

# GMS1000C/S

## EC Series



### Features:

- Rotate speed governor: Mechanical governor
- Excitation system: Self excited, SHUNT
- A.V.R model: R250
- Emergency stop switch
- ATS (automatic transfer switch) receptacle
- 2x12V sealed for life maintenance free battery
- Lockable battery isolator switch
- Powder coated canopy (Only for Soundproofed sets)
- 50°C radiator
- Oil pump on the engine
- Steel base frame with fork holes
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Base fuel tank for daily running
- Drain points for fuel tank
- Operation Manual / Specifications
- PMG



### Output Ratings

Generating Set Model	Prime Power	Standby Power
<b>GMS1000C</b>	1000kVA/800kW	1050kVA/840kW
<b>GMS1000CS</b>	1000kVA/800kW	1050kVA/840kW

Ratings at 0.8 power factor

### Dimensions and Weights

Model	Length (L) mm	Width (W) mm	Height (H) mm	Dry Weight kg
<b>GMS1000C</b>	4500	1750	2700	7079
<b>GMS1000CS</b>	6058	2438	2730	12100

#### Notes:

##### \*Prime Power

Continuous duty operation, under variable load 24/24h-10% over load permissible 1 hour/12 hours;

##### \*\*Standby Power

Standby duty, operation under variable load, without over load;

##### Standard Reference Conditions

Note: Standard reference conditions 25°C (77°F) Air Inlet Temp, 100m(328 ft) A.S.L. 30% relative humidity.

Fuel consumption data at full load with diesel fuel with specific gravity of 0.85 and conforming to BS2869: 1998, Class A2.

### Ratings and Performance Data

<b>Engine Make &amp; Model:</b>	Cummins KTA38-G5
<b>Alternator Brand:</b>	Stamford
<b>Alternator Model:</b>	LV1634E
<b>Control System:</b>	Auto Gen / AMF
<b>Circuit Breaker Type:</b>	3 Pole MCCB
<b>Frequency &amp; Phase:</b>	50Hz & 3PH
<b>Engine Speed: RPM</b>	1500
<b>Fuel Tank Capacity: L</b>	
<b>GMS1000C</b>	1300
<b>GMS1000CS</b>	2000
<b>Fuel Consumption: L (100% Load)</b>	
<b>- Prime Power</b>	55.1
<b>-Standby Power</b>	60.3



### Engine model: KTA38-G5

Engine Technical Data		
No. of Cylinders / Alignment:	12 / In Line	
Cycle:	4 Stroke	
Bore / Stroke: mm	159(6.25)/159 (6.25)	
Induction:	Turbocharged	
Cooling Method:	Water	
Governing Type:	Mechanical	
Governing Class:	ISO 8528 G2	
Compression Ratio:	13.9:1	
Displacement: L	37.8 (2300)	
Moment of Inertia:kg.m <sup>2</sup>	10.4 (248)	
Engine Electrical System:		
- Voltage / Ground	24/Negative	
- Battery Charger	35	
Weight: kg	- Dry	4300 (9482)
	- Wet	4536 (10002)

Cooling System	
Cooling System Capacity: L	32.7 (124)
Maximum coolant Friction Head External to Engine: kPa	48
Maximum Static Head of Coolant Above Engine Crank Centerline : m	18.3
Standard Thermostat (Modulating) Range: °C	82-93
Minimum Pressure Cap: kPa	69
Maximum Top Tank Temperature for Standby / prime Power: °C	104/100

Designed to operate in ambient conditions up to 50°C (122°F). Contact your local Multiphase Power Dealer for power ratings at specific site conditions

Performance	
Engine Speed: RPM	1500
Gross Engine Power: kWm	
-Prime	880 (1180)
- Standby	970 (1300)
BMEP: kPa	
- Prime	1868 (271)
- Standby	2055 (298)

Fuel System					
Injection System Type: Direct Injection Cummins PT					
Recommended Fuel Type: Diesel Fuel No.2-D(ASTM D975)					
Fuel Consumption: l/hr					
Prime	110% Load	100% Load	75% Load	50% Load	
GMS1000C	60.3	55.1	42.5	29.9	
GMS1000CS	60.3	55.1	42.5	29.9	

(Based on diesel fuel with a specific gravity of 0.85 and conforming to BS2869, Class A2)

Lubrication System	
Oil Pressure @ Idle Speed kPa	138
@ Rated Speed kPa	310-448
Maximum Oil Temperature: °C	121
Total Oil Capacity: L	135 (35.7)
Oil Type:	API CH4 / 15W-40

Exhaust System	
Silencer Type	Industrial
Silencer Quantity:	1
Silencer Noise Reduction Level:	15-20dBA
Maximum Allowable Back Pressure: mmhg	76
Exhaust Gas Flow: l/s	
- Prime	3051(6465)
- Standby	3306 (7005)
Exhaust Gas Temperature: °C	
- Prime	499 (930)
- Standby	513 (955)

Air Systems	
Air Filter Type:	Dry type replaceable Element
Intake Air Flow: l/s	
- Prime	1140
- Standby	1213
Max. Air Intake Restriction:mmH <sub>2</sub> O	
-With Dirty Filter Element	635
-With Normal Duty and Clean Filter Element	254
-With Heavy Duty and Clean Filter Element	381

The weights are approximate and without fuel.

