



Millennium Power Manufacturing Corp.

<http://www.mpmc-china.com>

MCS60-1 (4BTA3.9-G2)

Generating set Technical Data Sheet



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ISO9001:2000
MPMC GENERATING SETS



STANDARD SPECIFICATION

General features:

- Composed of Cummins diesel engine and Stamford or MPMC alternator
- 24V DC start motor and storage battery
- Brushless, Self-excited, IP23, insulation class H alternator
- 40°C radiator as standard, 50°C is optional
- Key start panel control system as standard, digital auto-start panel is optional
- 8-hour operation base tank
- Optional open type or silent type
- All generator sets are gone through rigorous testing before being released to the market place, including 50% load, 75% load, 100% load , 110% load and all protection function (overspeed stop, high water temperature, low oil pressure, battery charging fail, emergency stop)



Genset Main Technical Data

3-PH, 50Hz@1500RPM, 400/230V (Also Can Be Made According To Customers' Special Requirements)

Genset Model	Genset Specification					Engine Specification				Alternator Model
	kVA		Cons. 100% (L/H)	dB(A) @7m	Tank (L)	Model	Cyl.	Gov.	Asp.	
	ESP	PRP								
MCS60-1	66	60	12.9	N/A	150	4BTA3.9-G2	4	E	TW	UCI 224E
MCS60S-1	66	60	12.9	70	200	4BTA3.9-G2	4	E	TW	UCI 224E
MCM60-1	66	60	12.9	N/A	150	4BTA3.9-G2	4	E	TW	MPA 224D
MCM60S-1	66	60	12.9	70	200	4BTA3.9-G2	4	E	TW	MPA 224D

- 1) Available in various voltages
- 2) To show MPMC Generating Sets Model
For example: MCM38-1A, it is the open generation set.
MCM38S-1A, it is the silent generating set.
- 3) ESP=Standby power standby duty, operation under variable load, without overload.
PRP=Prime power continuous duty operation, under variable load, 10% overload permissible 1/12hr.
- 4) E=Electronic speed governor;
M=Mechanical speed governor
- 5) Asp=Aspiration;
NA=Naturally Asp;
TC=Turbocharged;
TW=Turbocharged after water-cooled;
TCA= Turbocharged air-air after cooled
- 6) Technical data is subject to work test conditions

Reliable Performance

Voltage regulation

Voltage regulation maintained within $\pm 0.5\%$ as follow:

- Power factor Between 0.8~1.0 lag
- From no load to full load, any steady load
- Speed droop variation under 4.5%

Frequency/Speed undulation

- Change load from 0-100%, Frequency/Speed Droop Ratio within 5%.
- Load from 25-100%, any steady load Frequency/Speed undulation within 0.25%

Effect factor of telecom

- TIF(MA MG1-22) better than 50
- THF(BS EN60034) better than 2%

Criterion

- ISO8528, GB/T2820
- EN12601:2001, EN60034-22:1997, EN60204-1:2006
- ISO9001:2000 Quality Control System

Dimension and Weight



Open Type

Overall size (L*W*H)

1900×750×1350

Weight: 850kg



Silent Type

Overall size (L*W*H)

2800×1060×1660

Weight: 1158kg

ENGINE SPECIFICATION

Cummins Diesel Engine

Technical Data

Engine Model	4BTA3.9-G2
Number of Cylinders	4
Cylinder arrangement	Vertical in-line
Cycle	Four stroke
Aspiration	Turbocharged after water-cooled
Bore×Stroke (mm×mm)	102 x 120
Displacement (Liter)	3.9
Compression Ratio	16.5:1
Prime Power/Speed (kW/rpm)	50/1500
Standby Power/Speed (kW/rpm)	55/1500
Speed Governor	electrical
Cooling System	Water-cooled , 40℃ Radiator As Standard, 50℃ Is Optional.
Speed Stability (%)	≤5%
Total lubrication system capacity (L)	11
Coolant capacity (without radiator) (L)	7.9
Fuel Consumption at 100% Load (g/kWh)	216 (at 1500RPM)
Starter Motor	DC24V,
Alternator	AC24V

Alternator SPECIFICATION

Stamford Alternator (Standard)

MPMC Alternator (Option)

Technical Data

Alternator Model	UCI XXXX (Stamford) MPA XXXX(MPMC) Please Refer To The “ Genset Main Technical Data”
Exciter type	Brushless, Self-excited
Power factor	0.8
Voltage Adjust range	≥5%
Voltage Regulation NL-FL	≤±0.5%
Insulation Grade	H
Protection Grade	IP23

Control System

1. Standard: MP170HC Key Start

Providing the standard functions as follows:

(Also can be made according to the customers' special requirements)

- * Start/Stop controller
- * Ampere meter
- * Voltmeter and selector switch
- * Frequency meter/ Water temperature gauge/ Oil pressure gauge/ Hour counter/ Battery voltage meter
- * Emergency stop pushbutton
- * Alarm System: Over speed、High Engine Temperature
Low Oil Pressure、Charge Fail
- * Protection System: Over speed、High Engine Temperature、Low Oil Pressure、Emergency Stop. And the other protection function pre-setting

2. Option: Smartgen HGM6110 Digital Auto Start

3. Option: Smartgen HGM6120 Digital Auto Start (Option assembled with the ATS)

4. Option: Deep Sea DSE5210 Digital Auto Start

5. Option: Deep Sea DSE5220 Digital Auto Start (Option assembled with the ATS)

Digital Auto-start Generator controller integrating digital, intelligent and network techniques is used for automatic control system of diesel generator. It can carry out functions including automatic start/stop, data measure and alarming. Optionally assembled with the ATS, it can carry out auto-switching between the outer power and generating set power. (AMF)

Functions:

- * Automatic Start/Stop
- * 3 start attempts failure and Automatic Crank Disconnect
- * Parameters display (V/A/Hz/Hour)
- * Engine monitoring and protection
- * Charge alternator exciting and Charge alternator fail alarm
- * Running hour counting
- * Settings can be adjustable via key buttons on front panel

6. option: BGC-L

(Main used in Multiple gen-sets, load sharing)



(1)



(2)



(3)



(4)



(5)



(6)