

## DG143C - 3

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

**143kVA**  
**CUMMINS**  
DG143C - 3

### A. STANDARDS & CONDITIONS

#### Design Standards

The designs and the productions are in conformity with:

- Conformite Europeenne (CE)
- China Compulsory Certification (CCC)
- ISO8528-5:2005
- GB/T2820.5-2009
- AS 3000-1997
- AS 3010.1-1988

#### 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 varying: 0%, 25%, 50%, 75%, 100%, 110% Load

#### Painting Process

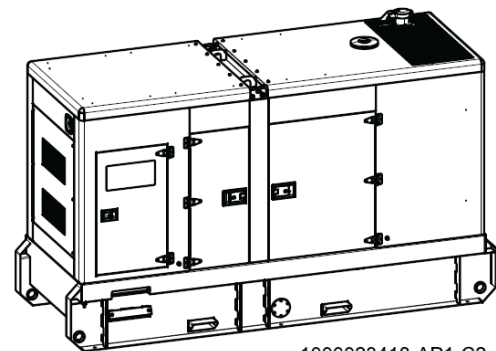
- Painting process specifications and colors are based on the manufacturer's standard
- The customer could also choose the color which the manufacturer offers

### B. GENERAL FEATURES

- Cummins engine 6BTA5.9-G2
- Close coupled to a Stamford alternator UCI274E
- Microprocessor control module PLC-7320
- ABB main circuit breaker: 200A
- Rotate speed governor: Electrical governor S6700E
- Excitation System: Self excited, Shunt
- A.V.R. Model: SX460
- Key switch
- Emergency stop switch
- ATS (automatic transfer switch) receptacle
- Remote run connector
- 2x12V/72AH sealed for life maintenance free battery
- Lockable battery isolator switch
- Powder coated canopy
- 50 radiator
- Oil pump on the engine
- Non-returning valve for fuel inlet hose of the engine
- Steel base frame with forklots

- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Base fuel tank for 24 hours running
- Drain points for fuel tank
- Breather valve for fuel tank
- Operation's Manual / Specifications

### C. GENERAL TECHNICAL DATA



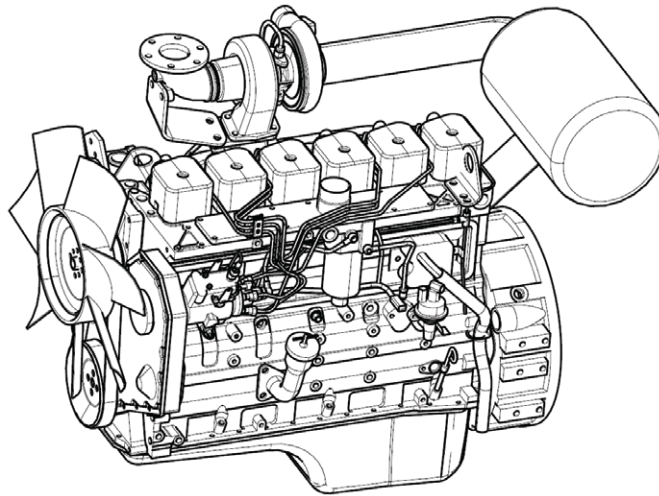
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<b>MODEL</b>	DG143C - 3
<b>STRUCTURE TYPE</b>	R
<b>TANK CAPACITY</b>	620 L
<b>DRY WEIGHT</b>	2257 kg
<b>NOISE LEVEL @ 7M</b>	71.5 dBA
<b>DIMENSIONS</b>	3312 x 1172 x 1974 mm
<b>STANDBY POWER</b>	143 kVA / 114 kW
<b>PRIME POWER</b>	130 kVA / 104 kW
<b>VOLTAGE/AMPERE</b>	415 V / 181 A

GENSET FUEL CONSUMPTION					
Freq./Load	25%	50%	75%	100%	110%
50Hz (L/h)	9.0	16.0	23.0	30.0	34.0

