

# SPECIFICATION

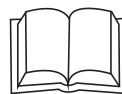


*Power Link the World*

## **MODEL R400C RG SERIES (FOR 50Hz DIESEL GENSET)**

Revision: A3 (11/22)

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# RG series R400C

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



## 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 45°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.

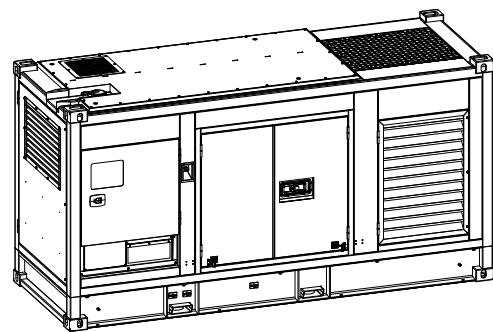
## 2 General Features

- Cummins engine QSZ13-G7
- Close coupled to Leroy Somer alternator LSA47.3S4
- Microprocessor controller PLC500
- ABB main circuit breaker: 630A
- Rotate speed governor: ECU
- Excitation System: Self Excited, SHUNT
- A.V.R. Model: R250
- Key switch
- Emergency stop switch
- ATS (automatic transfer switch) receptacle
- Remote run connector

- 2x12V/120AH sealed for life maintenance free battery
- Lockable battery isolator switch
- Powder coated canopy
- 50°C radiator
- Steel base frame with forklifts
- 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

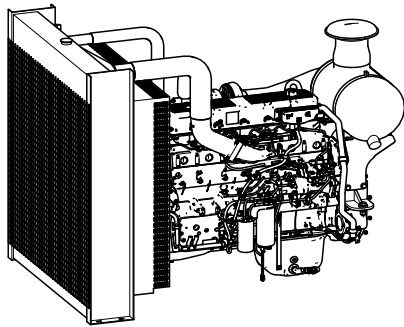
### General technical data



Model..... R400C  
 Tank capacity.....720L  
 Dry weight.....6112.5kg  
 Sound pressure level @ 7m ..... 72.0dBA  
 Dimensions L×W×H.....4183x1500x2156mm  
 Standby Power ..... 450kVA/360kW  
 Prime Power..... 400kVA/320kW

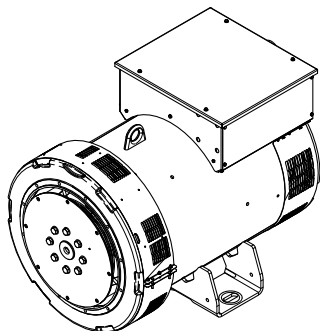
| Voltage                 | 380V   | 400V   | 415V   | 440V   |       |
|-------------------------|--------|--------|--------|--------|-------|
| Ampere                  | 607.8A | 577.4A | 556.5A | 524.9A |       |
| Genset Fuel Consumption |        |        |        |        |       |
| Frequency/Load          | 25%    | 50%    | 75%    | 100%   | 110%  |
| 50Hz (L/h)              | 28.6   | 52.9   | 72.0   | 89.2   | 100.9 |

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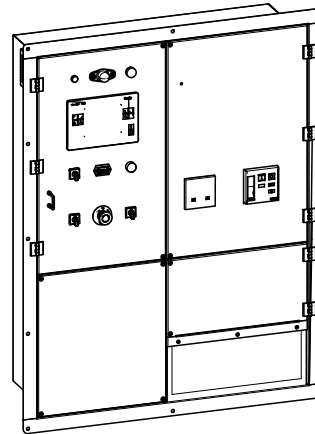
|                                   |  |
|-----------------------------------|--|
| Engine Manufacturer/Brand.....    | Cummins                                |
| Engine Model.....                 | QSZ13-G7                               |
| Dimensions L×W×H.....             | 1389×1276×1050mm                       |
| Dry Weight (approx.) .....        | 1250kg                                 |
| Number of Cylinders.....          | 6                                      |
| Bore.....                         | 130mm                                  |
| Stroke.....                       | 163mm                                  |
| Displacement.....                 | 13L                                    |
| Compression Ratio.....            | 17                                     |
| Type of injection.....            | Direct injection                       |
| Intake System.....                | Turbocharged, air-to-air charge cooled |
| Intake Resistance.....            | ≤3.2kPa                                |
| 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 .....                | 78.0L                                  |
| Type of Coolant .....             | Glycol mixture                         |
| Coolant Capacityengine only ..... | 23.1L                                  |
| Back Pressure .....               | ≤10kPa                                 |
| Standby Power .....               | 419kW                                  |
| Prime Power.....                  | 367kW                                  |
| Fuel Consumption(100%load).....   | 89.2L/h                                |

