Diesel Generator Set

MTU 12V1600 DS660

400 – 230 V/600 kVA/50 Hz/prime power/series 1600 – 12V1600

Optional equipment shown. Standard equipment may vary.

Product highlights

Benefits
— Industry-leading average load factor
— Low fuel consumption
— Emissions optimizations available
— High availability and reliability
— Outstanding load acceptance
— Long maintenance intervals

Support
— Global product support offered

Standards
— Engine-generator set is designed and manufactured in facilities certified to standards ISO 2008:9001
— Generator set complies to ISO 8528 and fulfills performance level G3
— Generator meets BS5000; NEMA MG 1; ISO; DIN EN and IEC standards

Available optimizations
— NOx emission optimized (NOx < 1500mg/m³ i.N.)
— NEA Singapore for off road diesel engines (ORDE)
— Fuel optimized

Wide standard scope of supply
— 4P circuit breaker
— Island operation control panel
— Integrated fuel tank
— Industrial silencer (15 dB(A))
— Batteries & battery charger

Complete range of accessories available
— Sound attenuated enclosure
— Fuel system accessories
— Control panel & ATS
— Range of additional electronical options

Warranty
— Standard 36 months warranty after shipment
Application data

**Engine**
- Manufacturer: MTU
- Model: 12V1600G10F
- Type: 4-cycle
- Arrangement: 12V
- Displacement: l 21
- Bore: mm 122
- Stroke: mm 150
- Compression ratio: 17.5
- Rated rpm: 1500
- Engine governor: ECU 8
- Gross power: kWm 524
- Air cleaner: dry

**Fuel system**
- Max. fuel flow: l/hr 342
- Fuel tank capacity: OPU (EPU) in l 740 (950)
- Autonomy: hr 8

**Fuel consumption**
- At 100% of power rating: l/h 116.99
- At 75% of power rating: 90.94
- At 50% of power rating: 63.06

**Liquid capacity**
- Total oil system: l 72.5
- Total coolant capacity: l 99

**Generator**
- Generator brand: Mecc-Alte
- Generator type: HM355B2
- Insulation class: H-class
- Bearing: single bearing
- Enclosure: IP23 M
- Exciting system: self-excited, brushless

**Electrical**
- Electric system volts DC 24
- Number of batteries: 2
- Capacity: Ah 2x 75

**Air requirements**
- Aspirating: m³/min 36
- Cooling air flow: m³/s 11.7

**Exhaust system**
- Gas temp. (stack): °C 482
- Gas volume at stack temp.: m³/min 90
- Maximum allowable back pressure: kPa 15

**Cooling/radiator system**
- Ambient capacity of radiator: OPU (EPU) in °C 40 (35)
- Pressure on rad. exhaust: kPa 0.2
- Heat rejection to coolant: kW 231

### Standard and optional features

**System ratings (kW/kVA)**

<table>
<thead>
<tr>
<th>12V1600 DS660</th>
<th>Prime operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>400 V</td>
</tr>
<tr>
<td>Phase</td>
<td>Three phase</td>
</tr>
<tr>
<td>Hz</td>
<td>50</td>
</tr>
<tr>
<td>kWel*</td>
<td>480.0</td>
</tr>
<tr>
<td>kVA**</td>
<td>600</td>
</tr>
<tr>
<td>Rated AMPS</td>
<td>866.0</td>
</tr>
</tbody>
</table>

* cos phi = 1.0  
** cos phi = 0.8  
Also available for following voltages 380V & 415V - for details please contact your local MTU dealer.
Standard and optional features

Engine
- 4-strokes diesel engine
- Flywheel housing SAE 1
- Flywheel 14''
- Four-valve, overhead camshaft
- Piston cooling via oil spray nozzle
- Forged crankshaft & connecting rods
- Oil pan
- Lube oil circulation pump
- Dry exhaust manifolds
- Hot components and radiator guards
- Mobile components guards
- Lube oil filter

Fuel system
- Fuel main filter
- Fuel pre-filter with water separator
- Common rail fuel injection
- Integrated fuel tank (level sensor and drain cap incl.)
- Automatic fuel transfer pump
- Heavy-duty fuel pre-filter with water separator
- 3-way valve for fuel filling
- Fuel cooler

Generator
- 3-Phase, synconos, brushless, self exciting, self regulating, self ventilating alternator
- IP23 M protection degree
- IP23 protection cover
- Bearing temperature sensors
- Insulation class H
- Anti condensation heater
- Permanent magnet

Control panel & electric options
- Control and power electric panel, with measurements devices and controller
- ATS (Automatic Transfer Switch)
- Control version for parallel operation
- Control version for synchronizing a single genset with mains
- Programmable timer for MM7 and MC7
- Remote display
- Expansion module for CAN communication
- Change over power supply for MC7
- Input output/LED expansion modules for DeepSea controllers
- ModBus connection to customer systems TCP/IP
- Control version for synchronizing with mains without blackout
- Converter kits CAN to RS485/USB/LAN

Circuit breaker/power distribution
- 4 poles manual circuit breaker (motorized with DeepSea controllers)

Starting/charging system
- 24V electric system
- Starting batteries installed
- Pre-heating resistance/jacket water heater
- Battery charging alternator
- Battery disconnector
- Battery charger
Standard and optional features

**Air intake system**
- Exhaust turbochargers
- Set of dry-type air filters with containment indicator
- Intercooler, integrated in radiator
- Heavy duty air filter with automatic dust evacuation

**Exhaust system**
- Industrial silencer 15 dB(A)
- Residential silencer 35 dB(A)
- Exhaust bellows

**Cooling system**
- Coolant circulation pump
- Front type radiator for jacket water and charge air cooling circuit with integrated expansion tank
- Engine mounted fan drive

**Mounting system**
- Mounted on steel base frame
- Resilient mounting of engine and generator

**Enclosures**
- Sound proof enclosure
- Socket box
- Increased fuel tank capacity

**Documentation & certifications**
- Genset & component manuals
- Maintenance schedule
- CE-certification for EU
- Fluids and lubricants specification
Weights and dimensions

Drawing above for illustration purposes only, based on standard open power 400 Volt engine-generator set. Lengths may vary with other voltages. Do not use for installation design. See website for unit specific template drawings.

<table>
<thead>
<tr>
<th>System</th>
<th>Dimensions (L x W x H)</th>
<th>Weight (wet/with standard accessories)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open power unit (OPU)</td>
<td>3600 x 1604 x 2121 mm</td>
<td>4529 kg</td>
</tr>
<tr>
<td>Enclosed power unit</td>
<td>5000 x 2100 x 2369 mm</td>
<td>6739 kg</td>
</tr>
</tbody>
</table>

Consult the factory for accurate weights and dimensions for your specific engine-generator set. Lengths may vary with other voltages. Do not use for installation design.

Sound data

<table>
<thead>
<tr>
<th>Unit type</th>
<th>dB(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open power unit: dB(A)</td>
<td>109</td>
</tr>
<tr>
<td>Enclosed power unit: dB(A)</td>
<td>88</td>
</tr>
</tbody>
</table>

According to 2000/14/CE.
Sound data is provided at 7m for 75% prime power.

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, AS 2789 and DIN 6271.
  Average load factor: < 75%.
- Consult your local MTU distributor for derating information.

Rated power for reference conditions at 25°C and 100m above sea level.