

DIESEL POWER MODULE

MTU 12V1600 DS550

Voltages:

550 kWe / 60 Hz / Prime - 208V, 480V

550 kWe / 60 Hz / Prime - 600V

650 kVA / 50 Hz / Prime - 400V



SYSTEM RATINGS

60 Hz

Voltage (L-L)	208V	480V	600V
Phase	3	3	3
PF	0.8	0.8	0.8
Hz	60	60	60
kW	550	550	550
kVA	688	688	668
Amps	1908	827	662
skVA@30%			
Voltage Dip	1500	2120	2380
Generator Model	573RSL4035	573RSL4035	573RSS4276
Temp Rise	105 °C/40 °C	105 °C/40 °C	105 °C/40 °C
Connection	12 LEAD LOW WYE	12 LEAD HI WYE	4 LEAD WYE

50 Hz *

Voltage (L-L)	400V
Phase	3
PF	0.8
Hz	50
kW	520
kVA	650
Amps	938
skVA@30%	
Voltage Dip	1600
Generator Model	573RSL4035
Temp Rise	105 °C/40 °C
Connection	12 LEAD HI WYE

* Prime 50 Hz technical data is for a Fuel-Optimized Prime unit.

CERTIFICATIONS AND STANDARDS

// Emissions

- EPA Tier 2 Certified (60 Hz)
- Fuel Optimized (50 Hz)

// Generator set is designed and manufactured in facilities certified to standards ISO 9001:2008 and ISO 14001:2004

// Performance Assurance Certification (PAC)

- Generator Set Tested to ISO 8528-5 for Transient Response
- Verified product design, quality and performance integrity
- All engine systems are prototype and factory tested

// Power Rating

- Accepts Rated Load in One Step Per NFPA 110
- Permissible average power output during 24 hours of operation is approved up to 75%.

STANDARD FEATURES*

- // MTU Onsite Energy is a single source supplier
- // Global Product Support
- // 2 Year Standard Warranty
- // 12V 1600 Diesel Engine
 - 21.0 Liter Displacement
 - Common Rail Fuel Injection
 - 4-Cycle
- // Engine-generator resilient mounted
- // Complete Range of Accessories
- // Generator
 - Brushless, Rotating Field Generator
 - 2/3 Pitch Windings
 - PMG (Permanent Magnet Generator) supply to regulator
 - 300% Short Circuit Capability
 - Link board (208V, 480V and 400V units only)
 - Voltage Adjust Toggle Switch
- // Digital Control Panel
 - UL Recognized, CSA Certified, NFPA 110
 - Complete System Metering
 - LCD Display
- // Cooling System
 - Integral Set-Mounted
 - Engine Driven Fan

STANDARD EQUIPMENT*

// Engine

Air Cleaners
 Oil Pump
 Oil Drain Extension & S/O Valve
 Full Flow Oil Filters
 Closed Crankcase Ventilation
 Jacket Water Pump
 Thermostats
 Blower Fan & Fan Drive
 Radiator - Unit Mounted
 Electric Starting Motor - 24V
 Governor - Electronic Isochronous
 Base - Formed Steel
 SAE Flywheel & Bell Housing
 Charging Alternator - 24V
 Battery Box & Cables
 Flexible Fuel Connectors
 Flexible Exhaust Connection
 EPA Certified Engine (60 Hz)
 Fuel Optimized (50 Hz)

// Generator

NEMA MG1, IEEE and ANSI standards compliance for temperature rise and motor starting
 Sustained short circuit current of up to 300% of the rated current for up to 10 seconds
 Self-Ventilated and Drip-Proof
 Superior Voltage Waveform
 Digital, Solid State, Volts-per-Hertz Regulator

