

## 1 Standards & Conditions

### Design Standards

The designs and the productions are in conformity with:

- Conformance Européenne (CE)
- China Compulsory Certification (CCC)
- TLC Quality Certification (TLC)
- ISO8528-1995
- GB/T2820-1997

### 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.

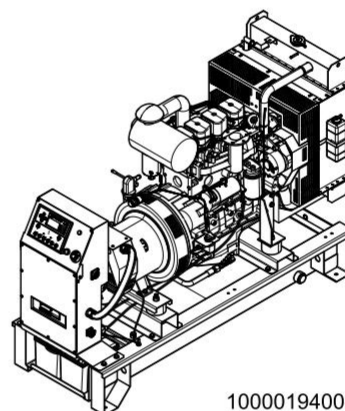
## 2 General Features

- Cummins engine 4B3.9-G1
- Close coupled to a Stamford alternator PI144E
- Control module DSE
- MCCB circuit breaker: 3-Phase 40A
- Rotate speed governor: Mechanical governor
- Excitation System: Self excited
- A.V.R.Model: AS480
- Key switch

- Emergency stop switch
- ATS (automatic transfer switch) receptacle
- 1x12V sealed for life maintenance free battery
- Lockable battery isolator switch
- 50°C radiator
- Oil pump on the engine
- Steel base frame with lifting lug
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Base fuel tank for 17 hours running
- Drain points for fuel tank
- Operation Manual / Parts List / Specifications

## 3 Equipment Specification

### General technical data

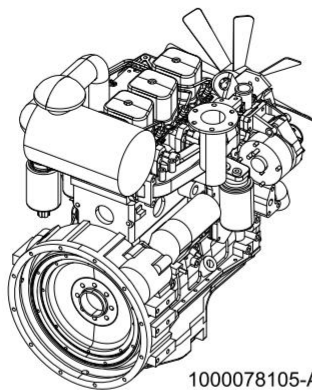


1000019400-AP1-A2

Model.....HCL22C  
 Structure type ..... D  
 Tank capacity..... 120L  
 Dry weigh.....697kg  
 Noise level @7m .....N/A  
 Dimensions L×W×H..... 1895x696x1400mm  
 Standby Power ..... 24.2kVA/19.4kW  
 Prime Power..... 22kVA/17.6kW

Voltage	380V	400V	415V	440V
Ampere	33.4A	31.8A	30.6A	28.9A

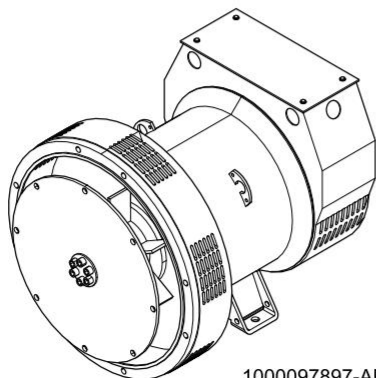
## Diesel engine



1000078105-AP1-A10

Engine Manufacturer/Brand.....	Cummins
Engine Model.....	4B3.9G1
Dimensions L×W×H.....	765×582×908mm
Dry Weigh (approx.) .....	308kg
Number of Cylinders.....	4
Bore.....	102mm
Stroke .....	120mm
Displacement.....	3.9L
Compression Ratio .....	16.5
Type of injection.....	Direct injection
Intake System.....	Natural aspirated
Intake Resistance.....	≤4.98kPa
Cooling System .....	Water cooled
Fan .....	Pusher
Battery Voltage .....	12/24V
Type of Fuel.....	0# or ASTM2
Type of Oil .....	API-CG4/CH4 or ACEA-E3/E5
Oil Capacity .....	9.5L
Type of Coolant .....	Glycol mixture
Coolant Capacity .....	19.6L
Back Pressure .....	≤ 10.1kPa
Standby Power .....	27kW
Continuous Power .....	24kW
Fuel Consumption(100%load).....	229g/kW.h

