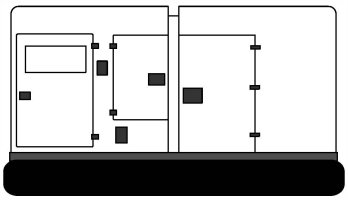
ASO genset



Generator set

Sound-proof type

GMS450CS

SPECIFICATIONS

SC series
GMS450CS
50 Hz @ 1500rpm,3-phase/4-wiring

1 Standards & Conditions

Design Standards

The designs and the productions are in conformity with:

- Conformite Europeenne (CE)
- ISO8528-5:2005
- GB/T2820.5-2009

Environmental Operating Conditions

- Installation place: Outdoors or indoors (well ventilated).
- Ambient temperature: -25℃ to 50℃. The coolant heater is needed when the temperature is below 5℃
- Humidity: Less than 90%.
- 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

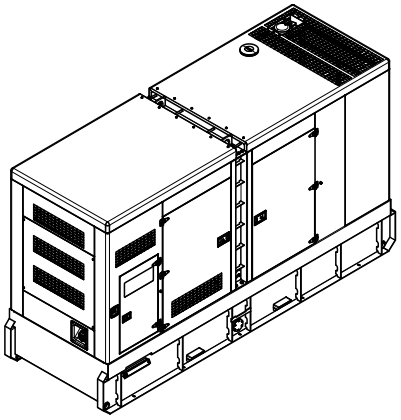
- Painting process specifications and colors are based on the manufacturer's standard.
- The customer could also choose the color which the manufacturer offers.

2 General Features

- Cummins engine QSZ13-G2
- Close coupled to LSA alternator LSA47.3S5
- Microprocessor control module PLC-7420
- Main circuit breaker: 800A
- 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℃ radiator
- Oil pump on the engine
- Steel base frame with forkslots
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Base fuel tank for 10 hours running
- Drain points for fuel tank
- Breather valve for fuel tank
- Operation Manual / Specifications

3 Equipment Specification

General technical data



Model..... GMS450CS

Structure type ..... R

Tank capacity..... 900L

Dry weight..... 4920kg

Noise level @7m 74.7dBA

Dimensions L×W×H..... 3990x1600x2386mm

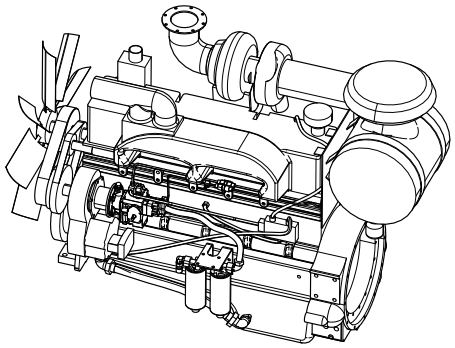
Standby Power 495kVA/396kW

Prime Power 450kVA/360kW

Voltage	380V	400V	415V	440V
Ampere	683.7A	649.5A	626A	590A

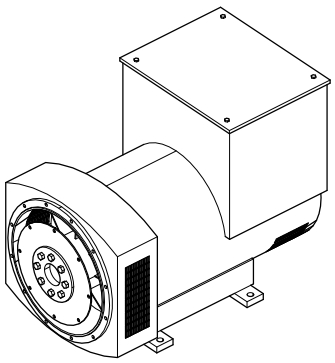
Genset Fuel Consumption					
Frequency/Load	25%	50%	75%	100%	110%
50Hz (L/h)	23.6	44.2	65.6	88.8	98.7

Power System



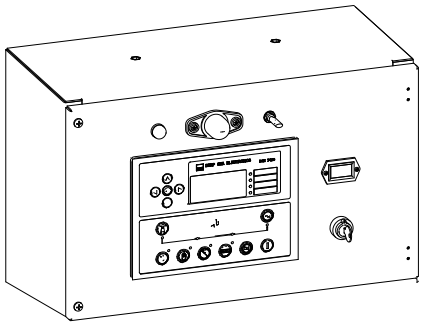
Engine Manufacturer/Brand.....Cummins
Engine Model..... QSZ13-G2
Dimensions L×W×H.....1396×1049x1232mm
Dry Weigh (approx.) 1245kg
Number of Cylinders.....6
Bore 130mm
Stroke 163mm
Displacement.....13L
Compression Ratio 17
Type of injection..... Direct injection
Intake System..... Turbocharged,air-to-air charged cooled
Intake Resistance .....≤6.2KPa
Cooling System .....Water cooled
Fan ..... Pusher
Battery Voltage 24V
Type of Fuel..... No.2 or ASTM D975
Type of Oil .....Class CH-4 oil as per API classification
Oil Capacity 45.4L
Type of Coolant .....Glycol mixture
Coolant Capacity 23.1L
Back Pressure ..... ≤13KPa
Standby Power 589kW
Prime Power 536kW
Fuel Consumption(100%load).....88.8L/h