No Load to Full Load Regulation
 Brushless Alternator with Brushless Pilot Exciter
 4 Pole, Rotating Field
 105 °C Maximum Prime Temperature Rise
 1 Bearing, Sealed
 Flexible Coupling
 Full Amortisseur Windings
 125% Rotor Balancing
 3-Phase Voltage Sensing
 ±0.25% Voltage Regulation
 100% of Rated Load - One Step
 5% Maximum Total Harmonic Distortion

// Digital Control Panel(s)

Digital Metering
 Engine Parameters
 Generator Protection Functions
 Engine Protection
 CANBus ECU Communications
 Windows®-Based Software
 Multilingual Capability
 Programmable Input and Output Contacts
 UL Recognized, CSA Certified, CE Approved
 Event Recording
 IP 54 Front Panel Rating with Integrated Gasket
 NFPA110 Compatible

* Represents standard product only. Consult Factory/MTU Onsite Energy Distributor for additional configurations.

APPLICATION DATA

// Engine

Manufacturer	MTU
Model 50 Hz	12V 1600 G20F
Model 60 Hz	12V 1600 G20S
Type	4-Cycle
Arrangement	12-V
Displacement: L (Cu In)	21 (1,281)
Bore: cm (in)	12.2 (4.72)
Stroke: cm (in)	15 (5.91)
Compression Ratio	17.5:1
Rated RPM: 60 Hz	1,800
Rated RPM: 50 Hz	1,500
Engine Governor	Electronic Isochronous (ADEC)
Max Power: 110% 60 Hz: kWm (bhp)	668 (896)
50 Hz: kWm (bhp)	634 (850)
Max Power: Prime 60 Hz: kWm (bhp)	608 (815)
50 Hz: kWm (bhp)	576 (772)
Speed Regulation	±0.25%
Air Cleaner	Dry

// Liquid Capacity (Lubrication)

Total Oil System: L (gal)	73 (19.3)
Engine Jacket Water Capacity: L (gal)	65 (17.2)
System Coolant Capacity: L (gal)	154 (40.7)
Fuel Capacity: L (gal)	3,785 (1,000)

// Electrical

Electric Volts DC	24
Cold Cranking Amps Under -17.8 °C (0 °F)	1,050

// Fuel System

Fuel Supply Connection Size	Quick Disconnect
Fuel Return Connection Size	Quick Disconnect
Maximum Fuel Lift: m (ft)	5 (16)
Recommended Fuel	Diesel #2
Total Fuel Flow: 60 Hz L/hr (gal/hr)	402 (106.2)
50 Hz L/hr (gal/hr)	341.8 (90.3)

// Fuel Consumption

	60 Hz	50Hz
At 100% of Power Rating: L/hr (gal/hr)	140 (37)	129.8 (34.3)
At 75% of Power Rating: L/hr (gal/hr)	106 (28)	99.92 (26.4)
At 50% of Power Rating: L/hr (gal/hr)	75.32 (19.9)	69.64 (18.4)

// Cooling - Radiator System

	60 Hz	50Hz
Ambient Capacity of Radiator: °C (°F)	50 (122)	50 (122)
Max. Restriction of Cooling Air, Intake, and Discharge Side of Rad.: kPa (in. H ₂ O)	0.2 (0.8)	0.2 (0.8)
Water Pump Capacity: L/min (gpm)	517 (136.5)	433 (115)
Heat Rejection to Coolant: kW (BTUM)	242 (13,762)	236 (13,421)
Heat Rejection to After Cooler: kW (BTUM)	150 (8,530)	104 (5,914)
Heat Radiated to Ambient: kW (BTUM)	59.7 (3,395)	59.4 (3,378)
Fan Power: kW (hp)	23.1 (31)	25.4 (34)

