

SPECIFICATION



MODEL R650C RG SERIES (FOR 50Hz DIESEL GENSET)

Revision: B2 (02/23)

RS series

R650C

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

1 Standards & Conditions

Design Standards

The designs and the productions are in conformity with:

- Conformance European (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.

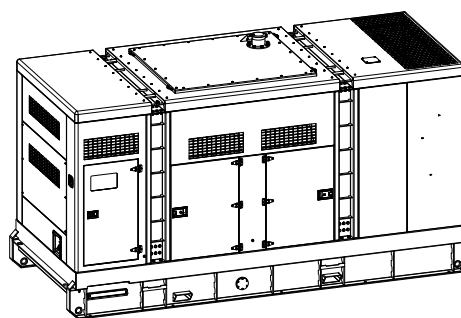
2 General Features

- Cummins engine QSK19-G4
- Close coupled to Leroy Somer alternator HCI544FS
- Microprocessor controller PLC500
- ABB main circuit breaker: 1000A
- 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 forklift slots
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Base fuel tank with 7 hours running
- Drain points for fuel tank
- Operator's Manual / Specifications

3 Equipment Specification

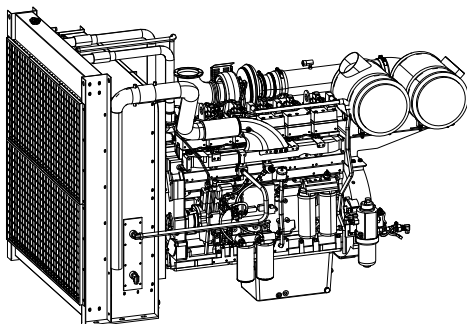
General technical data



Model.....	R650C
Tank capacity.....	1020L
Dry weight.....	7608kg
Sound pressure level @ 7m	73dBA
Dimensions L×W×H.....	4852x2017x2531mm
Standby Power	713kVA/570kW
Prime Power	650kVA/520kW

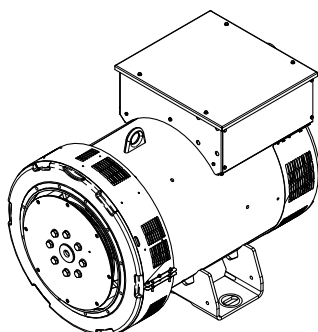
Voltage	380V	400V	415V	440V	
Ampere	967.6A	938.2A	904.3A	853.0A	
Genset Fuel Consumption					
Frequency/Load	25%	50%	75%	100%	110%
50Hz (L/h)	41	79	111	145	161

Power System



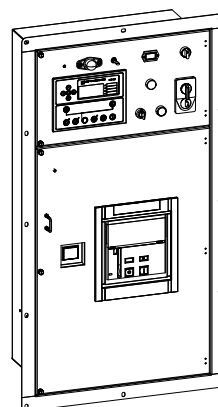
Engine Manufacturer/Brand.....	Cummins
Engine Model.....	QSK19-G4
Dimensions L×W×H.....	1674x985x1828mm
Dry Weight (approx.)	1901kg
Number of Cylinders.....	6
Bore	159mm
Stroke	159mm
Displacement.....	18.9L
Compression Ratio	15
Type of injection.....	Direct injection
Intake System.....	Turbocharged and Charge Air Cooled
Intake Resistance	≤2.5kPa
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 engine only	41.6L
Back Pressure	≤5.1kPa
Standby Power	634kW
Prime Power.....	574kW
Fuel Consumption(100%load).....	145L/h

Alternator



Alternator Manufacturer/Brand	Leroy Somer
Alternator Model	HCl544FS
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

