

# Diesel Generator Set: MCS40-1

## General Features

- Every generator set is subjected to a comprehensive test program which includes 50% load, 75% load, 100% load, 110% load and the checking and proving of all control and safety shut-down functions.
- Equipped with battery charger and 24V high performance maintenance-free lead-acid starting batteries and connecting with cables.
- Equipped with industrial silencer and flexible exhaust hose.
- Equipped with 8-hours operation base tank;
- Equipped with CHINT MCCB circuit breaker;
- Designed to Comply with ISO8528/GB2820;
- Powered by Cummins engine and coupled with Stamford alternator.



## Benefits

- Function stability credibility, service convenience;
- Low operating cost results in optional economy;
- Gets the job done wherever you are;
- Ease of installation, operation and maintenance.



## Dimension and Weight

● Length(L)	mm	2080
● Width(W)	mm	700
● Height(H)	mm	1434
● Weight	kg	760
● Tank capacity	L	175

## Environment Condition

● Environment temperature	°C	≤50
● Relative humidity	%	≤90
● Altitude	m	≤1000

## Genset Technical Data

Prime power	40 kVA
Standby power	44 kVA
Rated speed	1500 RPM
Output frequency	50 Hz
Phase	3
Rated voltage	400 V
Engine model	4BT3.9-G2
Alternator model	PI 144J
Fuel consumption of 100% load	9.0 Litres/h
Fuel consumption of 75% load	7.0 Litres/h
Voltage regulation rate	≤ ±1%
Random voltage variation	≤ ±1%
Frequency regulation rate	≤ ±5%
Random frequency variation	≤ ±0.5%

### Prime Power:

This rating is for the supply of continuous electrical power (at variable load). There is no limit on the annual hours of operation and 10% overload power can be supplied for 1 hour in 12.

### Standby power:

This rating is for the supply of continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted.

### Rated voltage:

Available with customer requirements.

## Engine Specifications

Engine model	4BT3.9-G2
Engine manufacturer	Cummins
Number of cylinders	4
Cylinder arrangement	Vertical in-line
Cycle	Four stroke
Aspiration	Turbocharged
Bore×Stroke (mm×mm)	102 x 120
Displacement (Liter)	3.9
Compression Ratio	16.5:1
Prime power/speed (kW/RPM)	36/1500
Standby power/speed (kW/RPM)	40/1500
Speed governor	Electrical
Cooling system	Forced Water Cooling Cycle
Steady speed droop (%)	≤1%
Total lubrication system capacity (L)	11
Coolant capacity (engine only) (L)	7.2
Fuel consumption at 100% load (g/kWh)	214 (at 1500RPM)
Starter motor	DC24V,
Alternator	AC24V

## Alternator Specifications

Alternator model	PI 144J
Alternator manufacturer	Stamford
Exciter type	Single bearing, Brushless, Self-excited
Rated output prime power	40 kVA
Rated speed	1500 RPM
Rated frequency	50 Hz
Phase	3
Rated voltage	400 V(Available with customer requirements)
Power factor	0.8
Voltage adjust range	≥5%
Voltage regulation NL-FL	≤±1%
Insulation grade	H
Protection grade	IP23

Remark

Alternator option:

Other alternator manufacturer: Lisite, Leroy Somer, Marathon and Mecc Alte.

## Control System DSE3110

All MPMC series genset have a control cubicle (the deepsea controller DSE3110 as standard) mounted on a isolated support, which has the following features:

- Electronic digital control module with monitoring/control facility and warning indicators;
- Automatic shutdown protection
- Emergency stop button (lock-down type)
- AC output circuit breaker with over-current protection;
- DC circuit control switch.

### *The control module gives digital readouts of:*

- Generator voltage;
- Output frequency;
- Engine speed;
- Battery voltage;
- Engine hours run.



DSE3110

Note:

1. The engine coolant temperature used temperature meter display;
2. The engine oil pressure used oil pressure meter display;
3. Generator current used current meter display and used change switch for each phase displayed separately

### *The control module has indicators for failure information:*

- Overspeed/underspeed,
- Emergency stop
- Low oil pressure;
- High water temperature
- Failure to start
- Battery charger failure

### *Automatic shutdown occurs under:*

- Low engine oil pressure;
- High engine water temperature;
- Overspeed/underspeed;
- Failure to start after three attempts.

### *The controller option:*



MP170-HC



HGM6120



DSE7110



DSE7120



DSE7510

Remark: the controller detail information please refer to the file “Control System Choice”

## Generator Set Options and Accessories

### Generator set

- Silence generator set
- Trailer generator set
- Single phase generator set
- ABB MCCB circuit breaker

### Fuel system

- 12 hour base tank(single wall)
- 24 hour base tank(single wall)
- Dual wall base fuel tank
- Outside fuel tank

### Exhaust system

- Residential exhaust silencer

### Alternator

- PMG(EBS) excitation
- Space heater

### Low environment temperature

- Water heater
- Oil heater
- Battery heater

### Control system

- AMF function
- ATS control cabinet
- Multiple generator automatic synchronising

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MPMC reserves the right to implement specifications or design changes without notice.

**WARNING:** Do not connect generator to any building's electrical system unless a disconnect switch has been installed.

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