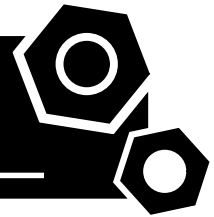


**Generator set**

**Open type**

**GMS500C**

# **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 50°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.

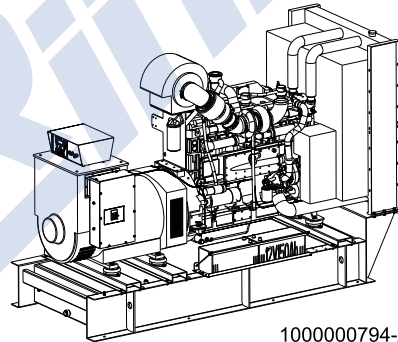
## 2 General Features

- Cummins engine KTA19G4
- Close coupled to a Stamford alternator HCI544D
- Microprocessor control module PLC-7320
- NADER main circuit breaker: 800A
- Rotate speed governor: Electrical governor FP801
- Excitation system: Self excited
- A.V.R model: AS440
- Key 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 with 8 hours running
- Drain points for fuel tank
- Operator's Manual / Specifications

## 3 Equipment Specification

### General technical data

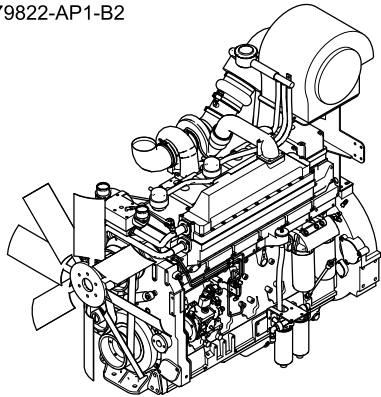


|                       |                  |
|-----------------------|------------------|
| Model.....            | GMS500C          |
| Structure type .....  | A                |
| Tank capacity.....    | 940L             |
| Dry weigh.....        | 4243kg           |
| Noise level @7m ..... | N/A              |
| Dimensions L×W×H..... | 3385×1460×2194mm |
| Standby Power .....   | 575kVA/460kW     |
| Prime Power.....      | 500kVA/400kW     |

| Voltage                        | 380V   | 400V   | 415V   | 440V   |      |
|--------------------------------|--------|--------|--------|--------|------|
| Ampere                         | 759.7A | 721.7A | 695.6A | 656.1A |      |
| <b>Genset Fuel Consumption</b> |        |        |        |        |      |
| Frequency/Load                 | 25%    | 50%    | 75%    | 100%   | 110% |
| 50Hz (L/h)                     | 30     | 57     | 82     | 107    | 121  |

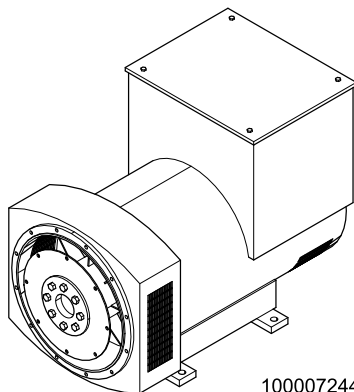
## Diesel Engine

1000079822-AP1-B2



|                                  |                       |
|----------------------------------|-----------------------|
| Engine Manufacturer/Brand .....  | Cummins               |
| Engine Model .....               | KTA19G4               |
| Dimensions L×W×H .....           | 2141.9×879.8×1733.5mm |
| Dry Weigh (approx.) .....        | 1855kg                |
| Number of Cylinders .....        | 6                     |
| Bore .....                       | 159mm                 |
| Stroke .....                     | 159mm                 |
| Displacement .....               | 18.9L                 |
| Compression Ratio .....          | 14.5                  |
| Type of Injection .....          | Direct                |
| Intake System .....              | Turbo charged         |
| Intake Resistance .....          | ≤6.23kPa              |
| Cooling System .....             | Water cooled          |
| Fan .....                        | Pusher                |
| Battery Voltage .....            | 24V                   |
| Type of Fuel .....               | NO.2 or ASTM D2       |
| Type of Oil .....                | API CD/SE or CCMCD4   |
| Oil Capacity .....               | 50L                   |
| Type of Coolant .....            | Glycol mixture        |
| Coolant Capacity .....           | 250L                  |
| Back Pressure .....              | ≤10.1kPa              |
| Standby Power .....              | 504kW                 |
| Prime Power .....                | 448kW                 |
| Fuel Consumption(100%load) ..... | 107L/h                |

