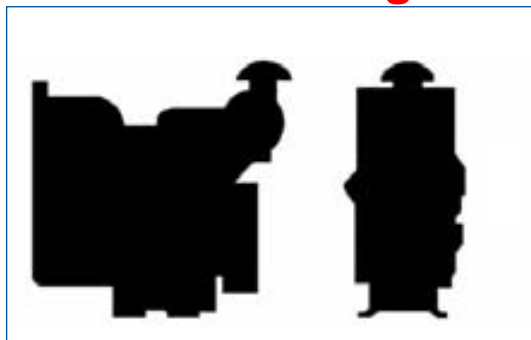
POWER RATING		PRIME	STANDBY
POWER	kVA	150	165
	kW	120	132
Rated Speed	r.p.m	1800	
Standard Voltage	V	480	
Available Voltages	V	480/277-440/254-220/127-208/120	
Rated at power factor	Cos Phi	0.8	

**Ambient conditions of reference:** 1000 mbar, 25°C, 30% relative humidity. Power according to ISO 3046 normative.

**P.R.P. Prime Power - ISO 8528 :** 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 a 24 hours period shall not exceed 80% of the prime power. 10% overload available for governing purposes only.

**Standby Power (ISO 3046 Fuel Stop power):** power available for use at variable loads for limited annual time (500h), within the following limits of maximum operating time: 100% load 25h per year – 90% load 200h per year. No overload available. Applicable in case of failure of the main in areas of reliable electrical network.

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## Engine Specifications 1800 r.p.m.

ENGINE		PRP		STANDBY	
Rated Output	kW	134		147	
Manufacturer		Perkins			
Model		1006TAG			
No. of Cylindirs and Build		4 Cycle; In-line;6 Cylinder Diesel			
Aspiration and Cooling		Turbocharged air-to-air charge cooled			
Bore/Stroke	mm	100X127			
Compress the ratio		17.0:1			
Cooling system		Water-cooled			
Engine Speed/Frequency	rpm/Hz	1800/60HZ			
Coolant Capacity	L	37.22			
Starting System		Electric 12 volt DC			
Displacement	L	5.99			
Lubricant system Capacity	L	19			
Battery Volatge / Capacity		12VDC			
Governing Type	Type	Mechanical			
Air Filter	Type	Dry			
Fuel Consumption	Load	100%	75%	50%	25%
	L/h	37.6	28.9	19.4	10.3

**ENGINE**--Industrial 4 stroke cooled diesel engine complete with air, fuel and oil filters, electric starting and charging equipment, engine protection against low water level.

**COOLING**--Radiator and cooling fan complete with protection guards, designed to cool engine at specified output in air temperatures up to 45 °C, radiators suitable for higher temperatures are available. Low water level protection fitted as standard.

**ELECTRICAL SYSTEM**--12V upto. Axial type starter motor, battery charging alternator, high capacity lead acid battery, and battery tray mounted on the generator base frame, and heavy duty interconnecting cable with terminations.

**EXHAUST SYSTEM**--Heavy duty industrial exhaust silencer with flexible piping.

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## Alternator Technical Specifications

ALTERNATOR BRAND		LEROY SOMER	STAMFORD
Model		LSA44.2S75	UCI247E
Exciter System		Self-excited, brushless	
Poles	Num	4	
Cooling Fan		Cast alloy aluminum	
Bearing		Single,double shielded	
Windings		100% copper	
Connection Type		Reconnectable	
Insulation Type	Class	Class H	
Pitch		2/3	
Amortisseur Winding		Full	
Voltage Regulator		A.V.R. (Electronic)	
Steady Voltage Precision		± 1%	
Underspeed Protection		Standard	
Overexcitation Protection		IP23	
TIF (1960 Weightings)		<50	

**ALTERNATOR**--Brushless,self exciting,self regulation,sreen protected,drip proof rated in accordance with IEC60034.Voltage regulation maintained within  $\pm 0.5\%$  from no load to full load.between 0.8 lagging and unity.All standard voltages available.

