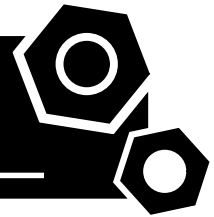


**Generator set**

**Open type**

**GMS650C**

# **SPECIFICATIONS**



## 1 Standards & Conditions

### Design Standards

The designs and the productions are in conformity with:

- Conformance European (CE)
- China Compulsory Certification (CCC)
- ISO8528-5:2005
- GB/T2820.5-2009

### Environmental Operating Conditions

- Installation place: Indoors (well ventilated).
- Ambient temperature: -25°C to 45°C. The coolant heater is needed when the temperature is below 5°C
- Humidity: Less than 80%.
- Altitude: Below one thousand (1000) meters above sea level.

### Factory Inspection

- Inspection items.
- Protection devices working test.
- Starting ability in normal temperature.
- 50% rated power load moment capability.
- Voltage deviation and speed variation: 0%, 25%, 50%, 75%, 100%, 110% Load.

### Painting Process

- Painting process specifications and colors are based on the manufacturer's standard.
- The customer could also choose the color which the manufacturer offers.

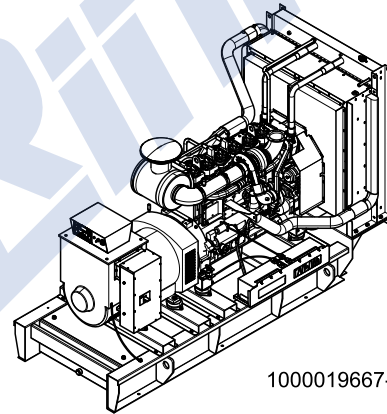
## 2 General Features

- Cummins engine QSKTAA19-G3-NR2
- Close coupled to a Stamford alternator HCI544F
- Microprocessor control module PLC-7420
- DMA main circuit breaker: 1000A
- Rotate speed governor: Electronic fuel injection governor
- Excitation System: Self excited, SHUNT
- A.V.R. Model: AS440
- Key switch
- Emergency stop switch
- ATS (automatic transfer switch) receptacle

- 2x12V/150AH sealed for life maintenance free battery
- Lockable battery isolator switch
- 50°C radiator
- Oil pump on the engine
- Steel base frame with lifting lugs
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Base fuel tank for 9 hours running
- Drain points for fuel tank
- Operation Manual / Specifications

## 3 Equipment Specification

### General technical data



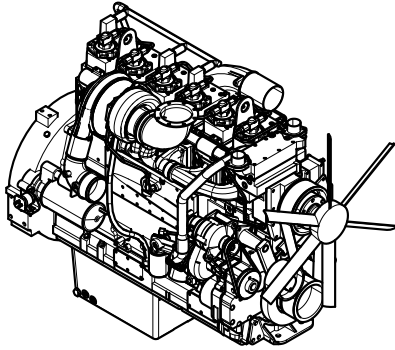
1000019667-AP1-A3

Model.....	GMS650C
Structure type .....	A
Tank capacity.....	1300L
Dry weight.....	5256kg
Noise level @7m .....	N/A
Dimensions L×W×H.....	3823×1683×2386mm
Standby Power .....	710kVA/568kW
Prime Power .....	650kVA/520kW

Voltage	380V	400V	415V	440V
Ampere	987.6A	938.2A	904.3A	852.9A

Genset Fuel Consumption					
Frequency/Load	25%	50%	75%	100%	110%
50Hz (L/h)	40	77	109	143	156

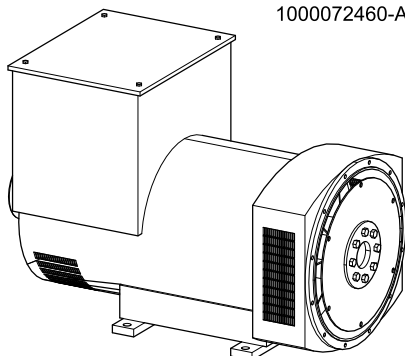
## Diesel engine



1000099093-AP1-B6

Engine Manufacturer/Brand .....	Cummins
Engine Model .....	QSKTAA19-G3-NR2
Dimensions L×W×H.....	1784×1126×1550mm
Dry Weigh (approx.) .....	1900kg
Number of Cylinders.....	6
Bore.....	159mm
Stroke .....	159mm
Displacement.....	19L
Compression Ratio .....	15
Type of injection.....	Cummins MCRS
Intake System.....	Turbocharged, air-to-air charged cooled
Intake Resistance .....	≤6.22KPa
Cooling System .....	Water cooled
Fan .....	Pusher
Battery Voltage .....	24V
Type of Fuel.....	No.2 or ASTM D975
Type of Oil .....	API CD/SE or CCMCD4
Oil Capacity .....	84.4L
Type of Coolant .....	Glycol mixture
Coolant Capacity .....	41.6L(only engine)
Back Pressure .....	≤7.8KPa
Standby Power .....	634kW
Prime Power .....	574kW
Fuel Consumption(100%load).....	143L/h