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**DIESEL ENGINE**

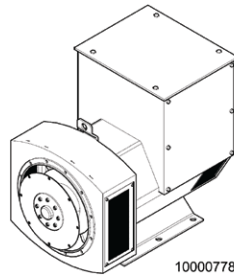


**ENGINE SPECIFICATIONS**

1	ENGINE MANUFACTURER/BRAND	Cummins
2	ENGINE MODEL	6BTAA5.9G2
3	DIMENSIONS	1184.7 x 655.7 x 981.3 mm
4	DRY WEIGHT (APPROX.)	411 kg
5	NUMBER OF CYLINDERS	6
6	BORE	102 mm
7	STROKE	120 mm
8	DISPLACEMENT (LITER)	5.9 L
9	COMPRESSION RATIO	16.8
10	TYPE OF INJECTION	Direct Injection
11	INTAKE SYSTEM	Turbocharged,water-to-air charge cooled
12	INTAKE RESISTANCE	6.28 kPa
13	COOLING SYSTEM	Water Cooled
14	FAN	Pusher
15	BATTERY VOLTAGE	12/24V
16	TYPE OF FUEL	Diesel
17	TYPE OF OIL	15W40-CF4
18	OIL CAPACITY	14.2 L
19	TYPE OF COOLANT	Glycol Mixture
20	COOLANT CAPACITY	34 L
21	BACK PRESSURE	10.1 kPa
22	STANDBY POWER	130 kW
23	PRIME POWER	120kW
24	FUEL CONSUMPTION (100% LOAD)	208 g/kWh

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**ALTERNATOR**

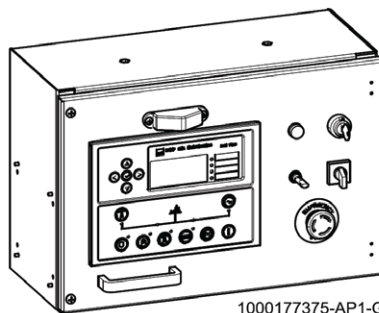


1000077845-AP1-A1  
Stamford

**ALTERNATOR SPECIFICATIONS**

1	ALTERNATOR MANUFACTURER/BRAND	Stamford
2	ALTERNATOR MODEL	UCI274E
3	EXCITER	Brushless
4	COOLING FAN	Cast Alloy Aluminum
5	WINDINGS	100% Copper
6	INSULATION CLASS	H
7	WINDING PITCH	2 / 3
8	TERMINALS	12
9	DRIP PROOF	IP23
10	ALTITUDE	≤ 1000m
11	OVERSPEED	2250rpm
12	AIR FLOW	0.11m³/s(50Hz),0.135m³/s(60Hz)
13	VOLTAGE REGULATION	± 0.5%
14	TOTAL HARMONING TGH / THCat No Load < 1.5%	on load < 5%
15	TELEPHONE INTERFERENCE	THF < 2%; TIF <50

**PLC-7420 CONTROL SYSTEM**



1000177375-AP1-G2

PLC-7420 is an advanced control module based on microprocessor, 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.

