POWER FACTOR

Energy Solutions for a brighter future...

MTU - PPU2090 Portable Generator

3-Phase Rated
Prime Power
1,464 kWe / 1,830 kVA

GENERATOR SET PERFORMANCE

Application

A factory designed generator set equipped with a standard AC/DC generator control panel. The generator set is ready to be connected to your fuel and power line to start up once the installation completed. **All generators are housed in 40' ISO containers.**

Applicable Definitions

Prime: Applicable for supplying emergency power at varying load in the event of normal utility power interruption. 10% overload is allowed.

Applicable Standard

Generator sets design, assembly and testing meet or exceed many international standards. The power rating is set in accordance with ISO 8528, ISO 3046-1 and SAEJ1995/J1349.

Structure Outline

The generator set has selected materials and equipment of high performance, which are durable and anti-vibration. The assembly work meets the quality control system.
The concept of the design and manufacturing is for easy operation and maintenance, to be compact and light weight too.
The single bearing alternator frame is coupled to the engine housing directly. With one end of the rotor is supported by bearing and the other end of rotor shaft is connected to the engine flywheel with a steel laminate plates.
All components and necessary equipment are mounted on the common skid base.

Rubber Isolator Mounting

The rubber isolators are mounted between engine, alternator and its common skid base.

Applicable Conditions

Installation Place	: Indoor/Outdoor
Ambient Temperature	: 40°C
Air Intake Temperature	: 40°C
Altitude	: 400 m

Painting Color

Engine	: MTU Blue
Alternator	: Blue / Black
Generator Control Panel	: Black
Skid Base	: Black

Dimensions and Weight (PPU Gen Set)

Overall Length	: 12,192 mm
Overall Width	: 2,438 mm
Overall Height	: 2,896 mm
Weight	: Approx. 21,500kg

Control System

Panel Model	: V500
Controller Model	: AMF25
Controller Brand	: ComAp
Mounted	: Set Mounted

* Materials and specifications are subjected to change without prior notice.

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Diesel Power 60Hz - 460V 3-Phase Rated Voltage
Containerized Generator Set
TECHNICAL DATA

ENGINE BODY	Maker and Model	MTU 12V4000G63
	Rating Type	Prime
	Engine Output	2,111HP 1,575kWm
	Engine Load Acceptance	1025kWe (70%)
	Aspiration	Turbocharged and Water Charge Air Cooling
	Cylinder Arrangement	12 Vee
	Type	Water Cooled, 4 Cycles, Overhead Valve
	Bore x Stroke	170mm x 210mm
	Piston Displacement	57.2 Liters
	Starting Method	Electric Motor, 24V – 9.0kW x 2
	Charging Alternator	DC 24V – 35A (Brushless)
	Cooling Fan and Diameter	8 Blades Pusher Type, 1830mm
	Oil Cooler	Water Cooled, Multi-plate Type
	Air Cleaner	Dry Type, Single Stage Paper Element
	Stop Solenoid	Energized to Run Mode
	Flywheel Housing / Flywheel,	SAE #00 / SAE #21 (Metric Tread)
	Flywheel Ring Gear Teeth	182
	Battery (Lead Acid Type)	DC 1 2V – 200Ah x 4
	Frequency Regulation,Steady State	≤ ±0.5%
	Frequency Regulation, Transient State	≤±10%
	Frequency Stable Time	2 sec
	Frequency Waving	≤±0.25%
	Frequency Regulation Range	±5.0%
ENGINE LUBRICANT	Oil Pan (High / Low Level)	200 / 160 liters
	Oil Filter /By-pass Filter	60 liters
	System Total	260 liters
	Grade	Oil Category 2 (Refer to MTU Fluid & Lubricant Specification A001 061/33E)
ENGINE COOLANT	Fan Motor & Radiator Intake Temp.	55kW (Class F) @ 55°C
	Cooling System	Forced Circulation by Centrifugal Water Pump
	Engine Capacity	200 liters
	Radiator Capacity	400 liters
	Heat Dissipation	840kW
ENGINE DATA	Mean Effective Pressure (MEP)	22.0 bar
	Mean Piston Speed	10.5 m/s
	Sound Level (Average at 1m)	103dBA (Engine Surface)
	@ Full Load	113dBA (Exhaust)
	Speed Regulation	Electronically controlled injection;
	Thermostat (Wax Type)	Common Rail System
	Water Coolant	Cracking 79C, Fully Open 87C
	Engine Shutdown Device	
	Coolant Temp (Sensor Type) Oil	104 C
	Pressure (Sensor Type)	3.6 bar
FUEL CONSUMPTION	BSFC (at 100% Load)	193 g/kWh
	Lubricating Oil (Max.)	0.3g/kWh
	Fuel Rate	379 liter/hr

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Diesel Power 60Hz
Containerized Generator
TECHNICAL DATA

