

## 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 50°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.

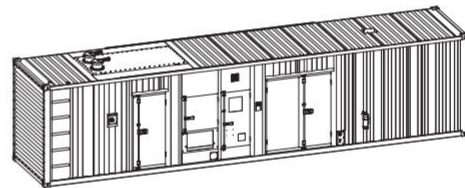
## 2 General Features

- Perkins engine 4012-46TAG2A
- Close coupled to Leroy Somer alternator LSA52.2XL65
- Microprocessor control module PLC-500
- HV Switchgear Panel: ABB 630A
- PT Cabinet
- DC Power Cabinet
- Rotate speed governor: Electrical governor
- Excitation System: AREP
- A.V.R. Model: R448
- Key switch
- Emergency stop switch

- 4x12V/150AH sealed for life maintenance free battery
- Lockable battery isolator switch
- Powder coated canopy
- 50°C radiator
- Fire extinguisher
- Heat exchanger
- Coolant heater
- Oil pump on the engine
- Steel base frame with forklifts
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Fuel tank for 6 hours running
- Drain points for fuel tank
- Fuel inlet pump and it's control box for the fuel tank
- Added fuel-water separator for fuel tank
- Operation Manual / Specifications

## 3 Equipment Specification

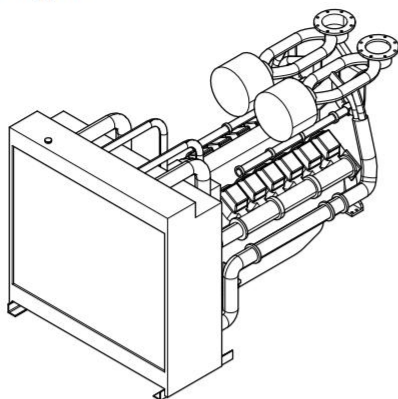
### General technical data



Model.....	HV1500
Structure type .....	C
Fuel tank.....	1450L
Dry weight.....	20580kg
Noise level @7m .....	81dAB
Dimensions L×W×H.....	12192×2438×3153mm
Standby Power .....	1650kVA/1320kW
Prime Power.....	1500kVA/1200kW
Voltage/Ampere .....	6300V/137A

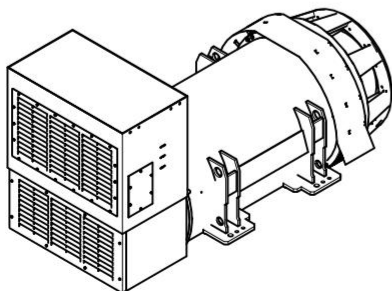
Genset Fuel Consumption					
Frequency/Load	25%	50%	75%	100%	110%
50Hz (L/h)	N/A	162	237	301	335

## Diesel Engine



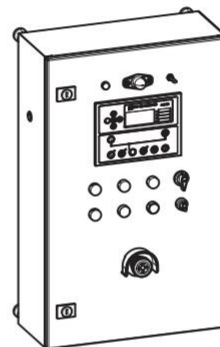
Engine Manufacturer/Brand.....	Perkins
Engine Model.....	4012-46TAG2A
Dimensions L×W×H.....	3971×2192×2260mm
Dry Weigh (approx.) .....	6000kg
Number of Cylinders.....	12
Bore.....	160mm
Stroke .....	190mm
Displacement.....	45.84L
Compression Ratio.....	13
Type of Injection .....	Direct injection
Intake System.....	Turbocharged
Intake Resistance.....	≤0.4kPa
Cooling System .....	Water cooled
Fan .....	Pusher
Battery Voltage .....	24V
Type of Fuel.....	BS2869 1998 Class A2 or BS EN590
Type of Oil .....	API CH4 15W/40
Oil Capacity .....	177L
Type of Coolant .....	Glycol mixture
Coolant capacity.....	210L
Back Pressure .....	≤0.5kPa
Standby Power .....	1459kW
Prime Power .....	1331kW