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## Control Panel Technical Specifications

### Control Panel- SMARTGEN 6110/6120

The base mounted control panel in a vibration isolated sheet steel enclosure. The control panel is equipped as follows:

- a) Instruments: Analogue Voltmeter, Hours Run Meter, Water pressure Meter.
- b) Controls: Emergency Stop Pushbutton, Voltmeter Phase Selector Switch.
- c) Control module: Standard collocation is smartgen Auto start with AMF.

**Smartgen®**

#### Main Features:

- Δ Automatic mains failure
- Δ Engine control, Generator protection
- Δ Built in alarms and warnings
- Δ Remote Start operation available
- Δ Fuel pump control
- Δ Mains simulation
- Δ Block heater control
- Δ Field adjustable parameters
- Δ Free MS-Windows Remote monitoring
- Δ LED displays
- Δ Configurable analogue inputs
- Δ I/O expansion capability



#### Protection Circuits

- WARNING
- Battery charge failure
- Low battery voltage
- SHUT DOWNS
- Fail to start
- Emergency stop
- Low oil pressure
- High engine temperature
- Over /Under speed
- Under/over generator frequency
- Failed to reach loading voltage
- Electrical trip
- Generator over current

#### Instruments

- ENGINE
- Engine speed
- Oil pressure
- Coolant temperature
- Run time
- Battery volts
- TOR
- Voltage (L-N)
- Current (L1-L2-L3)
- Frequency
- Mains
- Voltage (L-L, L-N)

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## Generating Sets Standard Features

Three phase four wire,output voltage 480V/277V,60HZ,between 0.8 lagging,protection capability according with the standard of NAME1 and IP23.

### General Features:

- ΔComposed of Perkins diesel engine and Stamford or Leroy somer alternator
- ΔOil and fuel filter fitted,water separator
- ΔLube-oil drain valve fitted
- ΔElectric Starter Charge motor 12 VD.C
- ΔWater-cooled
- Δ8-hours operation base tank
- Δ Auto start
- ΔOptional soundproof and weatherproof canopy
- Δ3 pole MCCB Delixi breaker
- ΔOperation & Maintenance manual
- ΔSpecial Integrated Steel Base tank and sprayed overall in gloss enamel paint

### Voltage Regulation:

- Voltage regulation maintained within  $\pm 0.5\%$
- Between 0.8 and 1.0 lagging and unity
- From no load to full load
- At speed droop variation upto 4.5%

### Frequency Adjustable Ratio:

- Change load from 0-100%,within 1.0%( electric speed regulator),within 4.5%( mechanical speed regulator)

### Frequency Undulation:

- load from 0-100%,frequency undulation within 0.25%
- No load wire volts max undulation ration\ within 1.8%
- Three Phrase balanced load in the order of 5%
- Effect factor of Telecom
- TIF better than 50
- THF to IEC60034 Part 40 better than 2%

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## Soundproofed Version Features

### Robust Corrosion Resistant Construction

- Δ Black finish stainless steel lock and hinges
- Δ Body made from steel components treated with polyester powder coating

### Excellent Access for Maintenance

- Δ Two large doors on each side
- Δ Radiator fill access plate
- Δ Lube oil and cooling water drains pipes to exterior of the enclosure

### Security and Safety

- Δ Control panel viewing window in a lockable access door
- Δ Emergency stop push button (red) mounted on enclosure interior
- Δ Cooling fan and battery charging alternator fully guarded
- Δ Exhaust silencing system totally enclosed for operator safety



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## Generating Sets other Features

### Generating Sets Optional Features

- ΔLow fuel level alarm shutdown
- ΔAutomatic Fuel Filling System
- ΔEngine oil feeding and drain pump
- ΔAuto Transfer Switch( ATS)
- ΔParallel control panels
- ΔCircuit Breaker MCCB & ACB
- ΔRemote Control Panel
- Δweatherproof/soundproof Canopy
- ΔTrailer type Gensets

### Quality Standards

ISO9001:2000,ISO14000,ISO3046  
ISO8528 BS4999  
BS5514,AS1359,ICE34  
CE Compliance

### Gensets Dimensions & Weight

Open type:LxWxH (mm) Net Weight Kgs

2565\*730\*1575 /1376KGS

Silent type:LxWxH (mm) Net Weight Kgs

2930\*1110\*1930 /1951KGS

**Authorized**