

## 1 Standards & Conditions

### Design Standards

The designs and the productions are in conformity with:

- Conformance Européenne (CE)
- China Compulsory Certification (CCC)
- 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 80%.
- Altitude: Below one thousand (1000) meters.

### 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.

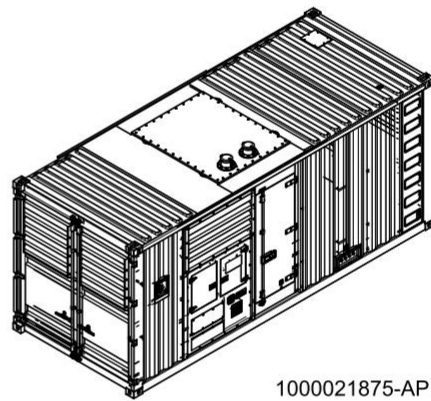
## 2 General Features

- Perkins engine 4008TAG2A
- Close coupled to a Leroy Somer alternator LSA49.1L11
- Microprocessor control module PLC-7420
- DMA main circuit breaker: 1600A
- Rotate speed governor: Electronic governor
- Excitation System: AREP
- A.V.R.Model: R450
- Key switch
- Emergency stop switch
- ATS (automatic transfer switch) receptacle
- 2x12V/150AH sealed for life maintenance free battery

- Lockable battery isolator switch
- Powder coated canopy
- 50°C radiator
- Oil pump on the engine
- Steel base frame with forkslots
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Base fuel tank for 5 hours running
- Drain points for fuel tank
- Operation Manual / Specifications

## 3 Equipment Specification

### General technical data

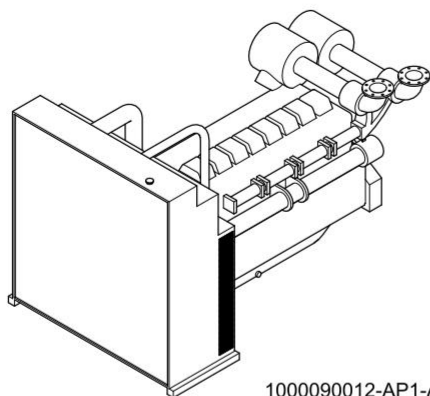


1000021875-AP1-A6

Model.....P1000D5  
 Structure type ..... C  
 Tank capacity..... 1150L  
 Dry weigh..... 11411kg  
 Noise level @7m ..... N/A  
 Dimensions L×W×H.....6058×2438×2735mm  
 Standby Power ..... 1100kVA/880kW  
 Prime Power ..... 1000kVA/800kW

|                         |         |         |         |        |      |
|-------------------------|---------|---------|---------|--------|------|
| Voltage                 | 380V    | 400V    | 415V    | 440V   |      |
| Ampere                  | 1519.4A | 1443.4A | 1391.2A | 1312.2 |      |
| Genset Fuel Consumption |         |         |         |        |      |
| Frequency/Load          | 25%     | 50%     | 75%     | 100%   | 110% |
| 50Hz (L/h)              | 57      | 108     | 160     | 220    | 248  |

## Diesel Engine

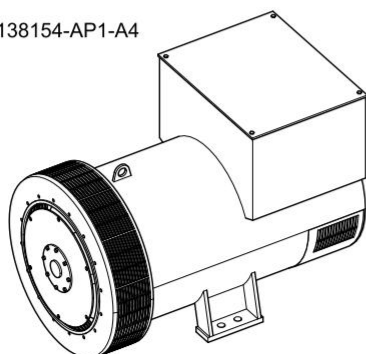


1000090012-AP1-A7

|                                 |                             |
|---------------------------------|-----------------------------|
| Engine Manufacturer/Brand.....  | Perkins                     |
| Engine Model.....               | 4008TAG2A                   |
| Dimensions L×W×H.....           | 3711×2046×2146mm            |
| Dry Weigh (approx.) .....       | 4320kg                      |
| Number of Cylinders.....        | 8                           |
| Bore.....                       | 160mm                       |
| Stroke .....                    | 190mm                       |
| Displacement.....               | 30.56L                      |
| Compression Ratio.....          | 13.6                        |
| Type of Injection .....         | Direct injection            |
| Intake System.....              | Turbocharged                |
| Intake Resistance.....          | ≤3.7kPa                     |
| Cooling System .....            | Water cooled                |
| Fan .....                       | Pusher                      |
| Battery Voltage .....           | 24V                         |
| Type of Fuel.....               | BS2869 class A2 or BS EN590 |
| Type of Oil .....               | API 15W/40                  |
| Oil Capacity .....              | 153L                        |
| Type of Coolant .....           | Glycol mixture              |
| Coolant capacity.....           | 149L                        |
| Back Pressure .....             | ≤8.0kPa                     |
| Standby Power .....             | 985kW                       |
| Prime Power .....               | 899kW                       |
| Fuel Consumption(100%load)..... | 220L/h                      |