Model		PI734E1
Construction		Single Bearing, Self Ventilated
Control System		MX321 with PMG Excited
Insulation / Temperature Rise		Class H / Class F
Protection		IP23
Rated Power Factor		0.8
Efficiency (Cont. 100%)		95.8 at 1520kW (400V)
No of Pole and Phase		4 Poles 3 Phase 4 Wire
Stator Winding		Double Layer lab
Winding Pitch		2/3
Winding Leads		6
Voltage Regulation,Steady State		≤±0.5%
Voltage Regulation, Transient		+20 ~ -15v
State		
Voltage Stable Time		≤0.5%
Voltage Waving		≤±0.5%
Voltage Regulation(at No Load)		95 ~ 105%
Voltage Waveform Distortion		< 1.5%
No Load		< 5.0%
Non-Distorted Balanced Linear		2250kVA
Load		
Maximum Overspeed		
Telephone Interference		THF<2 / TIF<50
Voltage Dip at 15%		1500kVA
Voltage Dip at 20%		2100kVA
Combustion Air Flow		108.0 m^3/min
Cooling Fan Air Flow		1,824 m^3/min (55°C Radiator Air Intake)
Alternator Air Flow		161.4 m^3/min
Total		2,093.4 m^3/min
Gas Flow (at Full Load)		270 m^3/min
Temperature (at T/C Outlet)		440 C
Allowable Back Pressure		85 mbar
Bellow Size (Inner Diameter)		250 x 2mm
Diesel Fuel (Grade)		ASTM D975, 1-D or 2-D (Refer to MTU Fluid & Lubricant Specification A001 061/33E)
Pipe Size of Fuel Line		
Supply / Return (Minimum)	Inch	1.5 / 1.0 In.
Gen Set Controller		ComAp AMF25
Analog Measurement		Coolant Temperature Engine Oil Pressure Engine Speed Battery Voltage Hour Run Fuel Level (Optional) Gen U1 – U3 Gen I1 – I3
AC Measurement		Gen Frequency Gen Active Power Gen Reactive Power Gen Power Consumption Mains U1 – U3 Mains Frequency Mains Voltage (L1-L2, L2-L3, L3-L1)

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****Genset Output Data Display and Protection**

****Genset Status Display and Protection**

****Genset Remote Start-up and Auto Start-up**

****Power Monitoring System**

****Fault LED Indicators**

****Modular design & expandable**

V500 Genset Control System Features:

InteliLite® Genset Controller features with multiple functions for Genset control, operation and protection. It provides logical control and Graphical LCD display for local or remote applications. These features include:

(1) Auto/Manual Start-Stop

(2) Phase sequence detects and protection

(3) 128*64 LCD display

(4) Genset overspeed protection

(5) Oil pressure display and protection

(6) Water Temperature display and protection

(7) DC Volt measurement and Over/Under Volt protect

(8) Fuel Level detect and alarm

(9) Engine idle support

(10) Lube Oil Timer

(11) Electrical Measurement

- a. Active Power
- b. Reactive Power
- c. Voltage(L-L/L-N)
- d. Frequency
- e. Line Currents
- f. kWh
- g. kVAh

(12) Protections:

- a. Over/Under Voltage
- b. Over/Under Frequency
- c. IDMT Over-current

(13) LED Indicator for Normal/Breaker Close/Breaker Open/Alarm

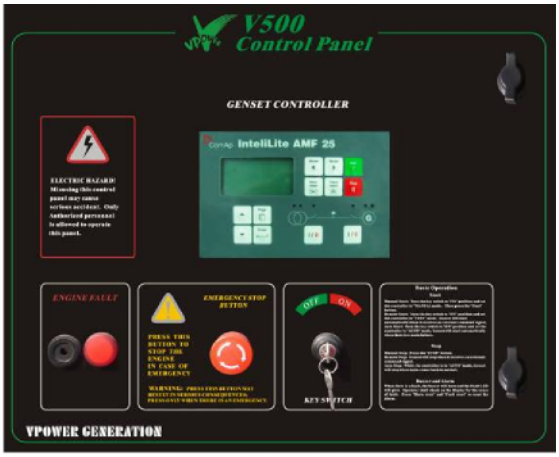
(14) Programmable I/O s

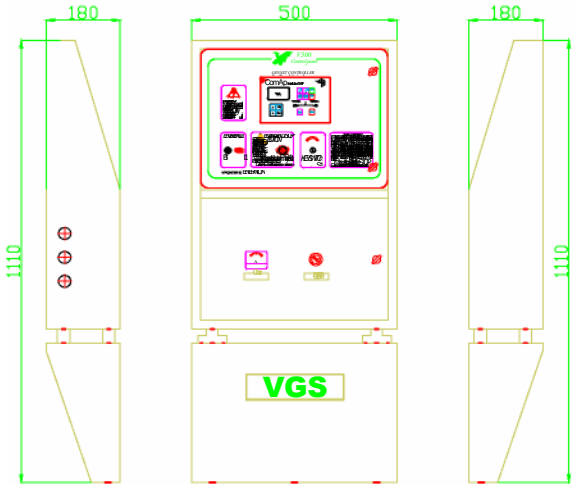
(15) Hour-run meter

(16) 100 Event Log

(17) Support RS232 / Modbus Protocol

(18) Front Panel IP65 Protection





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