### Alternator model: LVI634E

Alternator Physical Data	
Manufactured by:	Stamford
Model:	LVI634E
No. of Bearings:	Single
Insulation Class:	H
Winding Pitch Code:	2/3
Wires:	12
Ingress Protection Rating:	IP23
Excitation System:	Self excited,
AVR Model:	R250

Alternator Operating Data	
Overspeed: rpm	2250rpm
Voltage Regulation: (Steady state)	±0.5%
Wave Form NEMA = TIF:	< 50
Wave Form IEC = THF:	< 2%
Air Flow: m <sup>3</sup> /s	2.18
Altitude: m	≤1000

Alternator Performance Data:	GMS1000C	GMS1000CS
<b>Time constants/400V:Ms</b>		
T'd	97	97
T''d	14	14
T'do	3180	3180
Ta	34	34
<b>Short Circuit Capacity** %</b>	1X/d	1X/d
<b>Reactances: Per Unit</b>		
Xd	2.49	2.49
X'd	0.13	0.13
X''d	0.09	0.09

Voltage Technical Data GMS1000C				
Voltage	Prime:		Standby:	
	kVA	kW	kVA	kW
380/220	950	760	980	784
400/230	1000	800	1030	824
415/240	1000	800	1030	824

Voltage Technical Data GMS1000CS				
Voltage	Prime:		Standby:	
	kVA	kW	kVA	kW
380/220	950	760	980	784
400/230	1000	800	1030	824
415/240	1000	800	1030	824

# ControlSystem

## PLC-7420

### FEATURES

- Microprocessor control, with high stability and credibility .
- Mains supply and generator operation monitoring.
- Indicating operation status and fault conditions.
- Multiple protections; multiple parameters display, such as pressure, temperature.
- Manual and automatic work mode selectable.
- Real time clock for time and date display, overall runtime display, 99 log entries
- Overall power output display.
- Integral speed/frequency detecting, telling status of start, rated operation, overspeed.
- Communication with PC via RS485 or RS232 interface, using MODBUS protocol.
- Engine ECU is available.
- Common USB cable is usable for parameter configuration.
- Multi-language is available.



## PLC-8610(Optional)

### FEATURES

- By using inbuilt device with synchronization, power matching and paralleling functions, the controller can be synchronized with the mains, uninterruptedly returning when reaching the peak;
- Can parallel up to 16 generator sets;
- Multiple languages display;
- Root mean square value voltage measurement;
- Optional power measurement device;
- Optional communication ability function, automatic synchronization indication function;
- Inbuilt or expansion relay outputs.