## Alternator

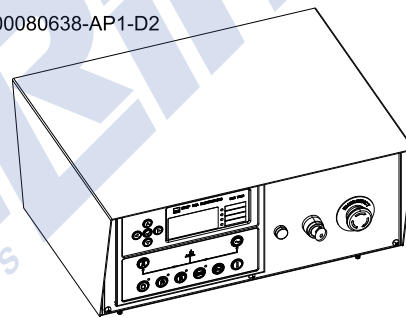


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|   |                                  |
|---|----------------------------------|
| Alternator Manufacturer/Brand .....                       | Stamford                         |
| Alternator Model .....                                    | HCl544D                          |
| 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-7320 Control System

1000080638-AP1-D2



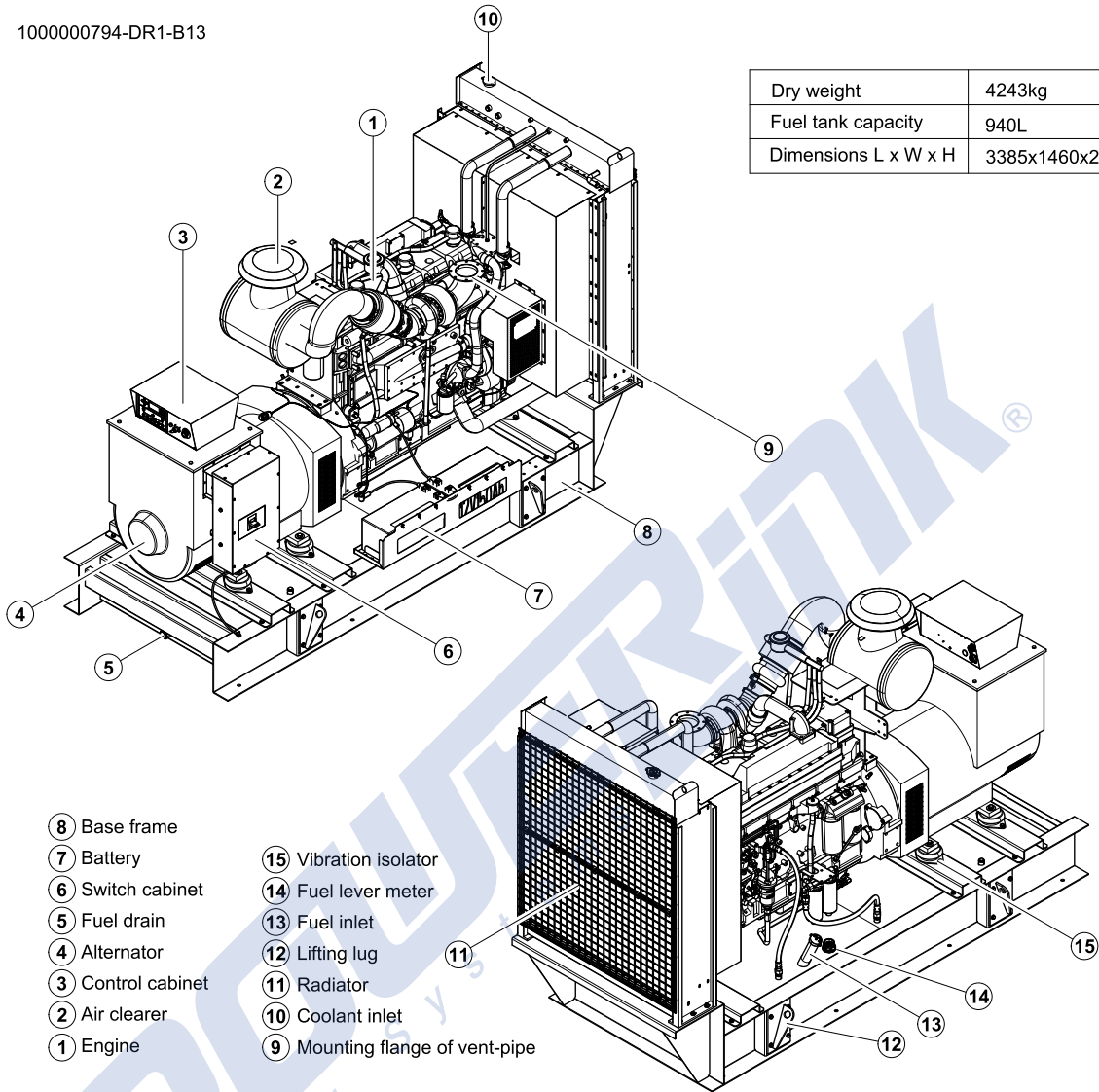
PLC-7320 is an advanced control module based on micro-processor, containing all necessary functions for protection of the genset and the breaker control. It can monitor the mains supply, and automatically start the engine when the mains is abnormal. Accurately measure various operational parameters and 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