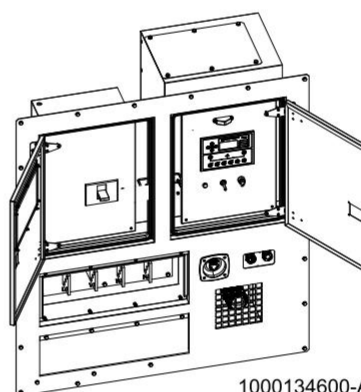
## Alternator

1000138154-AP1-A4



|                                                          |                            |
|----------------------------------------------------------|----------------------------|
| Alternator Manufacturer/Brand .....                      | Leroy Somer                |
| Alternator Model .....                                   | LSA49.1L11                 |
| Exciter.....                                             | Brushless                  |
| Cooling Fan .....                                        | Cast alloy aluminum        |
| Windings.....                                            | 100% copper                |
| Insulation Class .....                                   | H                          |
| Winding Pitch.....                                       | 2/3                        |
| Terminals .....                                          | 6                          |
| Drip Proof .....                                         | IP23                       |
| Altitude.....                                            | ≤1000m                     |
| Overspeed .....                                          | 2250rpm                    |
| Air Flow.....                                            | 1m³/s(50Hz), 1.2m³/s(60Hz) |
| Voltage Regulation .....                                 | ±0.5%                      |
| Total harmonic TGH / THC at no load < 4 % - on load < 4% |                            |
| Telephone Interference.....                              | THF<2%;TIF<50              |

## PLC-7420 Control System



1000134600-AP1-B2

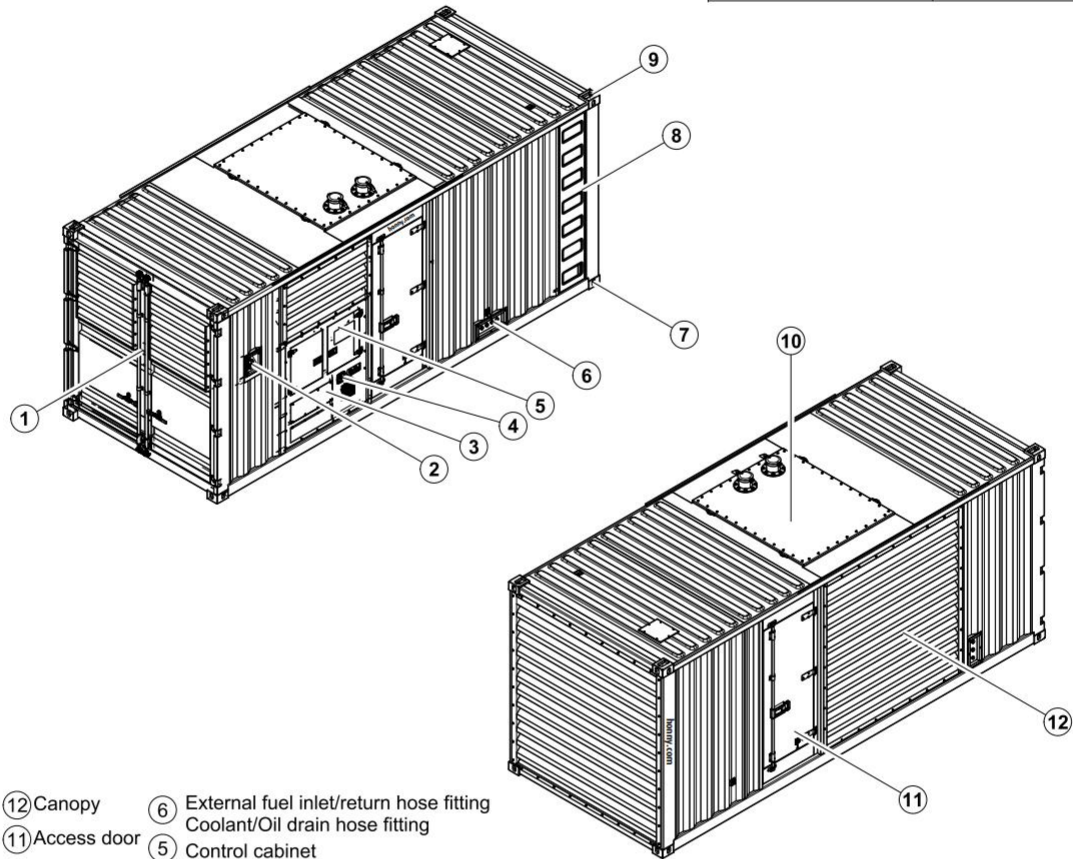
PLC-7420 is an advanced control module based on micro-processor, containing all necessary functions for protection of the genset and the breaker control. It can monitor the mains supply, and automatically start the engine when the mains is abnormal. Accurately measure various operational parameters and 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

