

GMS42C/S

EC Series

Features:

- Rotate speed governor: Mechanical governor
- Excitation system: Self excited
- A.V.R model: AS480
- 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
GMS42C	43kVA/34kW	45kVA/36kW
GMS42CS	43kVA/34kW	45kVA/36kW

Ratings at 0.8 power factor

Dimensions and Weights

Model	Length (L) mm	Width (W) mm	Height (H) mm	Dry Weight kg
GMS42C	1995	846	1366	804
GMS42CS	2500	1050	1450	1413

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;

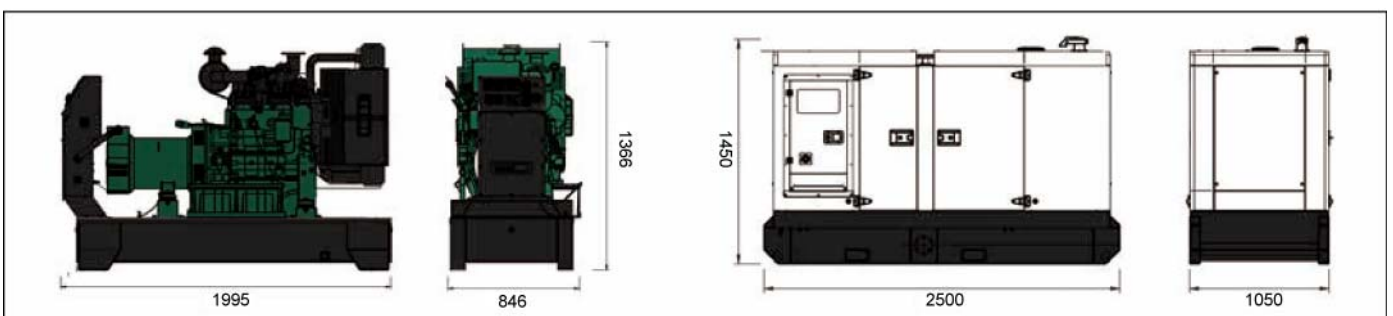
Standard Reference Conditions

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 4BT3.9-G1
Alternator Brand:	Stamford
Alternator Model:	PI144K
Control System:	Auto Gen / AMF
Circuit Breaker Type:	3 Pole MCCB
Frequency & Phase:	50Hz & 3PH
Engine Speed: RPM	1500
Fuel Tank Capacity: L	
GMS42C	250
GMS42CS	240
Fuel Consumption: l/hr (100% Load)	
- Prime Power	214
- Standby Power	



Engine model:4BT3.9-G1

Engine Technical Data	
No. of Cylinders / Alignment:	4 / In Line
Cycle:	4 Stroke
Bore / Stroke: mm	102/120
Induction:	Turbocharged
Cooling Method:	Water
Governing Type:	Mechanical
Governing Class:	ISO 8528 G2
Compression Ratio:	N/A
Displacement: L	3.92
Moment of Inertia:kg.m ²	0.143
Engine Electrical System:	
- Voltage / Ground	12/Negative
- Battery Charger	65 Amp
Weight: kg	
- Dry	320
- Wet	

Cooling System	
Cooling System Capacity: L	20.8
Maximum coolant Friction Head External to Engine: kPa	28
Maximum Static Head of Coolant Above Engine Crank Centerline : m	14
Standard Thermostat (Modulating) Range: °C	82-95
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 PowerLink Dealer for power ratings at specific site conditions

Performance	
Engine Speed: RPM	1500
Gross Engine Power: kWm	
- Prime	50 (67)
- Standby	55 (74)
BMEP: kPa	
- Prime	
- Standby	

Fuel System				
Injection System Type: BYC A Stanadyne				
Recommended Fuel Type: Diesel Fuel No.2-D(ASTM D975)				
Fuel Consumption: l/hr				
Prime	110% Load	100% Load	75% Load	50% Load
GMS42C	14.0	13.0	10.0	7.5
GMS42CS	14.0	13.0	10.0	7.5

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

Lubrication System	
Oil Pressure @ Idle Speed kPa	207
@ Rated Speed kPa	345
Maximum Oil Temperature: °C	121
Total Oil Capacity: L	11
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	7.0 (247)
- Standby	7.7 (272)
Exhaust Gas Temperature: °C	
- Prime	492 (918)
- Standby	537 (999)

Air Systems	
Air Filter Type:	Dry type replaceable Element
Intake Air Flow: l/s	
- Prime	32.8
- Standby	32.9
Max. Air Intake Restriction: mmH ₂ O	
-With Dirty Filter Element	508
-With Normal Duty and Clean Filter Element	254
-With Heavy Duty and Clean Filter Element	305

The weights are approximate and without fuel.