Alternator



Alternator Manufacturer/Brand ..... LSA
Alternator Model LSA47.3S5
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

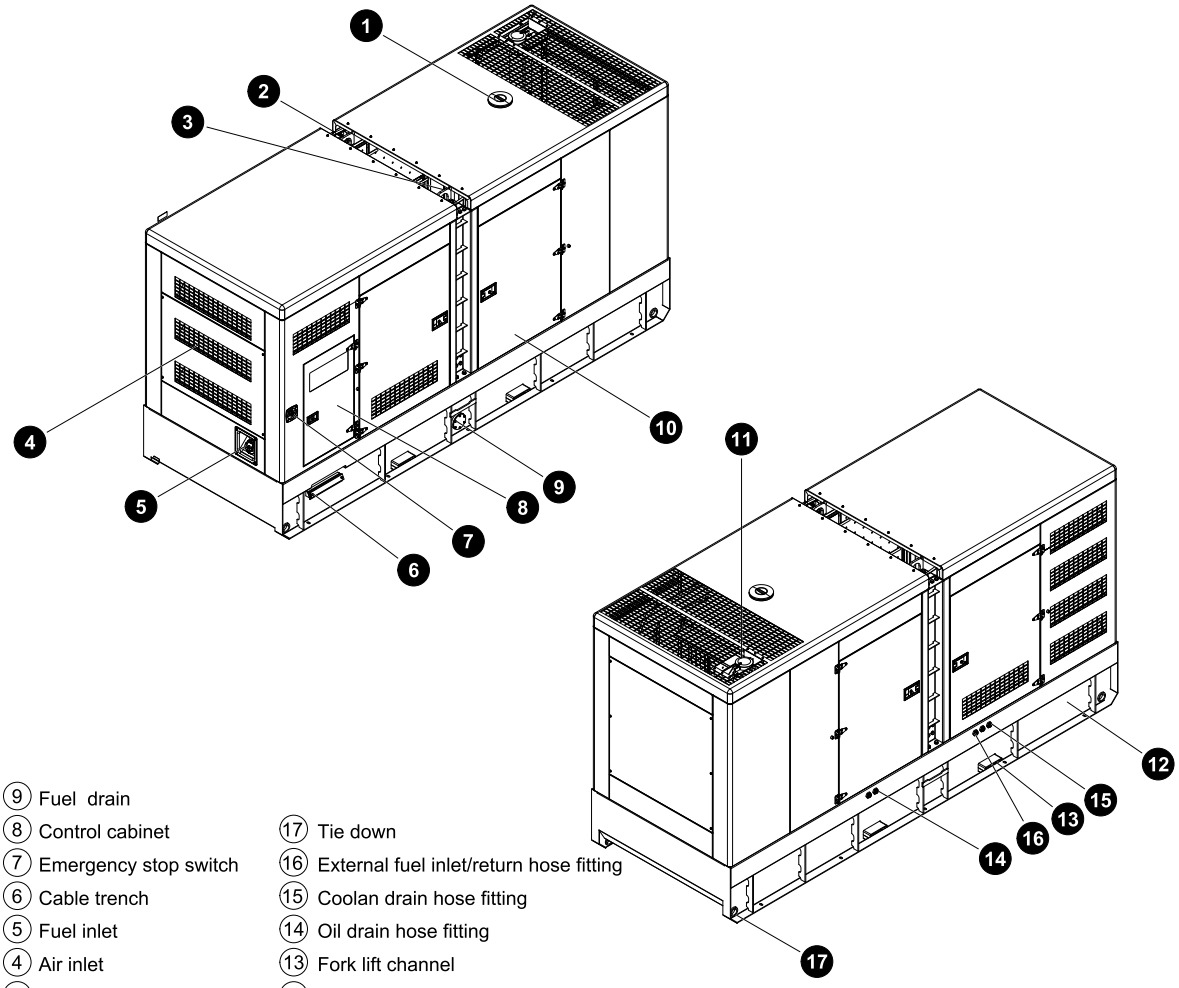
PLC-7420 Control System



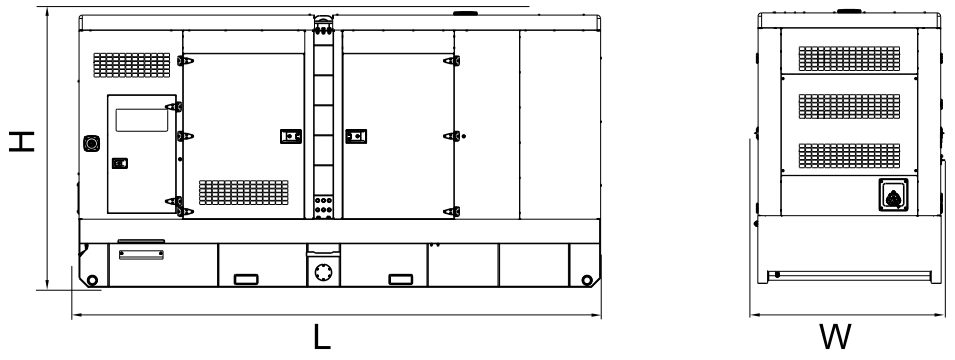
PLC-7420 is an advanced control module based on micro-processor, containing all necessary functions for protection of the genset and the breaker control. It can monitor the mains supply, and automatically start the engine when the mains is abnormal. Accurately measure various operational parameters and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

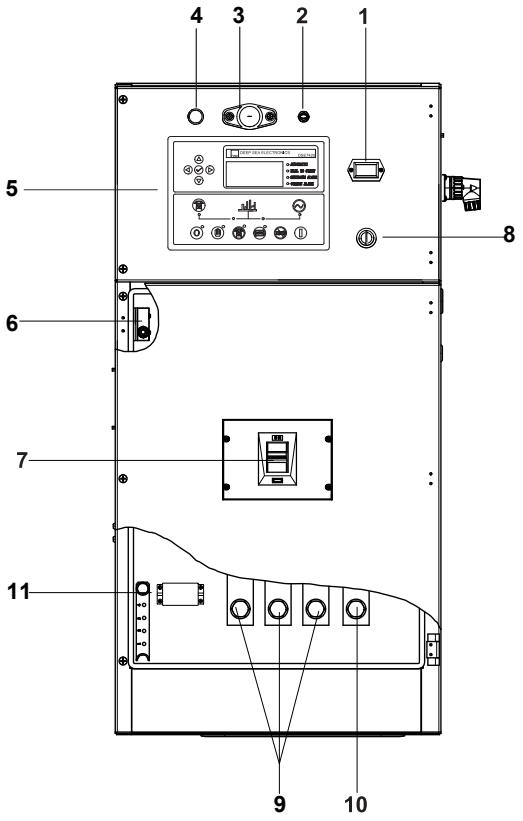
