DIESEL GENERATOR SET MTU 12V1600 DS600

550 kWe / 60 Hz / Prime 208 - 600V

Reference MTU 12V1600 DS600 (600 kWe) for Standby Rating Technical Data



SYSTEM RATINGS

Prime

Voltage (L-L)	208V*	240V*	380V	440V	480V*	600V
Phase	3	3	3	3	3	3
PF	0.8	0.8	0.8	0.8	0.8	0.8
Hz	60	60	60	60	60	60
kW	550	550	550	550	550	550
kVA	687	687	687	687	687	687
Amps	1908	1654	1045	902	827	662
skVA@30%						
Voltage Dip	1200	1200	1225	1400	1440	1325
Generator Model	573RSL4033	573RSL4033	573RSL4035	573RSL4033	573RSL4033	573RSS4274
Temp Rise	105 °C/40 °C	105 °C/40 °C	105 °C/40 °C	105 °C/40 °C	105 °C/40 °C	105 °C/40 °C
Connection	12 LEAD WYE	12 LEAD DELTA	12 LEAD WYE	12 LEAD WYE	12 LEAD WYE	4 LEAD WYE

** UL 2200 Offered

CERTIFICATIONS AND STANDARDS

// Emissions - EPA Tier 2 Certified

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

// Seismic Certification – Optional

- IBC Certification
- OSHPD Pre-Approval

// UL 2200 / CSA – Optional

- UL 2200 Listed

- CSA Certified

// 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
- // 12V1600 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
- // Digital Control Panel(s)
 - UL Recognized, CSA Certified, NFPA 110
 - Complete System Metering
 - LCD Display
- // Cooling System
 - Integral Set-Mounted
 - Engine-Driven Fan

STANDARD EQUIPMENT*

// Engine

Air Cleaners	Brushless Alternator with Brushless Pilot Exciter	
Oil Pump	4 Pole, Rotating Field	
Oil Drain Extension and S/O Valve	105 °C Max. Prime Temperature Rise	
Full Flow Oil Filters	1 Bearing, Sealed	
Closed Crankcase Ventilation	Flexible Coupling	
Jacket Water Pump	Full Amortisseur Windings	
Thermostats	125% Rotor Balancing	
Blower Fan and Fan Drive	3-Phase Voltage Sensing	
Radiator - Unit Mounted	±0.25% Voltage Regulation	
Electric Starting Motor - 24V	100% of Rated Load - One Step	
Governor – Electronic Isochronous	5% Max. Total Harmonic Distortion	
Base - Formed Steel		
SAE Flywheel and Bell Housing		
Charging Alternator - 24V	<pre>// Digital Control Panel(s)</pre>	
Battery Box and Cables		
Flexible Fuel Connectors	Digital Metering	
Flexible Exhaust Connection	Engine Parameters	
EPA Certified Engine	Generator Protection Functions	

// 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

Digital Metering Engine Parameters Generator Protection Functions Engine Protection CANBus ECU Communications Windows®-Based Software Multilingual Capability Remote Communications to RDP-110 Remote Annunciator 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	12V1600G20S
Туре	4-Cycle
Arrangement	12-V
Displacement: L (Cu In)	21 (1,281)
Bore: cm (in)	12 (4.72)
Stroke: cm (in)	15 (5.91)
Compression Ratio	17.5:1
Rated RPM	1,800
Engine Governor	Electronic Isochronous (ADEC)
Max. Power: kWm (bhp)	608 (815)
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)	106 (28.1)

// Electrical

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

// Fuel System

-10 JIC 37° Female
M20 x 1.5 Male Adapter Provided
-6 JIC 37° Female
M14 x 1.5 Male Adapter Provided
5 (16)
Diesel #2
402 (106.2)

// Fuel Consumption

At 100% of Power Rating: L/hr (gal/hr)	140 (37)
At 75% of Power Rating: L/hr (gal/hr)	106 (28)
At 50% of Power Rating: L/hr (gal/hr)	75 (19.9)

// Cooling - Radiator System

Ambient Capacity of Radiator: °C (°F)	50 (122)
Max. Restriction of Cooling Air: Intake	
and Discharge Side of Rad.: kPa (in. H ₂ 0)	0.2 (0.8)
Water Pump Capacity: L/min (gpm)	517 (136.5)
Heat Rejection to Coolant: kW (BTUM)	242 (13,762)
Heat Rejection to After Cooler: kW (BTUM)	150 (8,530)
Heat Radiated to Ambient: kW (BTUM)	59.7 (3,395)
Fan Power: kW (hp)	23.1 (31)

// Air Requirements

53 (1,865)
756 (26,700)
217 (7,657)

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

// Exhaust System

Gas Temp. (Stack): °C (°F)	414 (777)
Gas Volume at Stack	
Temp: m³/min (CFM)	126 (4,450)
Max. Allowable	
Back Pressure: kPa (in. H ₂ 0)	8.5 (34.1)

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.



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

SOUND DATA

Unit Type	Prime Full Load
Level 0: Open Power Unit dB(A)	91.9

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

EMISSIONS DATA



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: ≤ 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

MTU Onsite Energy A Rolls-Royce Power Systems Brand