Alternator model: PI144K

Alternator Physical Data	
Manufactured by:	Stamford
Model:	PI144K
No. of Bearings:	Single
Insulation Class:	H
Winding Pitch Code:	2/3
Wires:	12
Ingress Protection Rating:	IP23
Excitation System:	Self excited
AVR Model:	AS480

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	0.135
Altitude: m	≤1000

Alternator Performance Data:	GMS42C	GMS42CS	
Time constants/400V:Ms	T'd	30	30
	T''d	7	7
	T'do	680	680
	Ta	7	7
Short Circuit Capacity** %	1/Xd	1/Xd	
Reactances: Per Unit	Xd	1.79	1.79
	X'd	0.17	0.17
	X''d	0.12	0.12

Voltage Technical Data GMS42C				
Voltage	Prime:		Standby:	
	kVA	kW	kVA	kW
380/220	37.5	30.0	45.0	36.0
400/230	37.5	30.0	45.0	36.0
415/240	37.5	30.0	45.0	36.0
440/254	35.6	28.5	42.8	34.2

Voltage Technical Data GMS42CS				
Voltage	Prime:		Standby:	
	kVA	kW	kVA	kW
380/220	37.5	30.0	45.0	36.0
400/230	37.5	30.0	45.0	36.0
415/240	37.5	30.0	45.0	36.0
440/254	35.6	28.5	42.8	34.2

ControlSystem

PLC-7420 (Optional)

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

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			
	MODEL	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	●	●
	Engine Speed	●	●
	Hours Run	●	●
	Number of Starts	●	●
	Battery Voltage	●	●
Coolant Temperature	●	●	
3Phase-L Voltage&Frequency	●	●	
3phase Current	●	●	
Frequency	●	●	
kWh	●	●	
Alternator			
Apparent Power	●	●	
Active Power and Reactive Power	●	●	
Power Factor	●	●	
Per PhasekW, kVAr	●	●	
Per Phase kVA	●	●	
Phase Voltage	●	●	
Output Power	●	×	
Mains Expression			
Grid Line Voltage	●	×	
Grid Phase Voltage	●	×	
Grid Frequency	●	×	
Shutdown Protection and Indication	Engine		
	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	●	●	
Overcurrent	●	●	
Earth Leakage	○	○	
Reverse Power	×	×	
Reverse kWh	×	×	
Threshold Warning&Indication	Alternator		
	Low Oil Pressure	●	●
	Low Water Temperature	○	○
	High Water Temperature	●	●
	Low Water Level	●	●
	Low/High Battery Voltage	●	●
	Failure to Charge	●	●
	Overcurrent	●	●
	Overload	●	●
	Genset Under/Over Voltage	●	●
Genset Under/Over Frequency	●	●	
under/over Speed	●	●	
High Engine temperature	●	●	
Earth Leakage	●	○	
Paralleling Capability	Synchroscope(Independent Bus)	×	×
	Active and Reactive Power Control	×	×
	Synchroscope(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	●	●
	Starter Control	●	●
	Preheating	○	○
Mains Transfer Switch (Standard)	●	×	
Mains Transfer Switch (Emergency)	●	×	
Environment	Operating Temperature (-40℃-70℃)	●	●
	Ambient Temperature (-25℃-45℃)	●	●
	Humidity<=80%	●	●
Monitoring Function	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	●	×
	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

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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-7420 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.

4B Series 1000 Hour Maintaining List				
No.	Part Name	Part No.	Qty	Remark
1	CARTRIDGE,LUB	1012Q-010(3908616)	5	
2	FILTER,FUEL	C3931063	5	
3	WATER FUEL SEPERATOR	C3930942	5	
4	CLEANER, AIR	kw1524	5	
5	BELT,V RIBBED	C3288790	2	
6	FRONT FUEL SEAL	C4991305	1	
7	REAR FUEL SEAL	C4982415	1	
8	BEARING,CRANKSHAFT THRUS	A3906230	1	
9	BEARING,MAIN, UPPER	C3929016	4	
10	BEARING,MAIN, BOTTOM	C3929021	5	
11	BEARING,CONNECTING ROD	A3901170	8	
12	GASKET,VALVE COVER	C3930906	8	
13	GASKET,SYLINDER	3921393.00	1	
14	AIR RING, PISTON	3918315.00	4	ONE SET
15	MID RING, PISTON	3904531.00	4	
16	OIL RING, PISTON	3932520.00	4	
17	NOZZLE TIP	P277	8	
18	SOLENOID, FUEL PUMP	C4942879	1	
19	PUMP SET	C3911118	1	

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If you have any question or inquiry, please contact
PowerLink sales organization. Or contact by:
info@powerlinkworld.com

*Specification may change without prior notice.
For more info, please contact PowerLink or your local
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Local Distributor