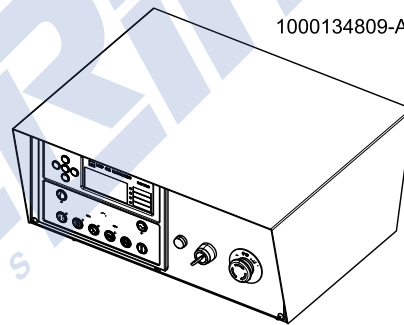
## Alternator



1000072460-AP1-A1

Alternator Manufacturer/Brand .....	Stamford
Alternator Model .....	HCI544F
Exciter.....	Brushless
Cooling Fan .....	Cast alloy aluminum
Windings.....	100% copper
Insulation Class .....	H
Winding Pitch.....	2/3
Terminals .....	12
Drip Proof .....	IP23
Altitude.....	≤1000m
Overspeed .....	2250 rpm
Air Flow.....	1.035m³/s(50HZ), 1.312m³/s(60HZ)
Voltage Regulation .....	±1.0%
Total harmonic TGH / THCat no load < 1.5 % - on load < 5%	
Telephone Interference.....	THF<2%;TIF<50

## PLC-7420 Control System



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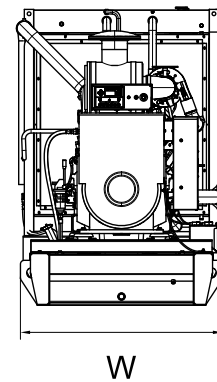
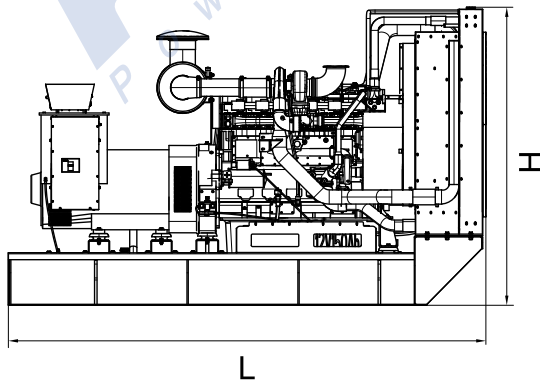
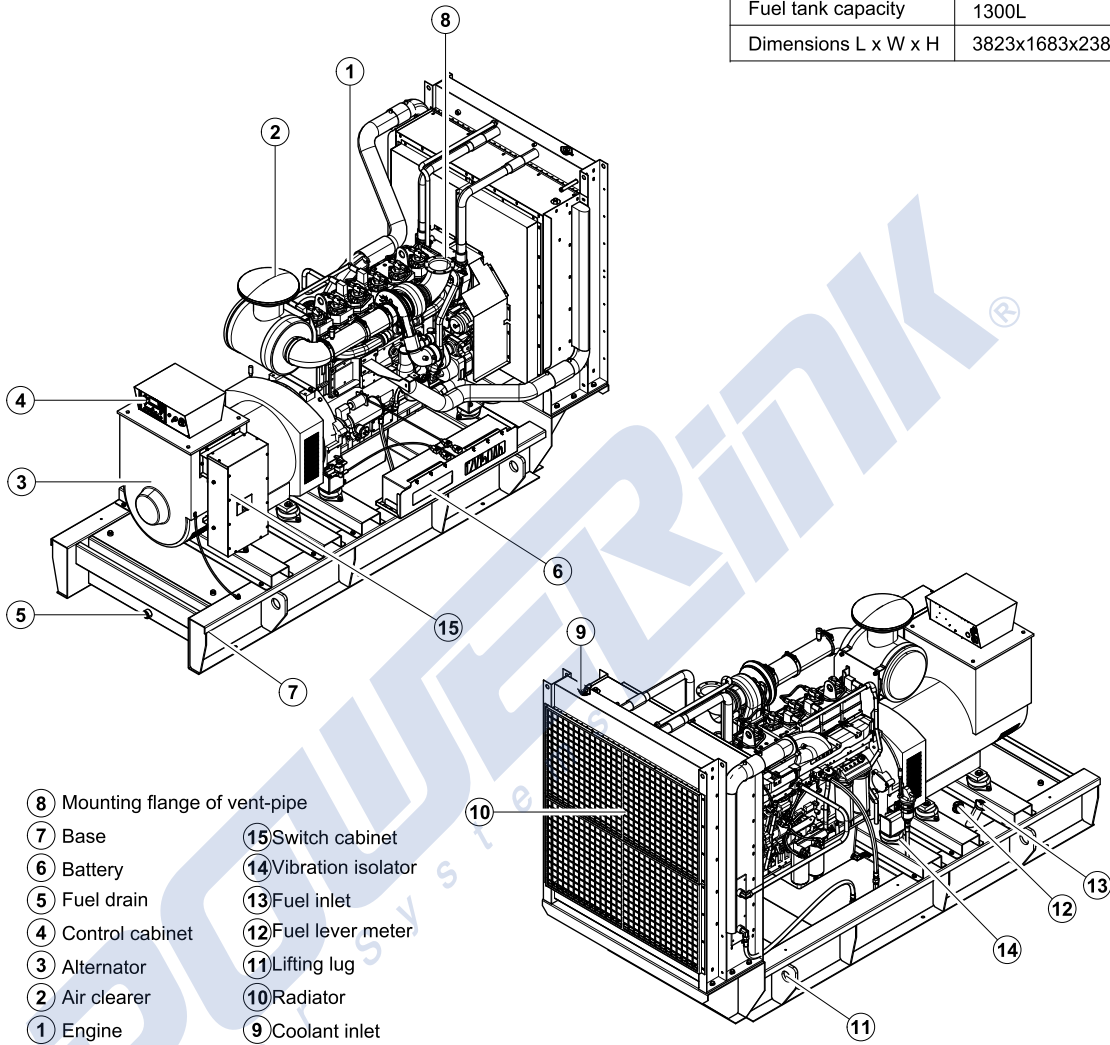
PLC-7420 is an advanced control module based on micro-processor, containing all necessary functions for protection of the genset and the breaker control. It can monitor the mains supply, and automatically start the engine when the mains is abnormal. Accurately measure various operational parameters and display all values and alarms information on the LCD. In addition, the control module can automatically shut down the engine and indicate the engine failure.

