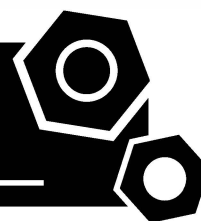


**Generator set**  
**Sound-proof type**  
**GMS650CS**

# **SPECIFICATIONS**



## 1 Standards & Conditions

### Design Standards

The designs and the productions are in conformity with:

- Conformance Européenne (CE)
- ISO8528-5:2005
- GB/T2820.5-2009

### Environmental Operating Conditions

- Installation place: Outdoors or indoors (well ventilated).
- Ambient temperature: -25°C to 50°C. The coolant heater is needed when the temperature is below 5°C
- Humidity: Less than 80%.
- Altitude: Below one thousand (1000) meters.

### 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.

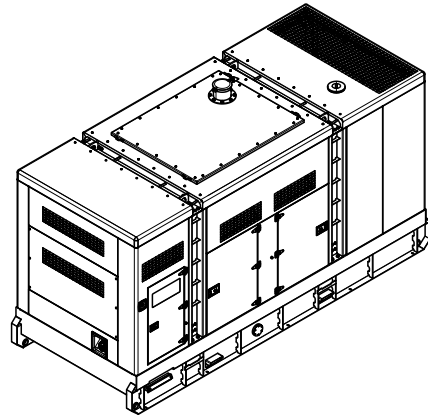
## 2 General Features

- Cummins engine QSK19-G4
- Close coupled to LSA alternator LSA47.3L10
- Microprocessor control module PLC-7420
- Main circuit breaker: 1000A
- Rotate speed governor: ECU
- Excitation System: Self-Excited
- A.V.R.Model: R250
- Key switch
- Emergency stop switch
- ATS (automatic transfer switch) receptacle
- 2x12V/150AH sealed for life maintenance free battery

- Lockable battery isolator switch
- Powder coated canopy
- 50°C radiator
- Oil pump on the engine
- Steel base frame with forklifts
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Base fuel tank for 6 hours running
- Drain points for fuel tank
- Operation Manual/ Specifications

## 3 Equipment Specification

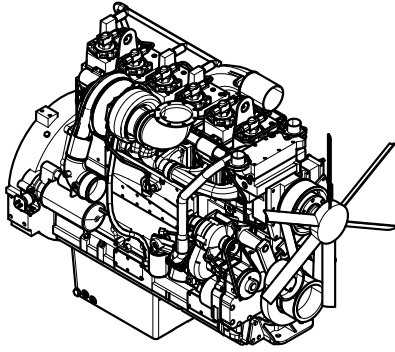
### General technical data



Model.....	GMS650CS
Structure type .....	R
Tank capacity.....	945L
Dry weigh.....	6811kg
Noise level @7m .....	78.0dBA
Dimensions L×W×H.....	4592x2016x2661mm
Standby Power .....	715kVA/572kW
Prime Power.....	650kVA/520kW

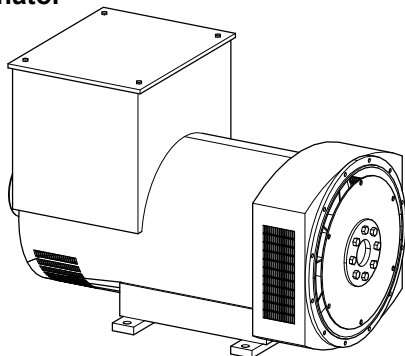
Voltage	380V	400V	415V	440V
Ampere	988A	938A	904A	853A
<b>Genset Fuel Consumption</b>				
Frequency/Load	25%	50%	75%	100%
50Hz (L/h)	41	79	111	145

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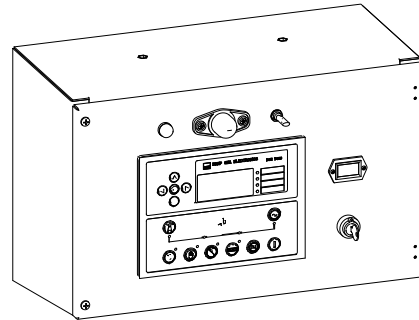
Engine Manufacturer/Brand.....	Cummins
Engine Model.....	QSK19-G4
Dimensions L×W×H.....	1784×1126×1550mm
Dry Weigh (approx.).....	1901kg
Number of Cylinders.....	6
Bore.....	159mm
Stroke.....	159mm
Displacement.....	19L
Compression Ratio.....	15.0
Type of injection.....	Cummins MCRS
Intake System.....	Turbocharged, Charge Air Cooled
Intake Resistance.....	≤3.73KPa
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.....	42L
Back Pressure.....	≤10KPa
Standby Power.....	634kW
Prime Power.....	574kW
Fuel Consumption(100%load).....	145L/h

## Alternator



Alternator Manufacturer/Brand.....	LSA
Alternator Model.....	LSA47.3L10
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

