

GMS312C/S

EC Series



**MULTIPHASE
POWER**

Features:

- Rotate speed governor: Electrical governor FP801
- Excitation system: Self excited, SHUNT
- A.V.R model:AS440
- 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



Output Ratings

Generating Set Model	Prime Power	Standby Power
GMS312C	312kVA/250kW	345kVA/276kW
GMS312CS	312kVA/250kW	345kVA/276kW

Ratings at 0.8 power factor

Dimensions and Weights

Model	Length (L) mm	Width (W) mm	Height (H) mm	Dry Weight kg
GMS312C	3010	1280	1830	3042
GMS312CS	4450	1500	2200	4607

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;

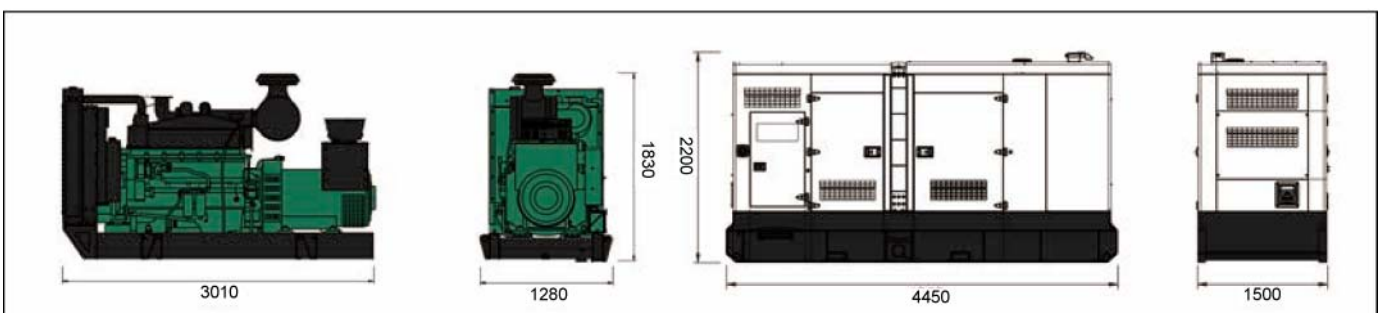
Standard Reference Conditions

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

Engine Make & Model:	Cummins NTA855-G1B
Alternator Brand:	Stamford
Alternator Model:	HCI444ES
Control System:	Auto Gen / AMF
Circuit Breaker Type:	3 Pole MCCB
Frequency & Phase:	50Hz & 3PH
Engine Speed: RPM	1500
Fuel Tank Capacity: L	
GMS312C	410
GMS312CS	800
Fuel Consumption: l/h (100% Load)	
- Prime Power	71.4
- Standby Power	80.7





Engine model:NTA855-G1B

Engine Technical Data	
No. of Cylinders / Alignment:	6 / In Line
Cycle:	6 Stroke
Bore / Stroke: mm	140 (5.5)/152 (6.0)
Induction:	Turbocharged
Cooling Method:	Water
Governing Type:	Electrical
Governing Class:	ISO 8528 G2
Compression Ratio:	14.0:1
Displacement: L	14 (855)
Moment of Inertia:kg.m ²	4.99(118.5)
Engine Electrical System:	
- Voltage / Ground	24/Negative
- Battery Charger	35
Weight: kg	
- Dry	1410
- Wet	

Cooling System	
Cooling System Capacity: L	20.8
Maximum coolant Friction Head External to Engine: kPa	41
Maximum Static Head of Coolant Above Engine Crank Centerline : m	14.0
Standard Thermostat (Modulating) Range: °C	82-94
Minimum Pressure Cap: kPa	48.2
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	284 (380)
- Standby	321 (430)
BMEP: kPa	
- Prime	1623 (235)
- Standby	1834 (266)

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
GMS312C	80.7	71.4	54.3	38.2
GMS312CS	80.7	71.4	54.3	38.2

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

Lubrication System	
Oil Pressure @ Idle Speed kPa	103
@ Rated Speed kPa	241-345
Maximum Oil Temperature: °C	121
Total Oil Capacity: L	38.6(10.2)
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	3.0(10)
Exhaust Gas Flow: l/s	
- Prime	980 (2067)
- Standby	1090 (2301)
Exhaust Gas Temperature: °C	
- Prime	485(905)
- Standby	499 (930)

Air Systems	
Air Filter Type:	Dry type replaceable Element
Intake Air Flow: l/s	
- Prime	375
- Standby	418
Max. Air Intake Restriction: mmH ₂ O	
-With Dirty Filter Element	25
-With Normal Duty and Clean Filter Element	15
-With Heavy Duty and Clean Filter Element	25

The weights are approximate and without fuel.