// Air Requirements

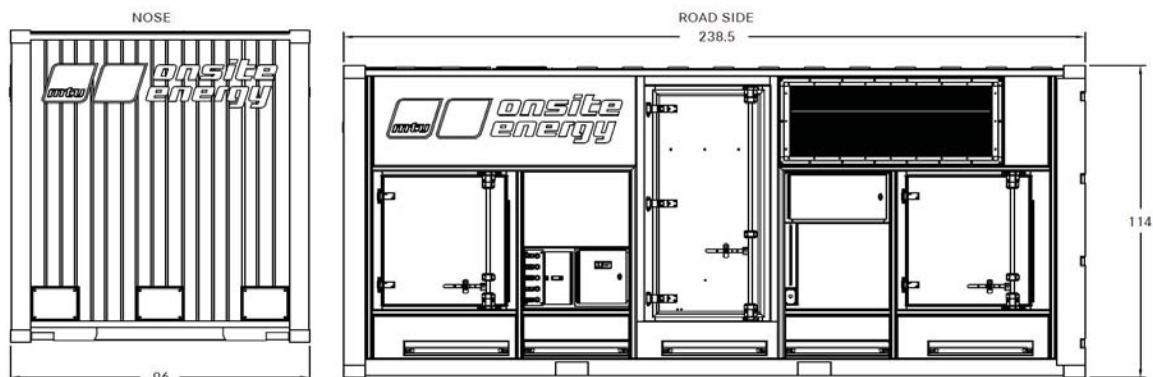
	60 Hz	50Hz
Aspirating: *(m ³ /min) SCFM	53 (1,865)	48 (1,695)
Air Flow Required for Rad. Cooled Unit: *(m ³ /min) SCFM	726 (25,638)	612 (21,613)
Remote Cooled Applications; Air Flow Required for Dissipation of Radiated Gen-set Heat for a Max of 25 °F Rise: *(m ³ /min) SCFM	217 (7,657)	216 (7,618)

* Air density = 1.184 kg/m³ (0.0739 lbf/ft³)

// Exhaust System

	60 Hz	50Hz
Gas Temp. (Stack): °C (°F)	414 (777)	483 (901)
Gas Volume at Stack Temp: m ³ /min (CFM)	126 (4,450)	126 (4,450)
Maximum Allowable Back Pressure: kPa (in. H ₂ O)	15 (60.2)	15 (60.2)

WEIGHTS AND DIMENSIONS



Drawing above for illustration purposes only, based on standard open power 480 volt generator set. Lengths may vary with other voltages. Do not use for installation design. See website for unit specific template drawings.

System	Dimensions (LxWxH)	Weight (wet/no fuel)
Power Module	6,058 x 2,439 x 2,896 mm (238.5 x 96 x 114 in)	16,783 kg (37,000 lb)

Weights and dimensions are based on containerized units and are estimates only. Consult the factory for accurate weights and dimensions for your specific generator set.

SOUND DATA

Unit Type	60 Hz Full Load	50 Hz Full Load
Power Module dB(A)	76.6	73.5

Sound data is provided at 7 m (23 ft). Generator set tested in accordance with ISO 8528-10 and with infinite exhaust.

EMISSIONS DATA

NO _x + NMHC	CO	PM
5.36	0.3	0.03

All units are in g/hp-hr and shown at 100% load (not comparable to EPA weighted cycle values). Emission levels of the engine may vary with ambient temperature, barometric pressure, humidity, fuel type and quality, installation parameters, measuring instrumentation, etc. The data was obtained in compliance with US EPA regulations. The weighted cycle value (not shown) from each engine is guaranteed to be within the US EPA Standards.

RATING DEFINITIONS AND CONDITIONS

- // Prime power ratings apply to installations where utility power is unavailable or unreliable. At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO 8528-1, ISO 3046-1, BS 5514, and AS 2789. Average load factor: $\leq 75\%$.
- // Deration Factor:
 - Altitude:** Consult your local MTU Onsite Energy Power Generation Distributor for altitude derations.
 - Temperature:** Consult your local MTU Onsite Energy Power Generation Distributor for temperature derations.

C/F = Consult Factory/MTU Onsite Energy Distributor

N/A = Not Available