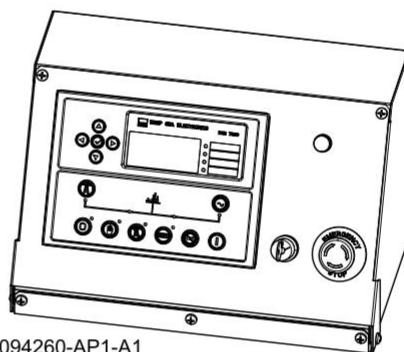
## Alternator



1000097897-AP1-A1

Alternator Manufacturer/Brand .....	Stamford
Alternator Model .....	PI144E
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.....	0.100 m³/sec(50Hz),0.122 m³/sec(60Hz)
Voltage Regulation .....	± 1.0 %
Total harmonic TGH / THC .....	at no load < 1.5% - on load < 5.0%
Telephone Interference.....	THF<2%;TIF<50

## DSE Control System



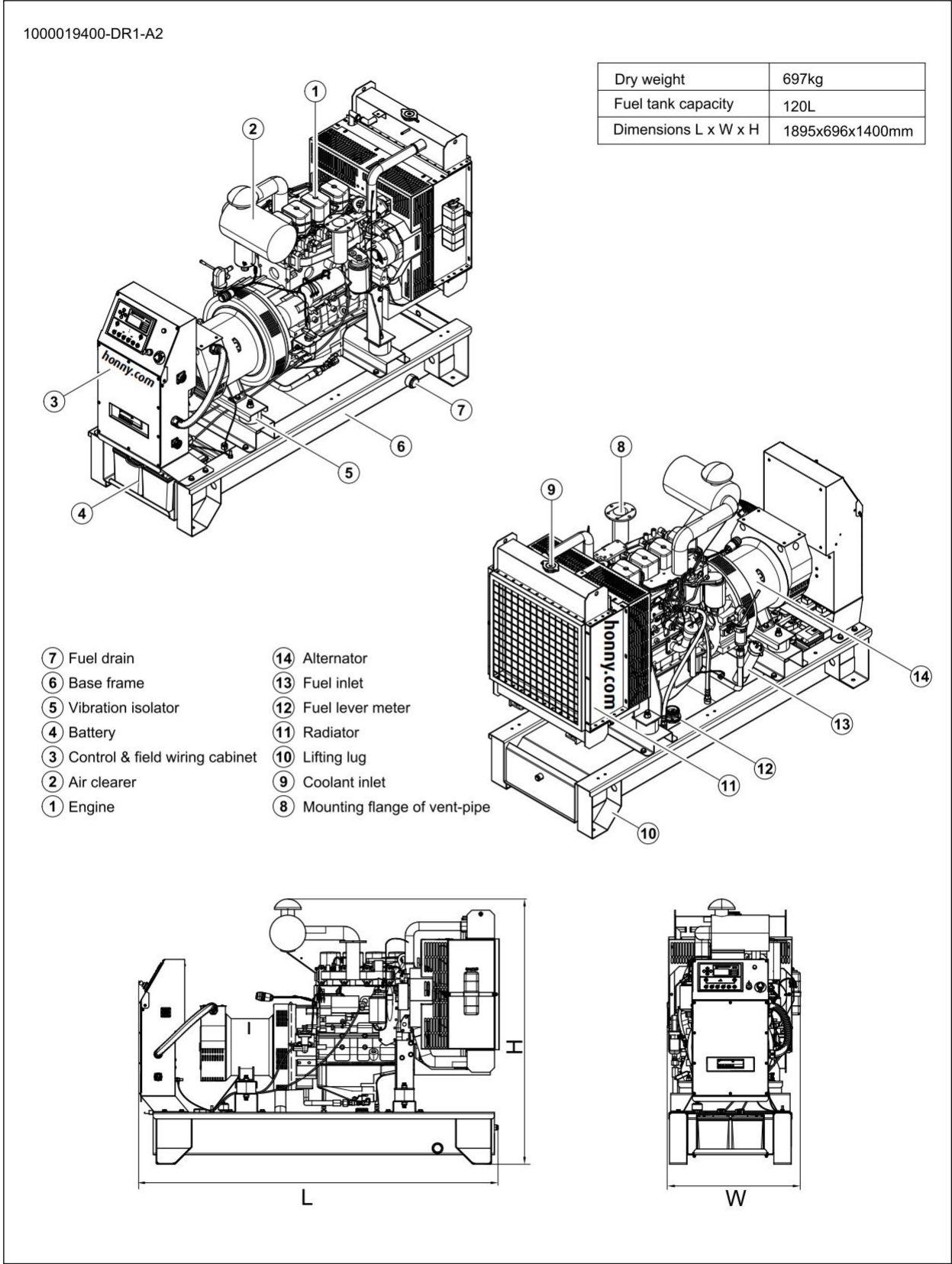