4 Overall Dimensions



⑨ Fuel drain
⑧ Control cabinet
⑦ Emergency stop switch
⑥ Cable trench
⑤ Fuel inlet
④ Air inlet
③ Lifting lug
② Roping lug
① Coolant inlet
⑰ Tie down
⑯ External fuel inlet/return hose fitting
⑮ Coolan drain hose fitting
⑭ Oil drain hose fitting
⑬ Fork lift channel
⑫ Base frame
⑪ Exhaust gas outlet
⑩ Access door

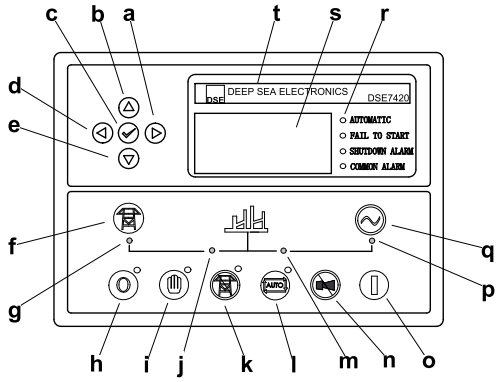


5 Control System



Control & field wiring cabinet

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	Key switch
9	Live wire terminals
10	Neutral wire terminal
11	Mains input/ remote/AMF communication connector



Control module

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