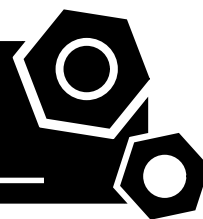


**Generator set**

**Sound-proof type**

**GMS42CS-AU**

# **SPECIFICATIONS**



## 1 Standards & Conditions

### Design Standards

The designs and the productions are in conformity with:

- Conformance Européenne (CE)
- ISO8528-5:2005
- AS 3000-2018
- AS 3010-2017

### 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 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.

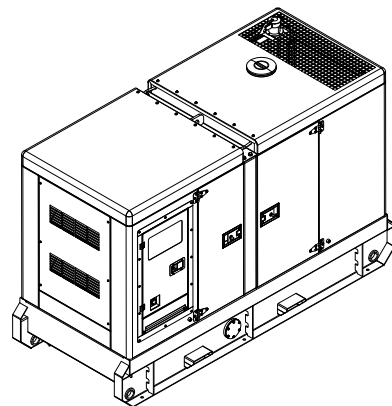
## 2 General Features

- Cummins engine 4BT3.9-G2
- Close coupled to LSA alternator LSA42.3M7
- Microprocessor control module PLC-7420
- Main circuit breaker: 63A
- Rotate speed governor: EFC
- Excitation System: Self Excited, SHUNT
- A.V.R. Model: R220
- Key switch
- Emergency stop switch
- ATS (automatic transfer switch) receptacle

- Remote run connextor
- 2x12V/72AH sealed for life maintenance free battery
- Lockable battery isolator switch
- Powder coated canopy
- 50°C radiator
- Oil pump on the engine
- Non-returning valve for fuel inlet hose of the engine
- Steel base frame with forkslots
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Base fuel tank for 21 hours running
- Drain points for fuel tank
- Breather valve for fuel tank
- Operation Manual / Specifications

## 3 Equipment Specification

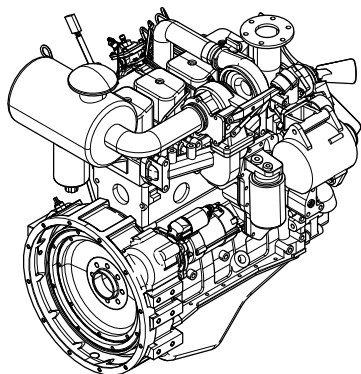
### General technical data



|                       |                  |
|-----------------------|------------------|
| Model.....            | GMS42CS-AU       |
| Structure type .....  | R                |
| Tank capacity.....    | 270L             |
| Dry weight.....       | 1410kg           |
| Noise level @7m ..... | 67.0dBA          |
| Dimensions L×W×H..... | 2588x1081x1702mm |
| Standby Power .....   | 47kVA/37kW       |
| Prime Power .....     | 43kVA/34kW       |
| Voltage/Ampere .....  | 415V/59.8A       |

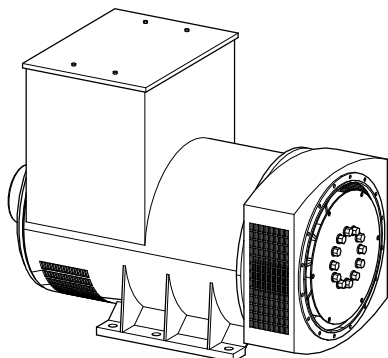
| Genset Fuel Consumption |     |     |     |      |      |
|-------------------------|-----|-----|-----|------|------|
| Frequency/Load          | 25% | 50% | 75% | 100% | 110% |
| 50Hz (L/h)              | 3.4 | 5.3 | 7.3 | 9.3  | 10.3 |