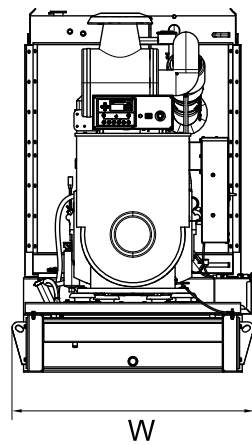
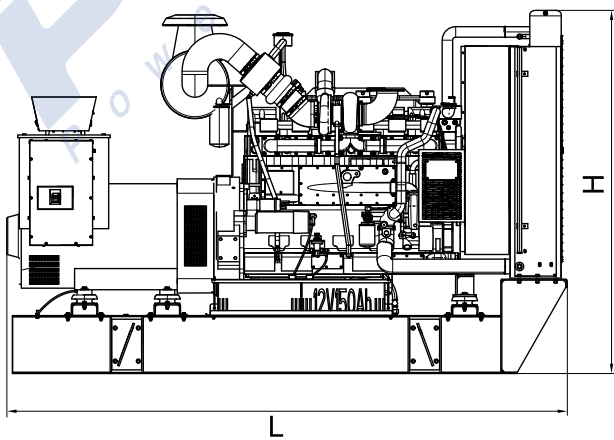
## 4 Overall Dimensions

100000794-DR1-B13

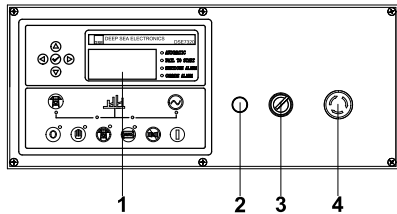
|                      |                  |
|----------------------|------------------|
| Dry weight           | 4243kg           |
| Fuel tank capacity   | 940L             |
| Dimensions L x W x H | 3385x1460x2194mm |



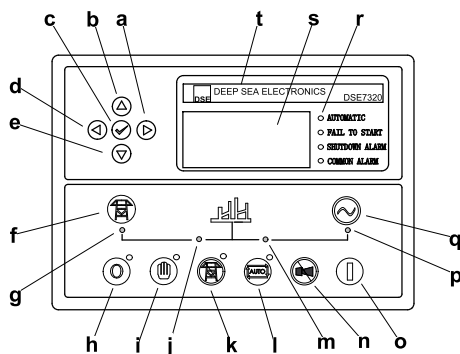
- ⑧ Base frame
- ⑦ Battery
- ⑥ Switch cabinet
- ⑤ Fuel drain
- ④ Alternator
- ③ Control cabinet
- ② Air clearer
- ① Engine
- ⑮ Vibration isolator
- ⑭ Fuel lever meter
- ⑬ Fuel inlet
- ⑫ Lifting lug
- ⑪ Radiator
- ⑩ Coolant inlet
- ⑨ Mounting flange of vent-pipe



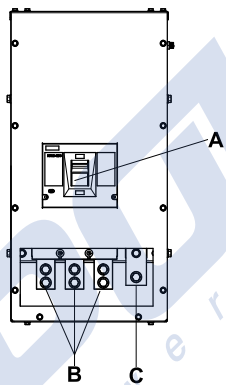
## 5 Control System



**Control cabinet**



**Control Panel**



**Field wiring cabinet**

| Ref. | Description             |
|------|-------------------------|
| 1    | PLC-7320 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 |

|                 |
|-----------------|
| 100000794-B13-E |
|-----------------|

|         |
|---------|
| 08.2012 |
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