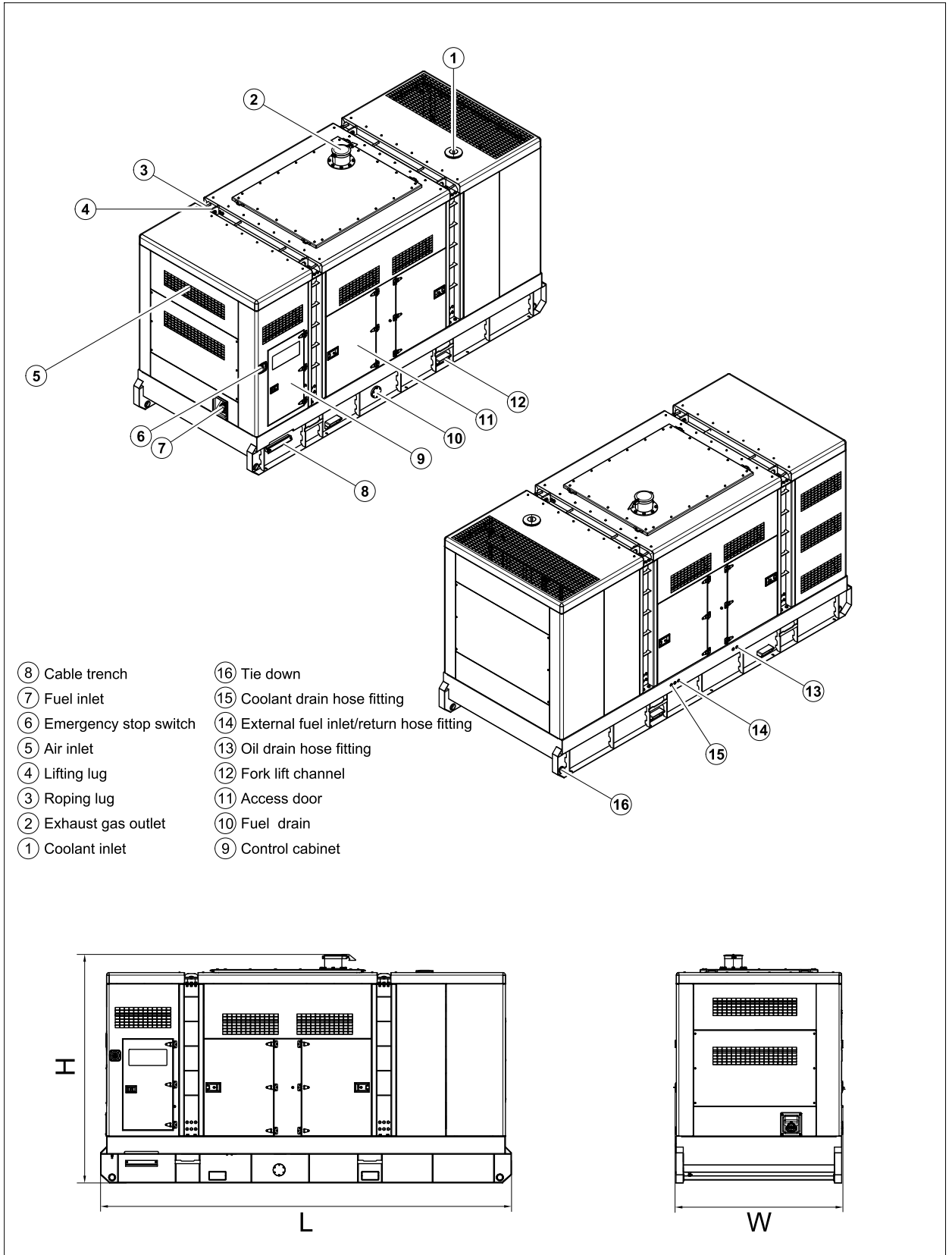
## PLC-7420 Control System



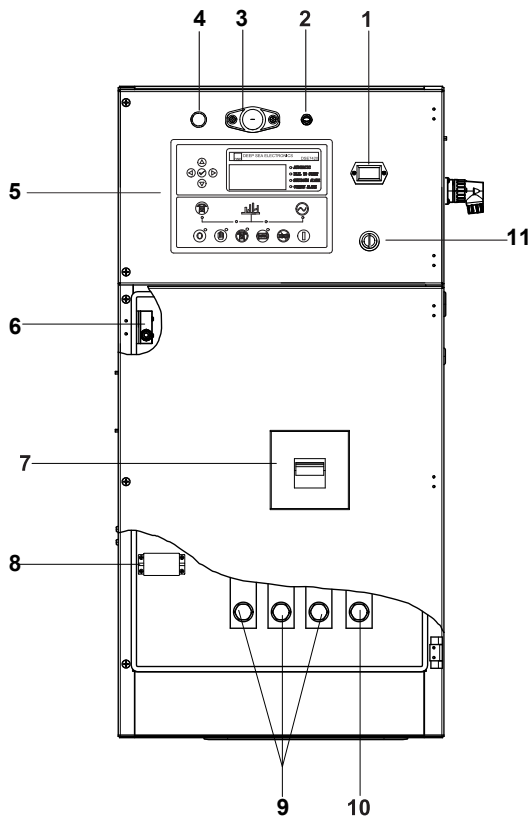
PLC-7420 is an advanced control module based on micro-processor, containing all necessary functions for protection of the genset and the breaker control. It can monitor the mains supply, and automatically start the engine when the mains is abnormal. Accurately measure various operational parameters and 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

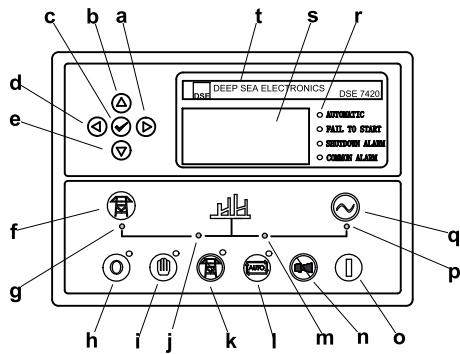
## 4 Overall Dimensions



## 5 Control System



**Control & field wiring cabinet**



**Control module**

Ref.	Description
1	Time counter
2	Control panel lamp switch
3	Control panel lamp
4	Charge indicator
5	Control module
6	Limit switch
7	Main circuit breaker
8	Mains input/ remote/AMF communication connector
9	Live wire terminals
10	Neutral wire terminal
11	Key switch

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

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10.2023
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*Specification may change without prior notice. For more info.,  
contact Power Link or your local distributors please.*