## Alternator



|   |                     |
|---|---------------------|
| Alternator Manufacturer/Brand .....                       | Leroy Somer         |
| Alternator Model .....                                    | LSA47.3S4           |
| 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 .....   | 2250rpm             |
| Air Flow.....   | N/A                 |
| Voltage Regulation .....                                  | ±1.0%               |
| Total Harmonic TGH / THCat no load < 1.5 % - on load < 5% |                     |
| Telephone Interference.....                               | THF<2%;TIF<50       |

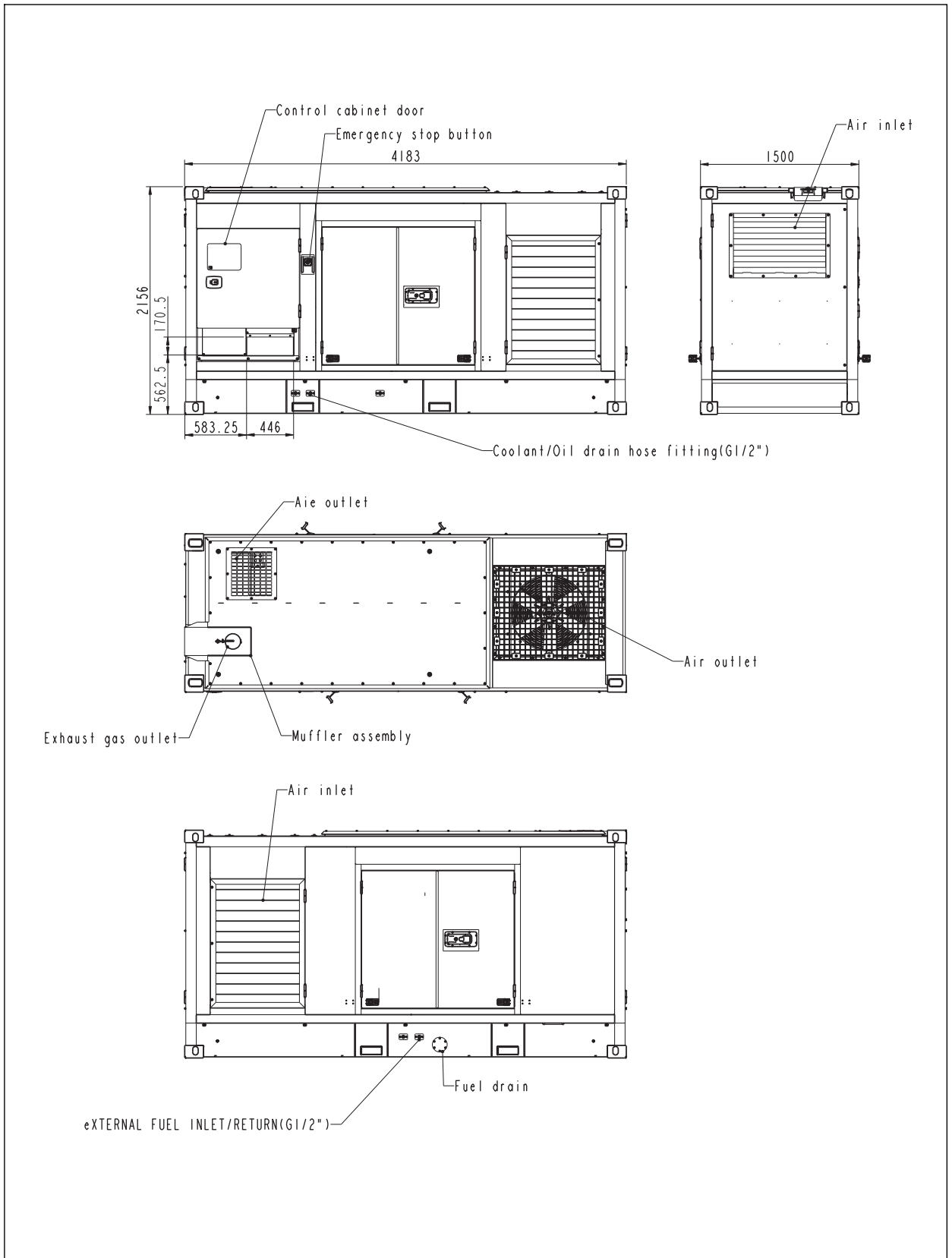
## PLC500 Control System



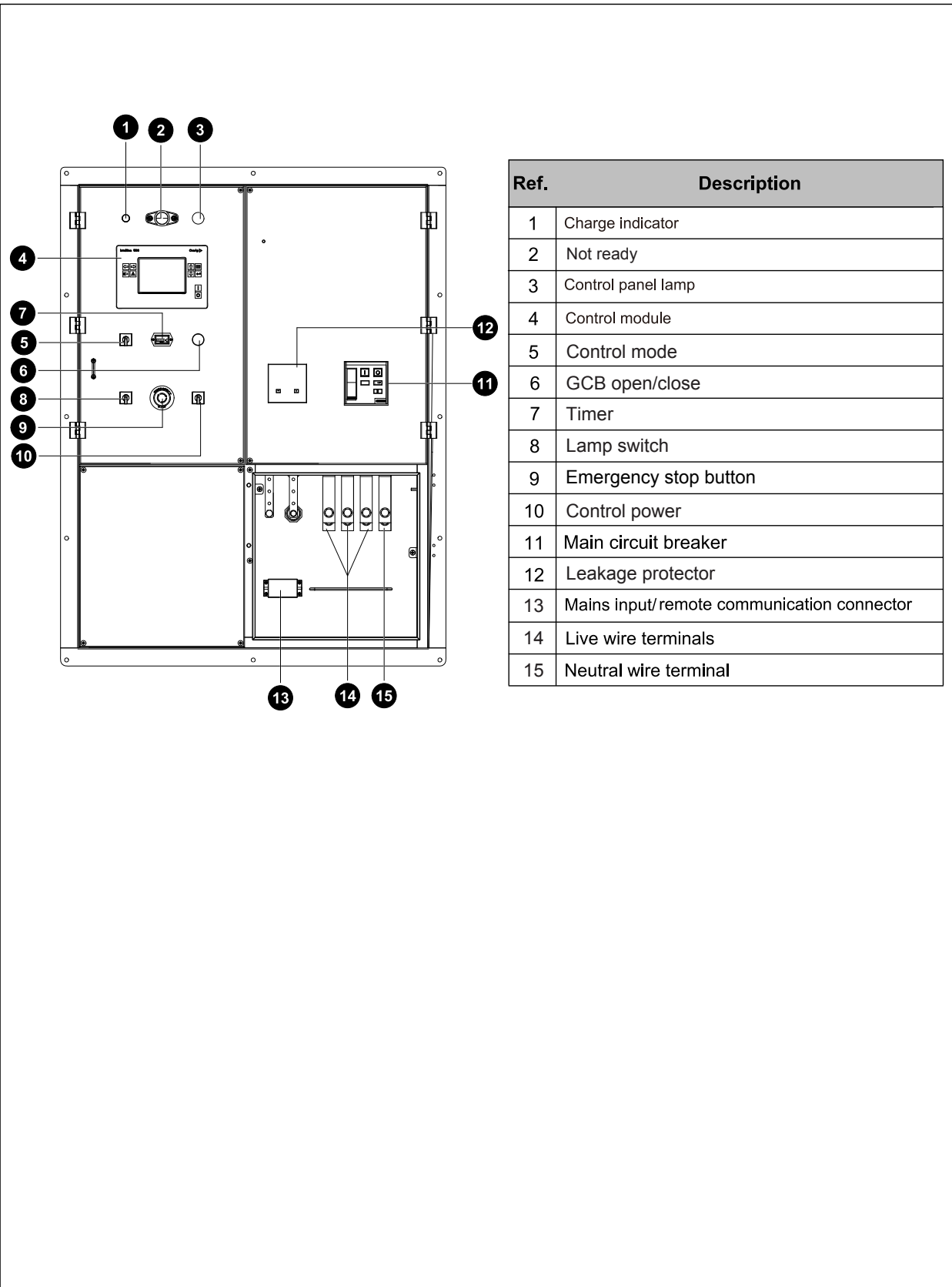
PLC-500 is a microprocessor based control unit containing all necessary functions for protection of the genset and the breaker control. Furthermore, it contains all necessary three-phase measuring circuits and presents all values and alarms on the LCD display. The module has the function of load sharing which enables the module to share the active load (kW) equally when operating in parallel with other gensets. The load sharing is performed so each genset takes a portion of the load that is calculated in percent according to the nominal power.

- Microprocessor control, with high stability and credibility
- Monitoring and measuring operational parameters of the 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
- RS232 & RS485 can be used at the same time
- Real time clock for time and date display, overall runtime display, 250 log entries

## 4 Overall Dimensions



## 5 Control System



| Ref. | Description                                |
|------|--|
| 1    | Charge indicator                           |
| 2    | Not ready                                  |
| 3    | Control panel lamp                         |
| 4    | Control module                             |
| 5    | Control mode                               |
| 6    | GCB open/close                             |
| 7    | Timer                                      |
| 8    | Lamp switch                                |
| 9    | Emergency stop button                      |
| 10   | Control power                              |
| 11   | Main circuit breaker                       |
| 12   | Leakage protector                          |
| 13   | Mains input/remote communication connector |
| 14   | Live wire terminals                        |
| 15   | Neutral wire terminal                      |

# **SPECIFICATION**

**RG SERIES DIESEL GENSET**

**R400C**

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