1000094260-AP1-A1

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

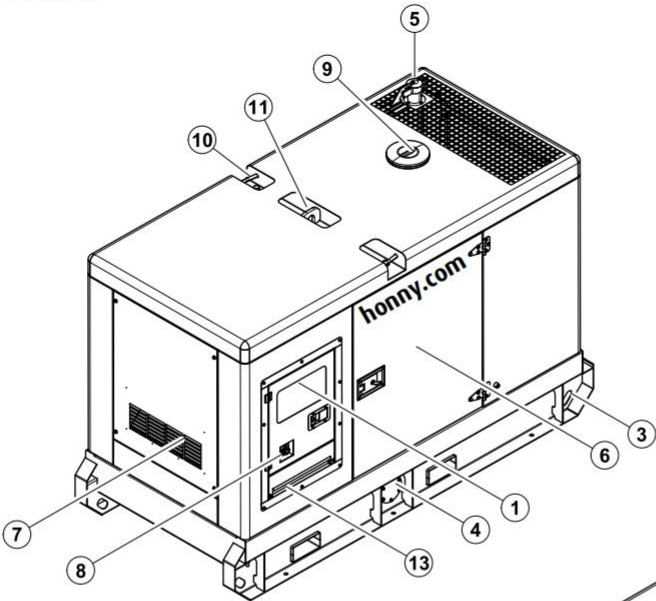


# 4. Open Type Overall Dimensions

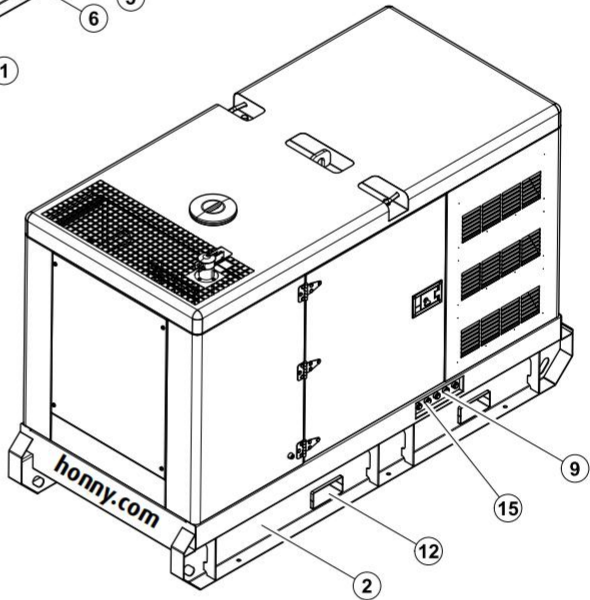


# 5. Silent Type Overall Dimensions

1000019427-DR1-B4



Dry weight	1226Kg
Fuel tank capacity	240L
Dimensions L x W x H	2338x1080x1560mm



- 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