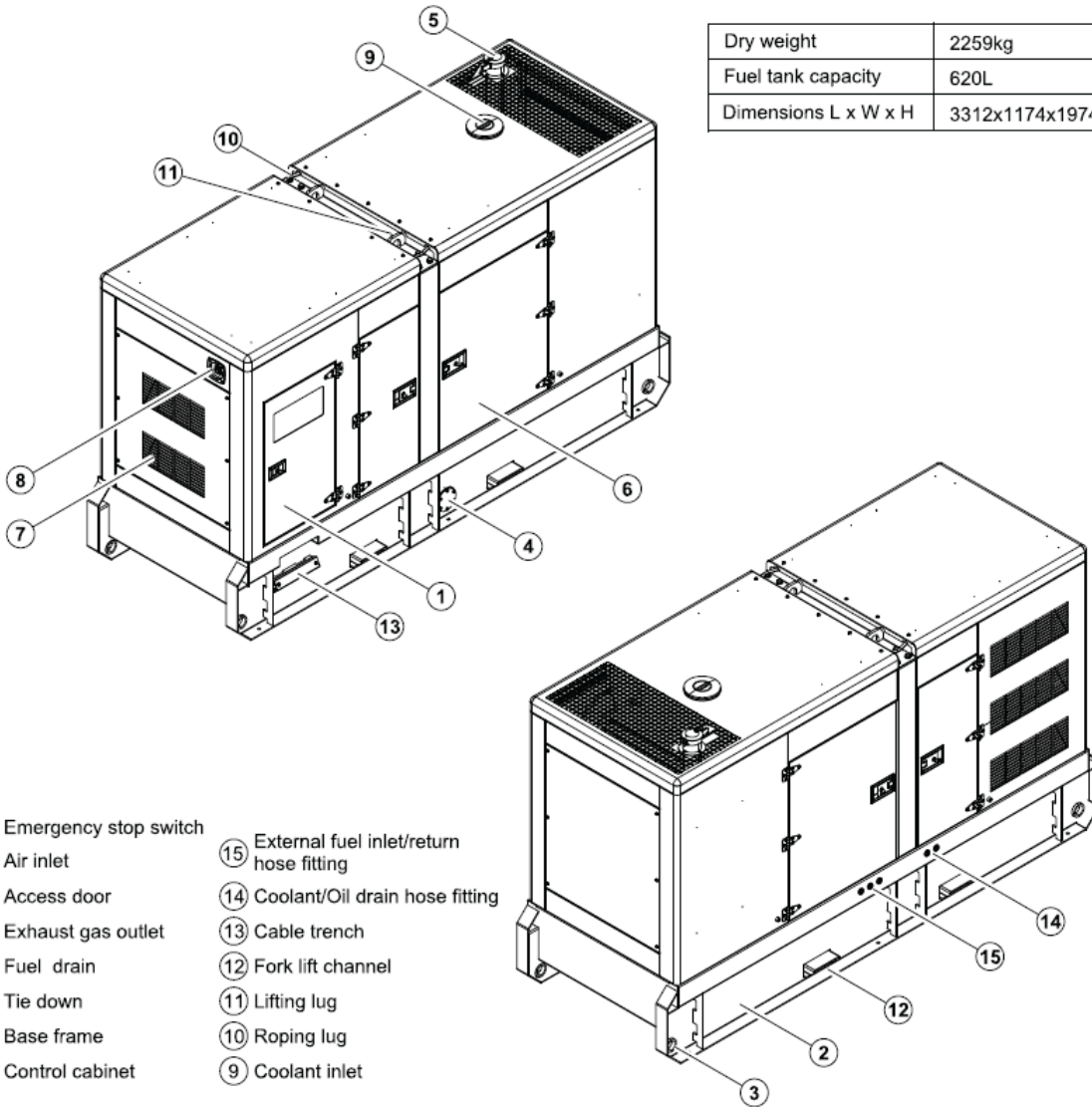
- Microprocessor control, with high stability and credibility
- Monitoring and measuring operational parameters of the mains supply and genset
- Indicating operation status, fault conditions, all parameters and alarms
- Multiple protections; multiple parameters display, like pressure, temp. etc.
- Manual, 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

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**D. OVERALL DIMENSION**

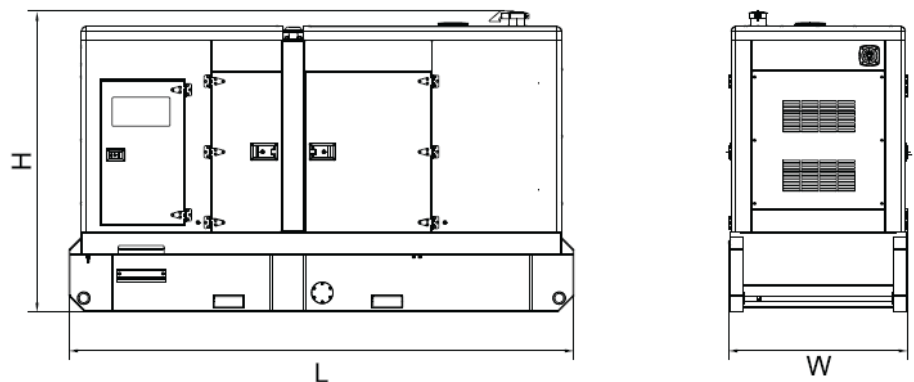
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Dry weight	2259kg
Fuel tank capacity	620L
Dimensions L x W x H	3312x1174x1974mm