## HV Alternator



Alternator Manufacturer/Brand .....	Leroy Somer
Alternator Model .....	LSA52.2XL65
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.....	2.5m³/s
Voltage Regulation .....	±0.5%
Total harmonic TGH / THC .....	< 3.5%
Telephone Interference.....	FHT<2%;TIF<50

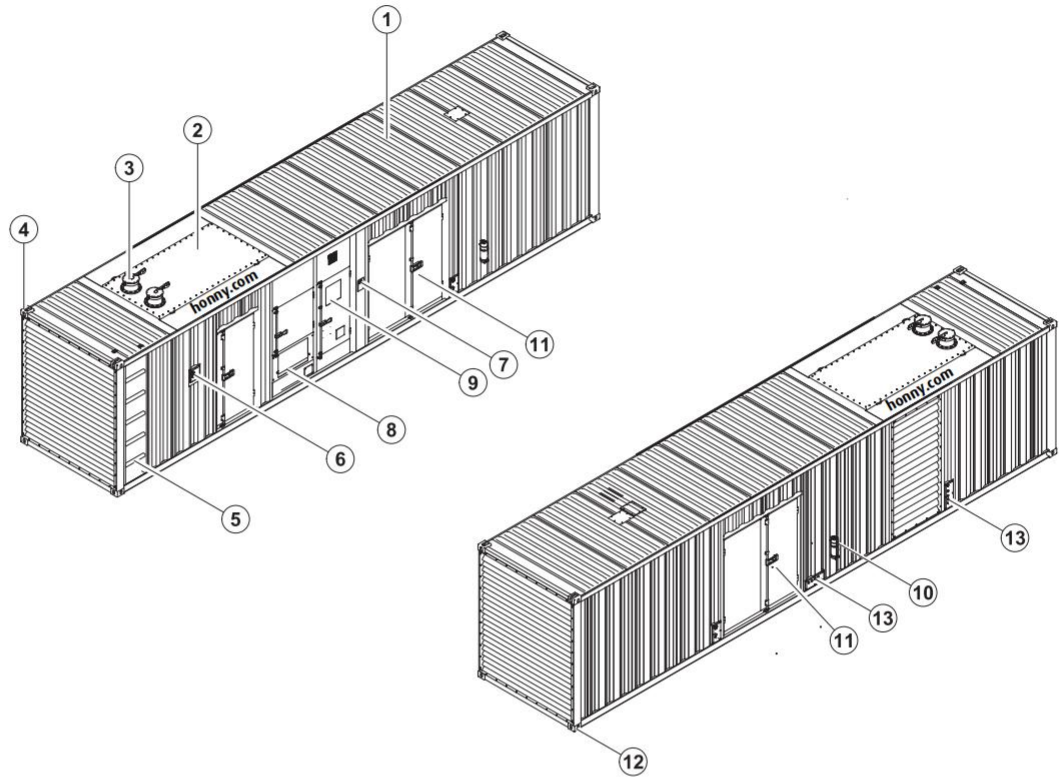
## PLC-500 Control System



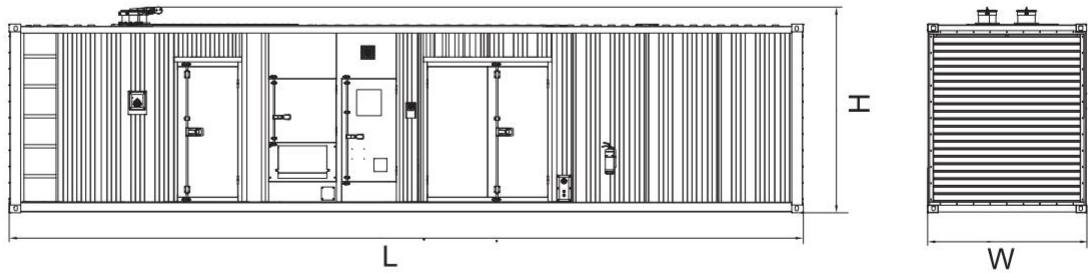
PLC-500 is a microprocessor based control unit containing all necessary functions for protection of the genset and the breaker control. Furthermore, it contains all necessary three-phase measuring circuits and presents all values and alarms on the LCD display. The module has the function of load sharing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