## Diesel Engine



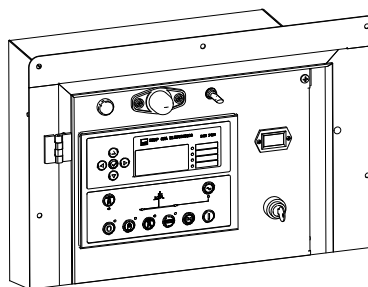
|                                      |                     |
|--------------------------------------|---------------------|
| Engine Manufacturer/Brand .....      | Cummins             |
| Engine Model .....                   | 4BT3.9G2            |
| Dimensions L×W×H.....                | 889*703.6*1058.2    |
| Dry Weigh (approx.) .....            | 321kg               |
| Number of Cylinders .....            | 4                   |
| Bore .....                           | 102mm               |
| Stroke .....                         | 120mm               |
| Displacement .....                   | 3.9L                |
| Compression Ratio .....              | 18                  |
| Type of injection.....               | Direct injection    |
| Intake System.....                   | Turbocharger        |
| Intake Resistance .....              | ≤3.7kPa             |
| Cooling System .....                 | Water cooled        |
| Fan .....                            | Pusher              |
| Battery Voltage .....                | 12/24V              |
| Type of Fuel.....                    | No.2 or ASTM D2     |
| Type of Oil .....                    | API CD/SE or CCMCD4 |
| Oil Capacity .....                   | 10.9L               |
| Type of Coolant .....                | Glycol mixture      |
| Coolant Capacity (Engine Only) ..... | 7.2L                |
| Back Pressure .....                  | ≤10.0kPa            |
| Standby Power .....                  | 40kW                |
| Prime Power .....                    | 36kW                |
| Fuel Consumption(100%load).....      | 214g/kW.h           |

## Alternator



|                                                           |                                 |
|-----------------------------------------------------------|---------------------------------|
| Alternator Manufacturer/Brand .....                       | LSA                             |
| Alternator Model .....                                    | LSA42.3M7                       |
| Exciter.....                                              | Brushless                       |
| Cooling Fan .....                                         | Plastic                         |
| Windings.....                                             | 100% copper                     |
| Insulation Class .....                                    | H                               |
| Winding Pitch.....                                        | 2/3                             |
| Terminals .....                                           | 12                              |
| Drip Proof .....                                          | IP23                            |
| Altitude.....                                             | ≤1000m                          |
| Overspeed .....                                           | 2250rpm                         |
| Air Flow.....                                             | 0.135m³/s(50HZ),0.165m³/s(60HZ) |
| Voltage Regulation .....                                  | ±1.0%                           |
| Total harmonic TGH / THCat no load < 1.5 % - on load < 5% |                                 |
| Telephone Interference.....                               | THF<2%;TIF<50                   |