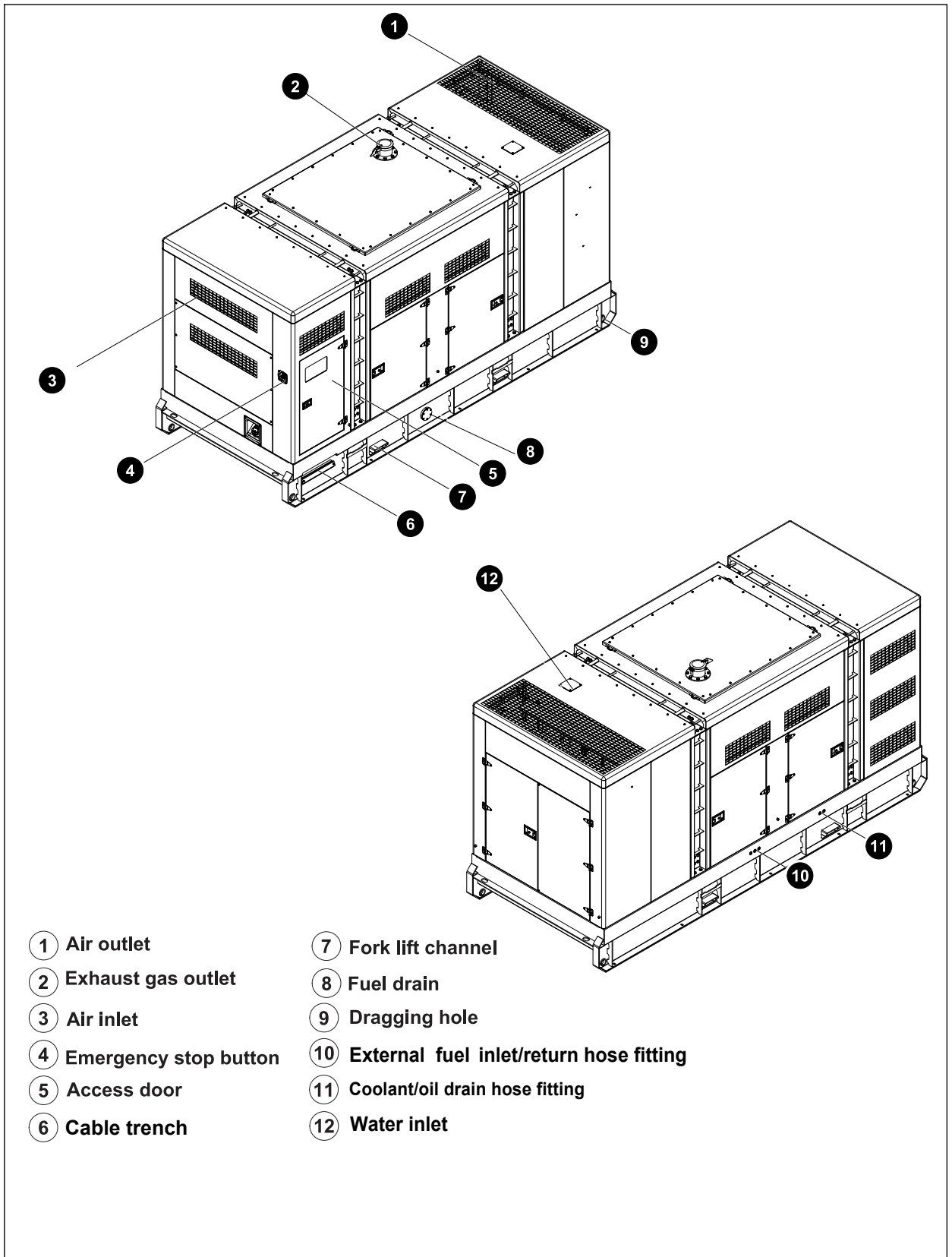
PLC500 Control System



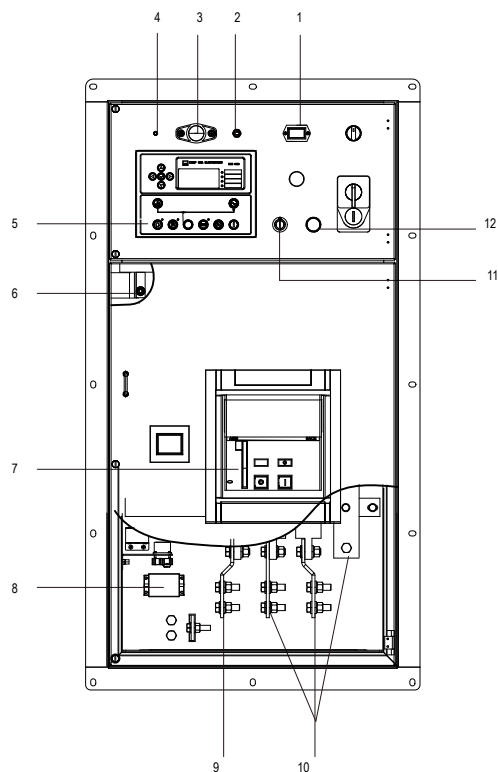
PLC-500 is a microprocessor based control unit containing all necessary functions for protection of the genset and the breaker control. Furthermore, it contains all necessary three-phase measuring circuits and presents all values and alarms on the LCD display. The module has the function of load sharing 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

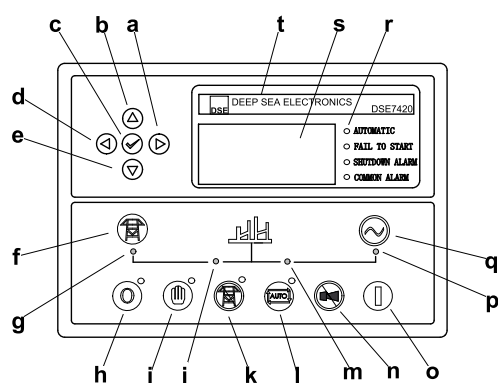
4 Overall Dimensions



5 Control System



Control & field wiring cabinet



Control Panel

Ref.	Description
1	Timer
2	Panel light switch
3	Panel light
4	Charge indicator
5	Control module
6	Limit switch
7	Main circuit breaker
8	Mains input/ remote/AMF communication connector
9	Neutral wire terminal
10	Live wire terminals
11	Control power
12	Generator alarm reset

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