



## MC110

### Diesel Generator Set

<b>STAND BY</b>	Kva	<b>110</b>
	Kw	<b>88</b>
<b>PRIME</b>	Kva	<b>100</b>
	Kw	<b>80</b>


**Water Cooled**

**50 Hz**

**Easy Maintenance**

**With Control System**

**3 Phase**

**Diesel**

**Fuel Level Sensor**

**Modular Type  
Soundproof cabin**

#### GENERATING SET

Output Ratings	PRIME	STAND BY
400/230V-3 Phase, 50Hz/1500 rpm (kVA / kW)	100/80	110/88

#### DIESEL ENGINE TECHNICAL DATA

Engine Make	CUMMINS
Engine Model	6BTA5.9-G5
Governing Type	Mekanik
No. of Cylinder	6
Cylinder Arrangement	In Line
Bore and Stroke (mm)	102 X 120
Displacement (Cubic Capacity in Liters)	5,9
Injection System	Direct
Aspiration System	Turbo
Compression Ratio	16,5:1
Rotation	Counter Clockwise
Cooling System	Water Cooled
Motor Devri (rpm)	1500

Stand By Gross Engine Power (kW / Hp)	102 / 136,68
Fuel Consumption @ 50% Load (L/h)	10,8
@ 75% Load (L/h)	16,2
@ 100% Load (L/h)	21,6
Total Coolant Capacity Including Radiator (L)	12,6
Exhaust Gas Temperature (C°)	544
Radiator Cooling Air Flow / min (m3/min)	165
Combustion Air Flow (m3/min)	33
Exhaust Gas Flow (m3/min)	16,3
Fuel Tank Capacity ( Open Type / Canopied) (L)	220

#### ALTERNATOR DATA

Make	Stamford / Masterpower
Frequency / Voltage	50Hz, 230/400 Volt
Power Factor	0,8
Standby / Prime (kVA/kW)	110 / 88
No. of Bearings and Rotor	Single Bearing
Insulation Class	H
Total Harmonic Content	2%
Efficiency	85,50%
Ingress Protection	IP23
Overloading Capacity	110% for 1 hour.
Connection Type	Star
Excitation System	Self Excitation
PMG excitation system is available as option.	

#### STANDARD REFERENCE CONDITIONS

Output ratings are presented at 25°C air inlet temperature, barometric pressure 100 kPa, relative humidity 30%.

This generating set is designed to operate at high ambient temperatures (up to 55°C), humidity (up to 99%) and higher altitudes. De-ration may apply, please consult your dealer for specific site ratings.

Some of the specifications are not standard on all Genset models.

## STANDARD SPECIFICATIONS

- 1. ENGINE :**  
CUMMINS four stroke heavy duty high performace industrial type diesel engine.
- 2. ENGINE FILTRATION SYSTEM :**  
\* Air Filter, Fuel Filter, Full Flow Oil Filter. All filters have replaceable elements.
- 3. COOLING RADIATOR :**  
Radiator and cooling fan, complete with safety guards, designed to cool the engine at high ambient temperatures.  
(consult your dealer for de-ration factors)
- 4. EXHAUST SYSTEM :**  
Heavy duty Industrial Exhaust Silencer  
Silencer noise reduction level 22 (dB)  
Maximum allowable back pressure 10.0 (kPa)
- 5. BUSBAR :**  
Alternator power output is connected busbar panel board.
- 6. YAKIT SİSTEMİ :**  
On Generating Sets up to 700 KVA, the baseframe design is incorporated with an integral fuel tank with a capacity of approx. 8 hours running at Full Load. The tank is supplied complete with fill cap breather, fuel feed and return lines to the Engine and drain plug.
- 7. ALTERNATOR :**
  - 7.1. INSULATION SYSTEM :**  
\* The insulation system is Class H.  
\* All windings are impregnated in either a triple dip thermosetting liquid, oil and acid resisting polyester varnish or vacuum pressure impregnated with a special polyester resin.  
\* Heavy coat of antitracking varnish additional protection against moisture or condensation.
  - 7.2. AUTOMATIC VOLTAGE REGULATOR (AVR) :**  
The fully sealed Automatic Voltage Regulator maintains the Voltage Regulation at  $\pm 0.5\%$ . Nominal adjustment by means of a trim pot incorporated on the AVR.
  - 7.3. MOTOR STARTING :**  
An overload capacity equivalent to 300% of the Full Load impedance at zero Power Factor can be sustained for 10 seconds, when AREP option is fitted.
- 8. MOUNTING ARRANGEMENT :**
  - 8.1. BASEFRAME :** The complete Generating Set is mounted as a whole on a heavy duty fabricated steel baseframe.
  - 8.2. COUPLING :** The Engine and Alternator directly coupled by means of an SAE flange. Engine flywheel is flexibly coupled to the Alternator rotor.
  - 8.3. ANTI VIBRATION MOUNTING PADS :** Anti-Vibration pads are affixed between the Engine / Alternator feet and the Baseframe thus ensuring complete vibration isolation of the rotating assembly.
  - 8.4. SAFETY GUARDS :** The Fan & Fan Drive along with the Battery Charging Alternator are Safety Guard protected for personnel protection.
- 9. FACTORY TESTS :** 0  
The Generating set is load tested before dispatch. All protective devices control functions and site load conditions are simulated.  
The generator and it's systems are checked before dispatch.
- 10. PACKING :**  
Custom packaging solutions from MASTERPOWER offer maximum protection for both your investment and the environment alike.
- 11. DOCUMENTATION :**  
Operation & Maintenance manual, Circuit wiring diagrams and Commissioning / Fault Finding instruction leaflets are accompanied with the generator .
- 12. QUALITY STANDARDS :**  
The equipment meets the following standards: BS4999, BS5000, BS5514 IEC 60034, VDE0530, NEMA MG 1.22 and ISO 8528.
- 13. WARRANTY :**  
All of the Generating Sets are covered under a warranty policy for a period of 12 months or 1000 running hours which is come first.  
Warranty of the equipment is in line with manufacturers warranty terms & conditions.  
(Check warranty statement for more details, as it may vary for different countries)  
In line with continuous product development, we reserve the right to change specifications without notice.