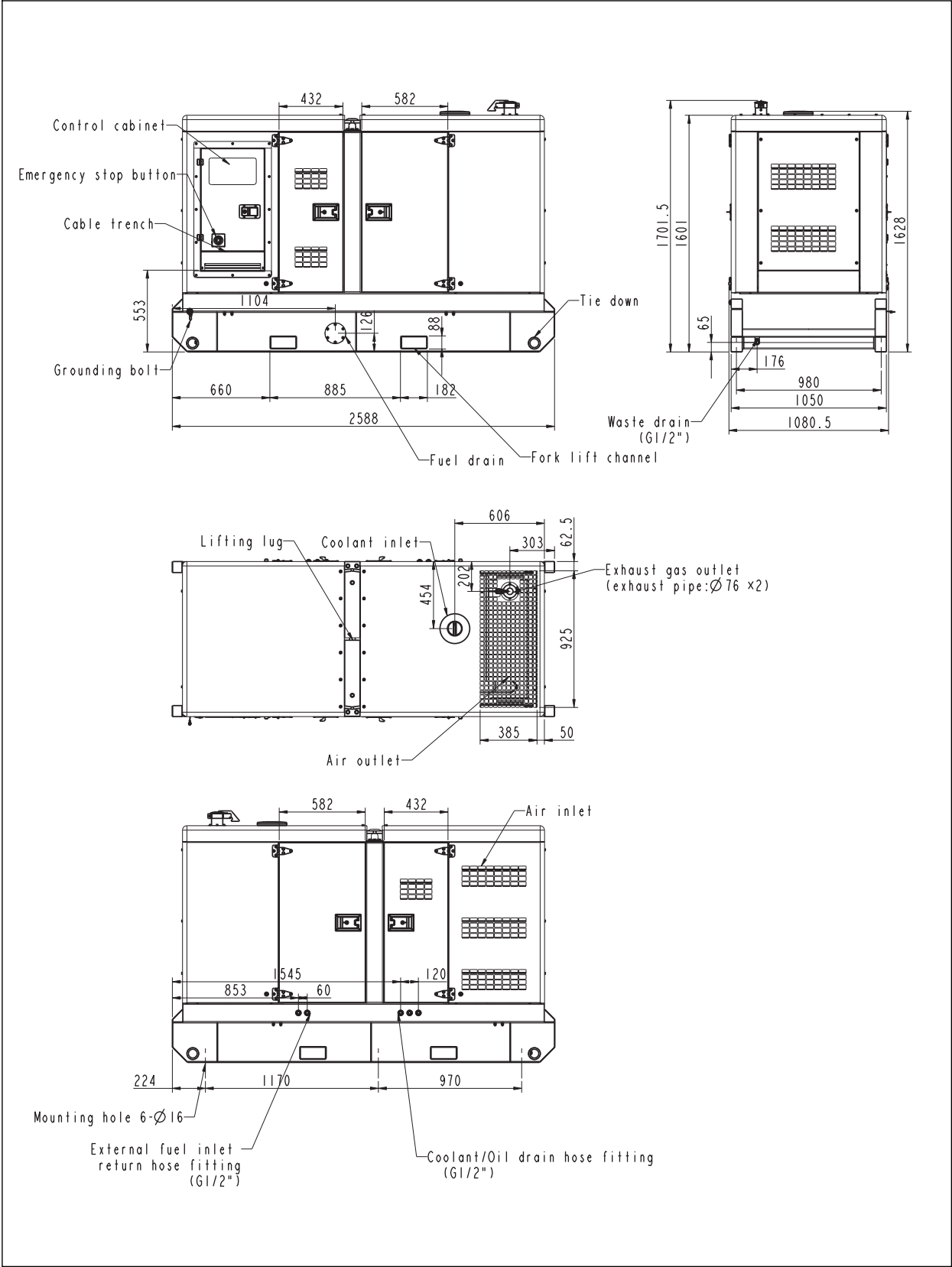
## PLC-7420 Control System



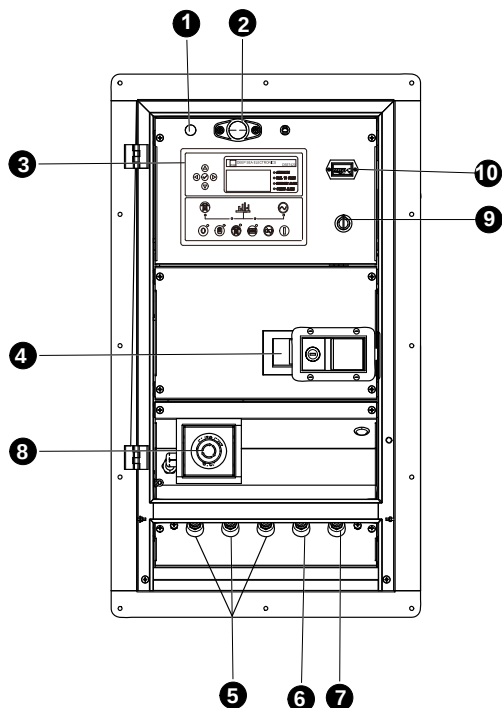
PLC-7420 is an advanced control module based on micro-processor, containing all necessary functions for protection of the genset and the breaker control. It can monitor the mains supply, and automatically start the engine when the mains is abnormal. Accurately measure various operational parameters and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

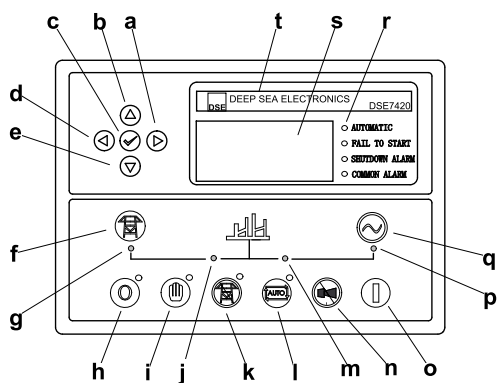
# 4 Overall Dimensions



## 5 Control System



**Control & field wiring cabinet**



**Control Panel**

| Ref. | Description           |
|------|-----------------------|
| 1    | Charge indicator      |
| 2    | Control cabinet lamp  |
| 3    | Control module        |
| 4    | Main circuit breaker  |
| 5    | Live wire terminals   |
| 6    | Neutral wire terminal |
| 7    | Ground wire terminal  |
| 8    | Emergency stop button |
| 9    | Key switch            |
| 10   | Time counter          |

|   |                                                                          |
|---|--------------------------------------------------------------------------|
| 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                                                      |

|                 |
|-----------------|
| 1000030736-A3-E |
| 12.2023         |