Alternator model: HCI444ES

Alternator Physical Data	
Manufactured by:	Stamford
Model:	HCI444ES
No. of Bearings:	Single
Insulation Class:	H
Winding Pitch Code:	2/3
Wires:	12
Ingress Protection Rating:	IP23
Excitation System:	Self excited, SHUNT
AVR Model:	AS440

Alternator Operating Data	
Overspeed: rpm	2250rpm
Voltage Regulation: (Steady state)	±1.0%
Wave Form NEMA = TIF:	< 50
Wave Form IEC = THF:	< 2%
Air Flow: m ³ /s	0.8
Altitude: m	≤1000

Alternator Performance Data:	GMS312C	GMS312CS
Time constants/400V:Ms		
T'd	80	80
T''d	19	19
T'do	1700	1700
Ta	18	18
Short Circuit Capacity** %	1X/d	1X/d
Reactances: Per Unit		
Xd	2.433	2.433
X'd	0.167	0.167
X''d	0.121	0.121

Voltage Technical Data GMS312C				
Voltage	Prime:		Standby:	
	kVA	kW	kVA	kW
380/220	325	260	345	276
400/230	325	260	345	276
415/240	325	260	345	276

Voltage Technical Data GMS312CS				
Voltage	Prime:		Standby:	
	kVA	kW	kVA	kW
380/220	325	260	345	276
400/230	325	260	345	276
415/240	325	260	345	276

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-920 (Optional)

FEATURES

- Parameter configuration via RS-232 serial communication;
- Log last 50 events & alarm information with measured values;
- Statistics records;
- Remote start/stop;
- Speed sensing from alternator voltage or magnetic pickup;
- Configurable 3 inputs and 6 outputs;
- ECU powers, ECU stop, STOP or fuel solenoid selection;
- Automatic transfer switching control and engine control;
- Adjustable start, load and stop timers.



Diesel Generator Sets 6-2250 kVA		PLC-7420	PLC-920	
General accessory	AVR	●	●	
	Electronic Governing	×	×	
	Glow plug control	●	●	
	Cycle Cranking	●	●	
	(MODBUS) Networking	●	×	
Operator Interface	Fault History	●	●	
	Manual start/stop	●	●	
	Auto/remote start	●	●	
	Regular Test	●	●	
	Auto operation LED	●	●	
	Manual operation LED	●	●	
	Common Shutdown LED	●	●	
	Common warning LED	●	●	
	Fail to start LED	●	●	
	Emergency stop(lock)	●	●	
Measurement and Instrumentation	Alphanumeric screen	●	●	
	Remote start input active LED	●	×	
	Alarm reset	●	●	
	Engine	Oil pressure	●	●
		Water Temperature	●	●
	Alternator	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	●	×	
	Shutdown Protection and Indication	Low Fuel Level	●	●
High Fuel Level		○	×	
Low Oil Pressure		●	●	
High Water Temperature		●	●	
Failure to Stop		●	●	
Failure to Start		●	●	
Controllable start circles/times		●	×	
Overspeed		●	●	
Under&Over Voltage		●	●	
Under&Over Frequency		●	●	
Threshold Warning&Indication	Overcurrent	●	●	
	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	●	●	
Paralleling Capability	Overcurrent	●	●	
	Underload	●	●	
	Genset Under/Over Voltage	●	●	
	Genset Under/Over Frequency	●	●	
	under/over Speed	●	●	
	High Engine Temperature	●	●	
	Earth Leakage	●	○	
	Synchrscope(Independent Bus)	×	×	
	Active and Reactive Power Control	×	×	
	Synchrscope(Shared Bus)	×	×	
Power Transfer Function	Synchronization Detector	×	×	
	Peak Lapping	×	×	
	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	●	●	
Environment	Starter Control	●	●	
	Preheating	○	○	
	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)	●	●	
Monitoring Function	Optional Relay Output	●	●	
	Remote Telecom Control with All Functions	●	×	
	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"> Water Jacket Preheater Oil Preheater 	<ul style="list-style-type: none"> Winding Temperature Measuring Instrument Alternator Preheater PMG Anti-damp and anti-corrosion treatment Anti-condensation heater 	<ul style="list-style-type: none"> Tools with the machine 	<ul style="list-style-type: none"> Low fuel level alarm Automatic fuel feedingsystem Fuel T-valves 	<ul style="list-style-type: none"> Trailer

Lubricating System	Exhaust System	Cooling System	Control System	Voltages
<ul style="list-style-type: none"> Oil with the machine 	<ul style="list-style-type: none"> Protection board from hotness 	<ul style="list-style-type: none"> Front heat protection Coolant (-30°C) 	<ul style="list-style-type: none"> Remote control panel PLC-920 ATS 	<ul style="list-style-type: none"> 415/240V 400/230V 380/220 220/127V 200-115V

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	3401544=LF9009	4	PCS
2	FILTER,FUEL	3315843=FS1212	8	PCS
3	CORROSION RESISTOR	4058965=WF2076	4	PCS
4	CLEANER, AIR	3022209	4	PCS
5	BELT,V	178708	1	PCS
6	BELT,V RIBBED	217638	1	PCS
7	BELT,V	3040303	1	PCS
8	TURBOCHARGER ,KIT	3801523/3545669	1	PCS
9	SET,MAIN BEARING	3801260	1	SETS
10	BEARING,CONNECTING	214950	12	PCS
11	NOZZLE,PISTION COOLING	3013591	6	SETS
12	THERMOSTAT	3076489	1	PCS
13	OIL PRESSURE TRANS DUCER	3015237	1	PCS
14	TEMP TPANSDUCER	3015238	1	PCS
15	GUAGE,PRESSURE	3034572	1	PCS
16	SWITCH,MAGNETIC	3050692	1	PCS
17	SET,UPPER ENGINE GSK	4024945	1	SETS
18	SET,LOWER ENGINE GSK	3801235	1	SETS

GMS312C/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

