

MTU - PPU2090 Portable Generator

**3-Phase Rated
Prime Power
1,464 kW_e / 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.

MTU - PPU2090 Portable Generator

Diesel Power 50Hz - 400V 3-Phase Rated Voltage

Containerized Generator Set

TECHNICAL DATA

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

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POWER FACTOR

MTU - PPU2090 Portable Generator

Diesel Power 50Hz 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	$\leq \pm 0.5\%$
Voltage Regulation, Transient State	+20 ~ -15v
Voltage Stable Time	$\leq 0.5\%$
Voltage Waving	$\leq \pm 0.5\%$
Voltage Regulation (at No Load)	95 ~ 105%
Voltage Waveform Distortion	< 1.5%
No Load	< 5.0%
Non-Distorted Balanced Linear Load	2250kVA
Maximum Overspeed	THF<2 / TIF<50
Telephone Interference	1500kVA
Voltage Dip at 15%	2100kVA
Voltage Dip at 20%	
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)	1.5 / 1.0 In.
Gen Set Controller	ComAp AMF25
Analogue Measurement	Coolant Temperature Engine Oil Pressure Engine Speed Battery Voltage Hour Run Fuel Level (Optional) Gen U1 – U3 Gen I1 – I3 Gen Frequency Gen Active Power Gen Reactive Power Gen Power Consumption Mains U1 – U3 Mains Frequency Mains Voltage (L1-L2, L2-L3, L3-L1)
AC Measurement	

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

****Power Monitoring System**

****Genset Status Display and Protection**

****Fault LED Indicators**

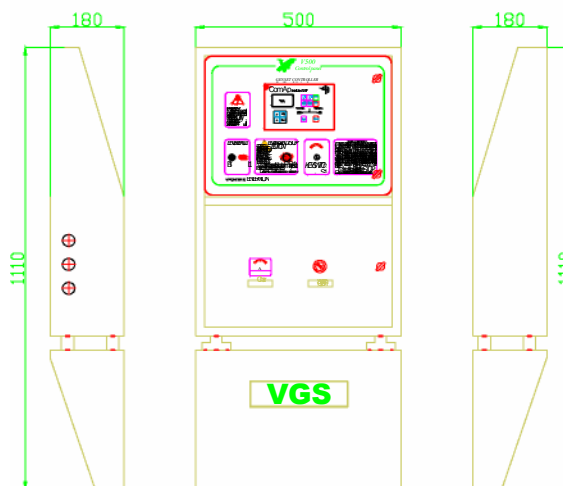
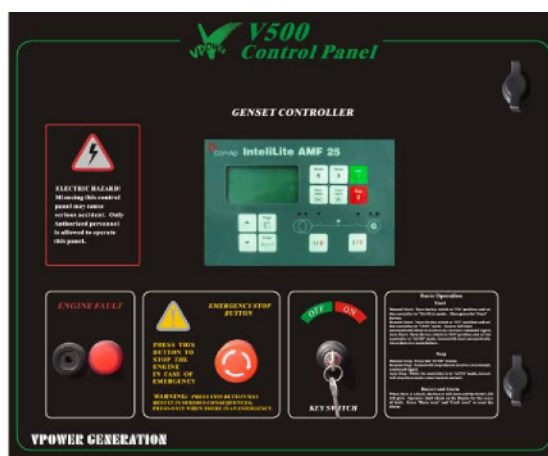
****Genset Remote Start-up and Auto Start-up**

****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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