Diesel Generator Sets   6-2250 kVA		PLC-7420	PLC-8610
General accessory	AVR	●	●
	Electronic Governing	×	●
	Glow plug control	●	●
	Cycle Cranking	●	●
	(MODBUS) Networking	●	●
	Fault History	●	●
	Manual start/stop	●	●
	Auto/remote start	●	●
	Regular Test	●	●
	Auto operation LED	●	●
Operator Interface	Manual operation LED	●	●
	Common Shutdown LED	●	●
	Common warning LED	●	●
	Fault to start LED	●	●
	Emergency stop(lock)	●	●
	Alphanumeric screen	●	●
	Remote start input active LED	●	●
	Alarm reset	●	●
	Oil pressure	●	●
	Water Temperature	●	●
Measurement and Instrumentation	Engine Speed	●	●
	Hours Run	●	●
	Number of Starts	●	●
	Battery Voltage	●	●
	Coolant Temperature	●	●
	3Phase-L Voltage&Frequency	●	●
	3phase Current	●	●
	Frequency	●	●
	kWh	●	●
	Apparent Power	●	●
Mains Expression	Active Power and Reactive Power	●	●
	Power Factor	●	●
	Per PhasekW, kVAr	●	●
	Per Phase kVA	●	●
	Phase Voltage	●	●
	Output Power	●	●
	Grid Line Voltage	●	●
	Grid Phase Voltage	●	●
	Grid Frequency	●	●
	Low Fuel Level	●	●
Shutdown Protection and Indication	High Fuel Level	○	○
	Low Oil Pressure	●	●
	High Water Temperature	●	●
	Failure to Stop	●	●
	Failure to Start	●	●
	Controlable start circles/times	●	●
	Overspeed	●	●
	Under&Over Voltage	●	●
	Under&Over Frequency	●	●
	Overcurrent	●	●
Threshold Warning&Indication	Earth Leakage	○	○
	Reverse Power	×	●
	Reverse kWh	×	●
	Low Oil Pressure	●	●
	Low Water Temperature	○	○
	High Water Temperature	●	●
	Low Water Level	●	●
	Low/High Battery Voltage	●	●
	Failure to Charge	●	●
	Overcurrent	●	●
Paralleling Capability	Overload	●	●
	Genset Under/Over Voltage	●	●
	Genset Under/Over Frequency	●	●
	under/over Speed	●	●
	High Engine temperature	●	●
	Earth Leakage	●	●
	Synchronscope(Independent Bus)	×	●
	Active and Reactive Power Control	×	●
	Synchronscope(Shared Bus)	×	●
	Synchronization Detector	×	●
Peak Lapping	×	○	
Power Transfer Function	Automatic Transfer	●	●
	Hard Closed Transition	●	●
	Soft Closed Transition	×	●
	Gen/Mains Breaker	●	×
	Gen/Mains Breaker Status Protection	●	×
	Speed/Voltage Control	×	●
	Power Indication	●	●
	Fuel&Solenoid Valve Control	●	●
	Stator Control	●	●
	Preheating	○	○
Environment	Mains Transfer Switch (Standard)	●	●
	Mains Transfer Switch (Emergency)	●	●
	Operating Temperature [-40℃~70℃]	●	●
	Ambient Temperature [-25℃~45℃]	●	●
	Humidity<=80%	●	●
	Grid Over/Under Voltage Control	●	●
	Grid Over/Under Frequency Control	●	●
	Remote Start (Output/Load/No-load)	●	●
	Optional Relay Output	●	●
	Remote Telecom Control with All Functions	●	●
Monitoring Function	Engine Instrument Monitoring	●	●
	Alternator Output Instrument Monitoring	●	●
	Connection Point with All-around Setting For 6 Users	●	●
	3 Users Input Connection Point	●	●
	LCD Light Control of Low Light Operation Environment	●	●
	Safe PIN Code	●	●
	RS232/485 Interface	●	●
	Language Selection	●	●
	Multi-Language Function	●	●

● Standard ○ Optional × Impossible

### Optional

Engine	Alternator	Generator Set	Fuel System	Canopy
<ul style="list-style-type: none"> <li>Water Jacket Preheater</li> <li>Oil Preheater</li> </ul>	<ul style="list-style-type: none"> <li>Winding Temperature</li> <li>Measuring Instrument</li> <li>Alternator Preheater</li> <li>PMG</li> <li>Anti-damp and anti-corrosion treatment</li> <li>Anti-condensation heater</li> </ul>	<ul style="list-style-type: none"> <li>Tools with the machine</li> </ul>	<ul style="list-style-type: none"> <li>Low fuel level alarm</li> <li>Automatic fuel feedingsystem</li> <li>Fuel T-valves</li> </ul>	<ul style="list-style-type: none"> <li>Weatherproof Canopy</li> </ul>

Lubricating System	Exhaust System	Cooling System	Control System	Voltages
<ul style="list-style-type: none"> <li>Oil with the machine</li> </ul>	<ul style="list-style-type: none"> <li>Protection board from hotness</li> </ul>	<ul style="list-style-type: none"> <li>Front heat protection</li> <li>Coolant (-30°C)</li> </ul>	<ul style="list-style-type: none"> <li>Remote control panel</li> <li>PLC-8610</li> <li>ATS</li> </ul>	<ul style="list-style-type: none"> <li>415/240V</li> <li>400/230V</li> <li>380/220</li> <li>220/127V</li> <li>200-115V</li> </ul>

The following lists are optional by the needs of customers.

Minor Repair / 1000 hrs optional				
No.	Part Name	Part No.	Qty	Remark
1	CARTRIDGE,LUB	3889310=LF670	16	
2	ELEMENT,LUBOIL FILTER	3889311=LF777	8	
3	FILTER,FUEL	3313306=FF202	8	
4	CORROSION RESISTOR	3100308=WF2075	16	
5	CLEANER, AIR	3018042	8	
6	BELT,V, FAN	3003341	2	IMPORT
7	BELT,V, MULTI-SLOT	3031485	2	IMPORT
8	BEARING,CONNECTING	AR12250	1	
9	SET,MAIN BEARING	3047390	12	
10	NOZZLE,PISTION COOLING	3007517	6	
11	OIL PRESSURE SENSOR	3015237	1	
12	WATER TEMP, SENSOR	3015238	1	IMPORT
13	PICKUP ,MAGNETIC	3034572	1	
14	BUSHING	3043909	12	IMPORT
15	SWITCH,MAGNETIC	3050692	1	
16	SET,UPPER ENGINE GSK	3800730	1	IMPORT
17	SET,LOWER ENGINE GSK	3804301	1	IMPORT

# GMS1000C/S

EC Series



If you have any question or inquiry, please contact Multiphase Power sales organization.

*Specification may change without prior notice.  
For more info, please contact Multiphase Power or your local distributors.*

EC Series / 2017 1st Edition

