

MODEL: SM1800 INDUSTRIAL RANGE Powered by MTU





DIESEL GENERATING SET 400/230 V - 50 Hz - 3PHASE

POWER RATING		PRIME	STANDBY	
POWER	kVA	1625	1800	
	kW	1300	1420	
Rated Speed	r.p.m	1500		
Available Voltages	V	400/230 - 380/220-415/240V-440/254 etc		
Rated at power factor	Cos Phi	0.8		

Standard Reference Conditions: 25°C (77°F) Air Inlet Temp, 100m(328 ft) A.S.L. 30% relative humidity.

Prime Power (PRP):

According to ISO 8528-1:2018, Prime power is the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operating conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output over 24 hours of operation shall not exceed 70 % of the PRP.

Emergency Standby Power (ESP):

According to ISO 8528-1:2018, Emergency standby power is 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 200 hours of operation per year with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. The permissible average power output over 24 hours of operation shall not exceed 70 % of the ESP

ENGINE		PRIME	STANDBY
Rated Output	kW	1420	1562
Manufacturer		MTU	
Model		12V4000G23	
Number of Cylindirs and arrangement		4 Cycle;12V Cylinder Diesel	
Aspiration Type		turbo charger and Air charge air cooling;	
Bore and Stroke	mm	170X210	
Compresion Ratio		16.5:1	
Cooling System		Water-cooled	
Engine Speed/Frequency	rpm/Hz	1500/50HZ	
Coolant Capacity	L	200	
Starting System		Electric 24 volt DC	
Displacement	L	57.2	



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Lubricant system Capacity	L	260			
Battery Volatge / Capacity		24VDC			
Governor	Туре	Electronic engine management system "ADEC"			
Air Filter	Туре	Dry			
Fuel Consumption	Load	100%	75%	50%	25%
	L/h	316.0	244.0	170.0	98.0

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 colling fan complete with protection guards, designed to cool engine at specified output in air temperatures upto 50 $^{\circ}$ C, radiators suitable for higher temperatures are available.Low water level protection fitted as standard.

ELECTRICAL SYSTEM:12/24V 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 exhauset silencer with flexible piping.

ALTERNATOR MANUFACTURER	STAMFORD	LEROY SOMER	PRIME POWER
Model	PI734D	LSA50.2 VL10	SMG734D
Excitation System	Self-excited, brushless		
Number of Poles	4		
Connection Type	Star-Series		
Insulation Class	Class H		
Voltage Regulator	A.V.R. (Electronic)		
Bracker Type	Single bearing		
Steady Voltage Precision	± 1%		
Couping System	Flexible disc		
Coating Type	Standard (Vacuum impregnation)		
Underspeed Protection	Standard		
Ingress Protection Rating	IP23		
Wave Form NEMA=TIF	<50		

CONTROL PANEL: COMAP AMF20 Or DSE7320

Auto Mains Failure Control Panel

- Panel equipments:
- Δ Control with AMF module
- Δ Static battery charger
- Δ Emergency stop push button





a) Generating set control module features:

 Δ The module is used to monitor main supply and starts and stops of a standby generating set

 Δ Micro-processor based design

 Δ Automatic control of main and generator contactors

c) Alarms: ∆ Over and Under Speed

 Δ Low and High Battery Volt.

Δ Start and Stop Failure



 Δ Monitors engine performance and AC power output LED alarm indication

- Δ Front panel configuration of timers and alarm trip points
- Δ CAN and magnetic pick-up versions(specify on ordering)
- Δ Easy push button control

 Δ STOP/RESET - MANUAL - AUTO - TEST – START

b) Metering via LED display:

Δ Generator Volts (L-L / L-N)	Generator kVA
Δ Engine oil pressure (PSI-Bar)	Generator kW
Δ Generator Ampere (L1,L2,L3)	Generator Cos (o)

 Δ Engine temperature (°C&°F)

 Δ Generator Frequency (Hz)

 Δ Engine run hours

Δ Mains Volts (Ph-Ph/Ph-N)

Voltage Regulation

 Δ Voltage regulation maintanined within ±0.5%

 Δ Between 0.8 and 1.0 lagging and unity

Frequency Adjustable Ratio

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

Frequency Undulation

 Δ Load from 0-100%, frequency undulation within 0.25%

 Δ No load wire volts max undulation ration\ within 1.8%

 Δ Three Phrase balanced load in the order of 5%

Robust Corrosion Resustant Construction

 Δ Black finish stainless stell lock and hinges

 Δ Body made from steelcomponents treated with polyester powder coating

 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 buttom mounted on enclosure interior Δ Exhaust silencin
- Δ Cooling fan and battery charging alternator fully guarded
 - Δ Exhaust silencing system totally enclosed for operator safely



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∆ Charge fail

- Δ Over Current
- Δ Under / Over Generator Voltage
- Δ Low Oil Pressure
- Δ Emergency stop
- Δ High engine temperature

d) LED indications

- Δ Mains available
- Δ Generator available
- Δ Mains on load
- Δ Generator on load
- Δ From no load to full load
- Δ At speed droop variation upto 4.5%
- Δ Effect factor of Telecom Δ TIF better than 50 Δ THF to IEC60034 Part 40 better than 2%

 Δ Two large doors on each side

eated with polyester powder coating



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Generating Sets Optional Features					
Engine	Alternator	Generator Sets	Fuel System	Canopy	
Δ vvater Jacket Preneater	Δ Winding Temperatrue Measuring Instrumeent	Δ Auto Transfter Switch	Δ Low fuel level alarm shutdown	Δ Super silent type	
Δ Oil Preheater	∆ Alternator Preheater	Δ Parallel control panels	∆ Automatic Fuel Filling System		
ΔEngine oil feeding and drain pump	ΔPMG				
	Δ Anti-damp and anti- corrosion treatment	Δ Residential Silencer			
	Δ Anti-condensation heater	Δ Bulk fuel tank			

Quality Standards

ISO8528 BS4999

ISO9001:2000,ISO14000,ISO3046

BS5514,AS1359,ICE34 CE Compliance

Gensets Dimensions & Weight & Fuel Tank Capacity

Open type:LxWxH (mm),Dry Weight / Kgs, Fuel tank (L) 5350*2100*2600/13500KGS

Silent type:LxWxH (mm), Dry Weight / Kgs,Fuel tank (L) 40' Standard Container /20000KGS

Local Distributor:

CE SO 9001 QUALITY ASSURANCE FUZHOU SUNSHINE MACHINERY CO.,LIMITED Fuzhou, Fujian, China.



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