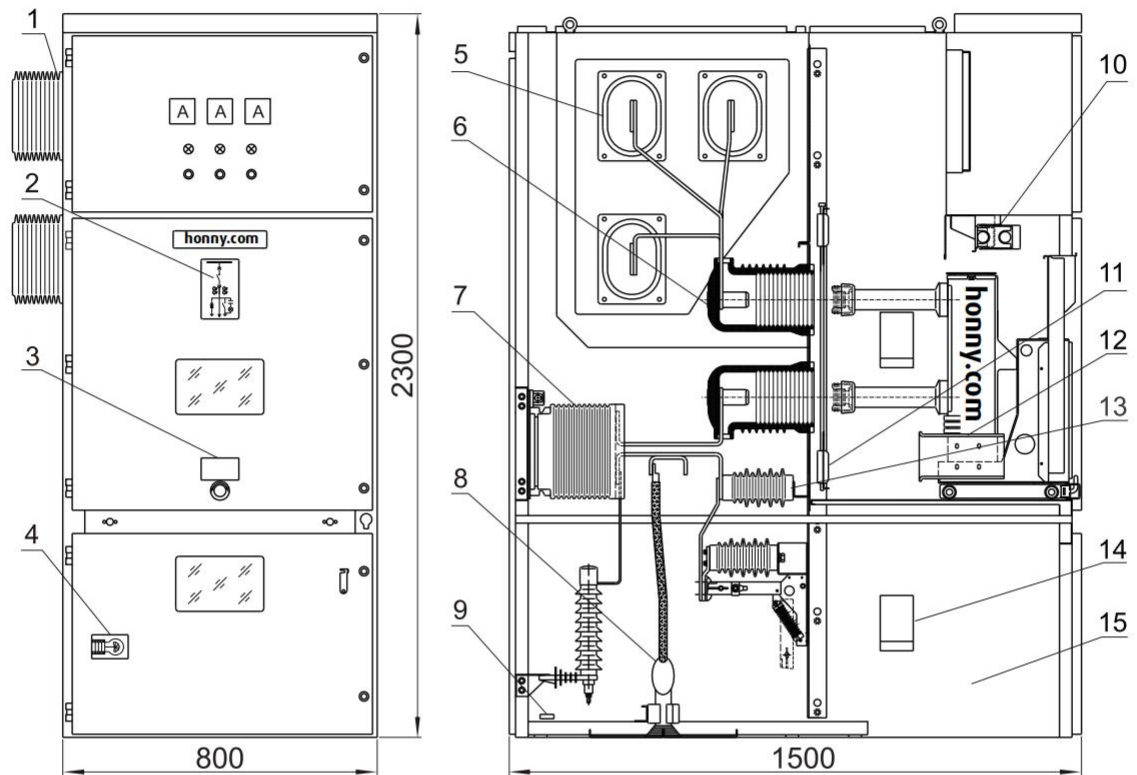


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|-------------------------|---|
| ⑦ Emergency stop switch | ⑬ External fuel inlet/return hose fitting |
| ⑥ Fuel inlet            | Coolant/Oil drain hose fitting            |
| ⑤ Ladder                | ⑫ Fixing lug                              |
| ④ Lifting lug           | ⑪ Access door                             |
| ③ Exhaust gas outlet    | ⑩ Fire extinguisher                       |
| ② Muffer                | ⑨ Control cabinet                         |
| ① Canopy                | ⑧ Cable trench                            |





## 5 Switchgear Panel



1. Passing bushing   2. Primary diagram   3. Nameplate   4. Lighting lamp   5. Main bus  
 6. Contact box   7. CT   8. Incoming cable   9. Earthing bus bar   10. Secondary interlocking device  
 11. Valve mechanism   12. CB trolley   13. Insulator   14. Heater   15. Frame