## RATING DEFINITIONS

### PRIME POWER

These ratings are applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power. 10% overload power is available for 1 hour in 12 hours continuous operation.

### STANDBY POWER

These ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings.

## Advanced Genset Controllers

The Genset Control Unit is an Auto Start Control Module for single genset applications. It includes a backlit LCD display which clearly shows the status of the engine all the times. This module can either be pro-programmed using the front panel or by using the AMF configuration suite PC software.

### D500 - MK2 DATAKOM



### DSE 6620 DEESEA



## Metering & Alarm Indicators

- Generator frequency
- Underspeed, Overspeed
- Generator volts (L-L, L-N)
- Generator current
- Engine oil pressure
- Engine coolant temperature
- Fuel level (Warning or shutdown) - Optional
- Hours run counter
- Battery volts
- Fail to start/stop
- Emergency stop
- Failed to reach loading voltage / frequency
- Charge fail
- Loss of magnetic pick-up signal - Optional

## Communications

- Ethernet , GSM-GPRS
- Internal GPRS modem (optional)
- Embedded web server
- Web monitoring, Web programming
- GSM-SMS
- E-mail
- Modbus RS-485, Modbus TCP/IP
- SNMP
- USB Host (optional)
- USB Device
- RS-485,
- RS-232 (optional)
- Micro SD card slot (optional)
- J1939-CANBUS

Masterpower uses next generation genset control units like Datakom and Deepsea, combining multi-functionality and wide communication possibilities together with a reliable and low cost design. These units complies and mostly exceeds world's tightest safety, EMC, vibration and environmental standards for the industrial category. Software features are complete with easy firmware upgrade process through USB port.

The Windows based PC software allows monitoring and programming through USB, RS-485, Ethernet and GPRS. The PC based Scada softwares allows monitoring and control of an unlimited number of gensets from a single central location.

## FUNCTIONALITIES :

- AMF unit with uninterrupted transfer
- ATS unit with uninterrupted transfer
- Remote start controller
- Manual start controller
- Engine controller
- Remote display & control unit
- Waveform display of V & I
- Harmonic analysis of V & I
- CTs at genset or load side

**OPEN TYPE DIMENSIONS AND WEIGHT**

Length (mm)	2500
Width (mm)	1100
Height (mm)	1780
Weight (Dry) (Kg)	1170

**SOUNDPROOF TYPE DIMENSIONS AND WEIGHT**

Length (mm)	3100
Width (mm)	1100
Height (mm)	1880
Weight (Dry) (Kg)	1505

**Available Options**

We offer a range of optional features and accessories to tailor our generating sets to meet your power needs.

**OPTIONS**

A variety of generating set control and synchron panels  
Additional protection alarms and shutdowns  
Water fuel separator  
Water jacket heater  
Battery charger  
Circuit Breaker 3 / 4 Poles

**ACCESSORIES**

Genuine spare parts  
Load banks  
Auxiliary fuel tanks  
Manual & automatic transfer switches

**Distributed And Serviced By :****HEAD OFFICE :**

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**FACTORY :**

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**"AN INSPIRED DESIGN TO MEET YOUR NEEDS"**