- Microprocessor control, with high stability and credibility
- Monitoring and measuring operational parameters of the mains supply and genset
- Indicating operation status, fault conditions, all parameters and alarms
- Multiple protections; multiple parameters display, like pressure, temp. etc.
- Manual, automatic and remote work mode selectable
- Real time clock for time and date display, overall runtime display, 250 log entries
- Overall power output display
- Integral speed/frequency detecting, telling status of start, rated operation, overspeed etc.
- Communication with PC via RS485 OR RS232 interface, using MODBUS protocol

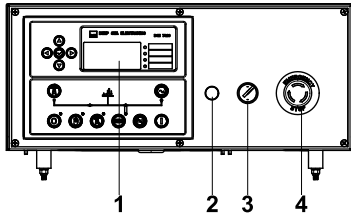
## 4 Overall Dimensions

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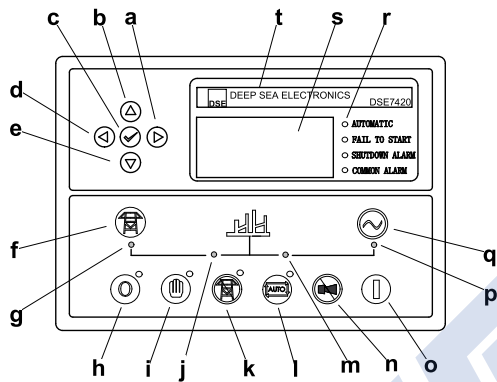
Dry weight	5356kg
Fuel tank capacity	1300L
Dimensions L x W x H	3823x1683x2386mm



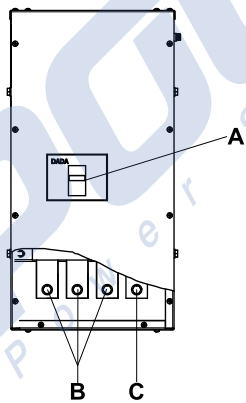
## 5 Control System



**Control cabinet**



**Control module**



**Field wiring cabinet**

Ref.	Description
1	PLC-7420 control module
2	Charge indicator
3	Key switch
4	Emergency stop button

a	Button (next page)
b	Button (increase value / previous item)
c	Button (accept)
d	Button (previous page)
e	Button (decrease value / next item)
f	Button (transfer the load to the mains supply, when in Manual mode only)
g	Mains supply available LED
h	Stop / Reset button
i	Manual button (Manual control mode)
j	Mains supply on load LED
k	Test button (Test mode)
l	Auto button (Auto mode)
m	Genset on load LED
n	Mute/Lamp test button
o	Start button (Manual)
p	Genset available LED
q	Button (transfer the load to the genset, when in Manual mode only)
r	Alarm LED (4 alarm items)
s	LCD display
t	Control module name

A	Main circuit breaker
B	Live wire terminals
C	Neutral wire terminal

1000019667-A3-E
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02.2013
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