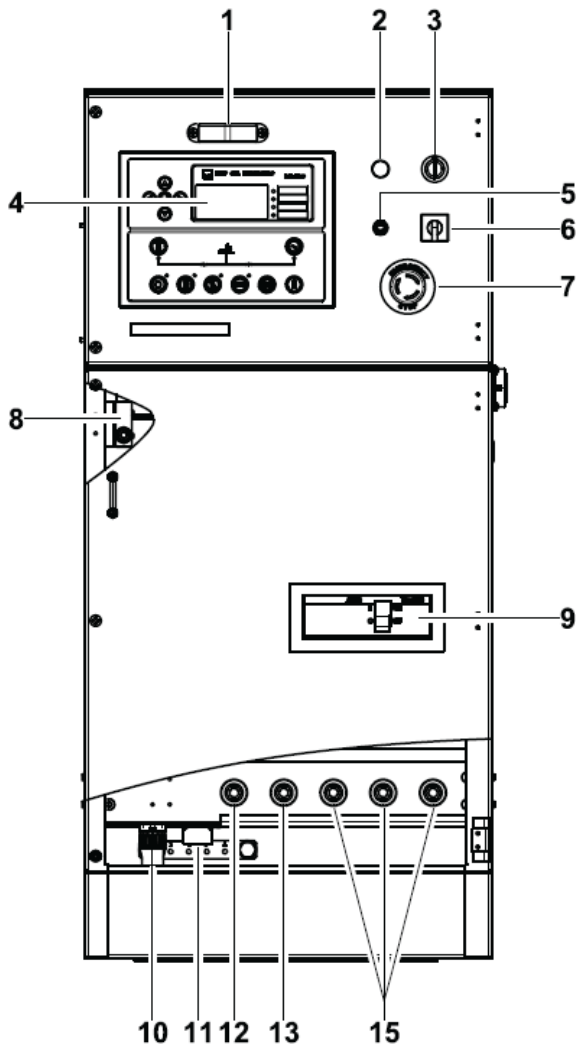
- ⑧ Emergency stop switch
- ⑦ Air inlet
- ⑥ Access door
- ⑤ Exhaust gas outlet
- ④ Fuel drain
- ③ Tie down
- ② Base frame
- ① Control cabinet
- ⑮ External fuel inlet/return hose fitting
- ⑭ Coolant/Oil drain hose fitting
- ⑬ Cable trench
- ⑫ Fork lift channel
- ⑪ Lifting lug
- ⑩ Roping lug
- ⑨ Coolant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

<b>DIMENSIONS</b>	3312 x 1172 x 1974 mm
<b>DRY WEIGHT</b>	2257 kg

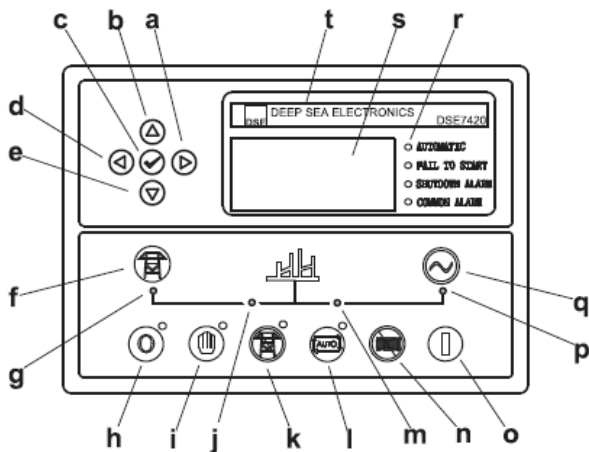


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E. CONTROL SYSTEM



Control & Field wiring cabinet



Control module

Ref.	Description
1	Control Cabinet Lamp Switch
2	Charge Indicator
3	Key Switch
4	Control Module
5	Control Cabinet Lamp
6	Mains Input Changeover Switch
7	Emergency Stop Switch
8	Limit Switch
9	Main Circuit Breaker
10	Remote Run Connector
11	ATS Connector
12	Ground Wire Terminal
13	Neutral Wire Terminal
14	Live Wire Terminals

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)
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)
r.	Alarm LED (4 alarm items)
s.	LCD Display
t.	Control Module Name

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