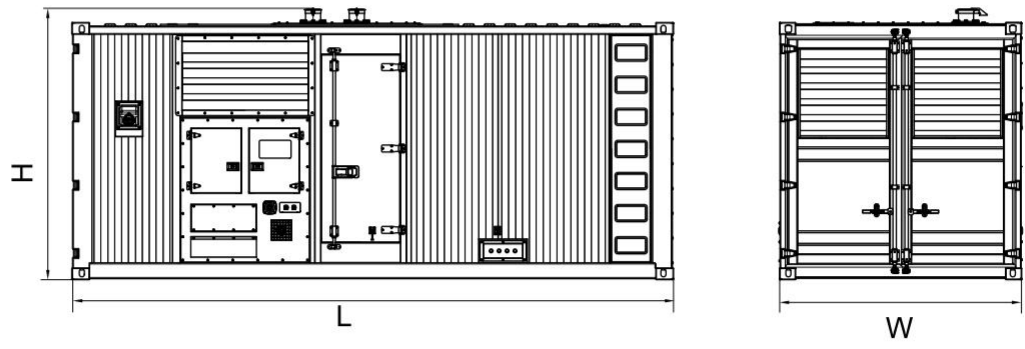
# 4 Overall Dimensions

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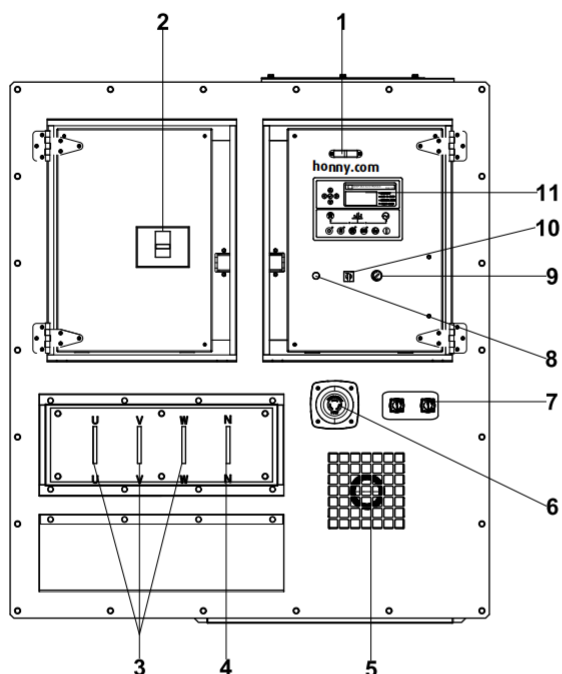
|                      |                  |
|----------------------|------------------|
| Dry weight           | 11411kg          |
| Fuel tank capacity   | 1150L            |
| Dimensions L x W x H | 6058x2438x2735mm |



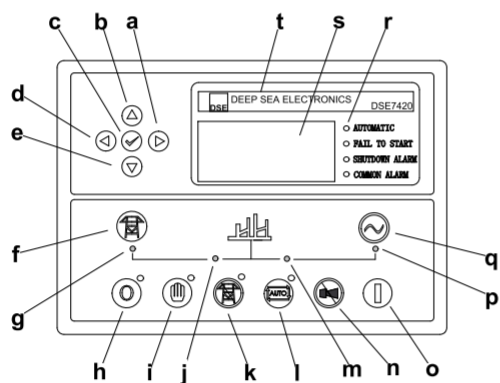
- ⑫ Canopy
- ⑪ Access door
- ⑩ Muffler
- ⑨ Lifting lug
- ⑧ Ladder
- ⑦ Fixing lug
- ⑥ External fuel inlet/return hose fitting  
Coolant/Oil drain hose fitting
- ⑤ Control cabinet
- ④ Emergency stop switch
- ③ Cable trench
- ② Fuel inlet
- ① Air inlet



## 5 Control System



**Control Cabinet**



**Control Module**

| Ref. | Description                 |
|------|-----------------------------|
| 1    | Control panel lamp          |
| 2    | Main circuit breaker        |
| 3    | Live wire terminals         |
| 4    | Neutral wire terminal       |
| 5    | Alarm indicator             |
| 6    | Emergency stop button       |
| 7    | ATS communication interface |
| 8    | Charge indicator            |
| 9    | Key switch                  |
| 10   | Control panel lamp switch   |
| 11   | Control module              |

|   |                                                                          |
|---|--------------------------------------------------------------------------|
| 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                                                      |

1000134600-IT1-B2