

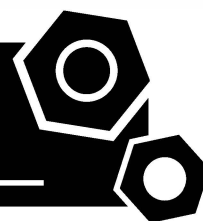
**Generator set**

**Containerized type**

**WPS2250S-AU**

# **SPECIFICATIONS**

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# SE series

## WPS2250S-AU

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

## 1 Standards & Conditions

### Design Standards

The designs and the productions are in conformity with:

- Conformance Européenne (CE)
- ISO8528-5:2005
- AS 3000-2018
- AS 3010-2017

### 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.

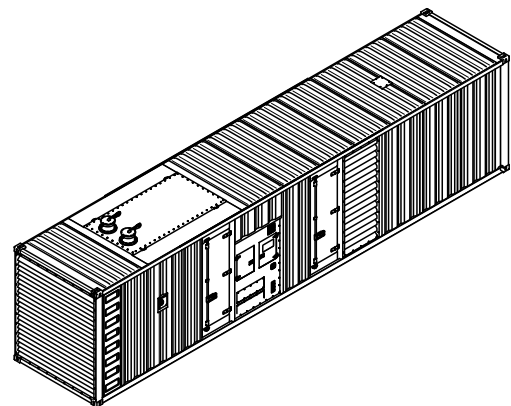
## 2 General Features

- Perkins engine 4016-61TRG3
- Close coupled to Leroy Somer alternator LSA52.3L9
- Microprocessor control module PLC-7420
- ABB main circuit breaker: 4000A
- Rotate speed governor: Electronic fuel injection governor
- Excitation System: AREP
- A.V.R.Model: R449
- Key switch
- Emergency stop switch
- ATS (automatic transfer switch) receptacle
- 2x12V/200AH sealed for life maintenance free battery
- Lockable battery isolator switch

- Powder coated canopy
- 50°C radiator
- Fire extinguisher
- Oil pump on the engine
- Steel base frame with forklift slots
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Fuel tank for 5 hours running
- Drain points for fuel tank
- Fuel inlet pump and control box for the fuel tank
- Added fuel-water separator for fuel tank
- Operation Manual / Specifications

## 3 Equipment Specification

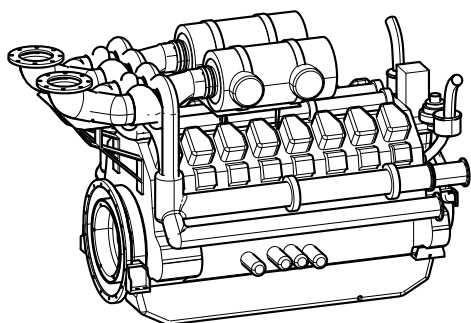
### General technical data



Model.....WPS2250S-AU  
Structure type ..... C  
Tank capacity..... 2400L  
Dry weight..... 25000kg  
Noise level @7m ..... 86.4dBA  
Dimensions L×W×H..... 12192×2438×2896mm  
Standby Power ..... 2475kVA/1980kW  
Prime Power ..... 2250kVA/1800kW

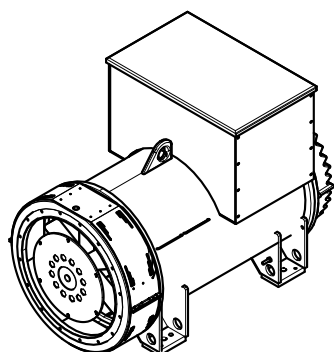
|                         |       |       |       |       |      |
|-------------------------|-------|-------|-------|-------|------|
| Voltage                 | 380V  | 400V  | 415V  | 440V  |      |
| Ampere                  | 3419A | 3248A | 3130A | 2952A |      |
| Genset Fuel Consumption |       |       |       |       |      |
| Frequency/Load          | 25%   | 50%   | 75%   | 100%  | 110% |
| 50Hz (L/h)              | 145   | 246   | 349   | 470   | 529  |

## Diesel Engine



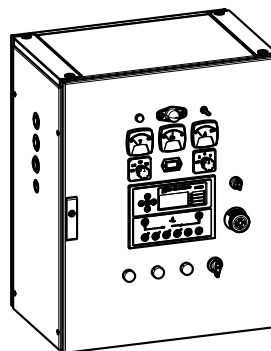
|                                 |                          |
|---------------------------------|--------------------------|
| Engine Manufacturer/Brand.....  | Perkins                  |
| Engine Model.....               | 4016-61TRG3              |
| Dimensions L×W×H.....           | 4542×2185×2328mm         |
| Dry Weigh (approx.) .....       | 7783kg                   |
| Number of Cylinders.....        | 16                       |
| Bore.....                       | 160mm                    |
| Stroke.....                     | 190mm                    |
| Displacement.....               | 61.12L                   |
| Compression Ratio.....          | 13                       |
| 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 1998 Class A1, A2 |
| Type of Oil .....               | API CG4 15W/40           |
| Oil Capacity .....              | 213L                     |
| Type of Coolant .....           | Glycol mixture           |
| Coolant capacity.....           | 260L                     |
| Back Pressure.....              | ≤6.6kPa                  |
| Standby Power .....             | 2183kW                   |
| Prime Power .....               | 1975kW                   |
| Fuel Consumption(100%load)..... | 470L/h                   |

## Alternator



|                                     |                     |
|-------------------------------------|---------------------|
| Alternator Manufacturer/Brand ..... | Leroy Somer         |
| Alternator Model .....              | LSA52.3L9           |
| Exciter.....                        | Brushless           |
| Cooling Fan .....                   | Cast alloy aluminum |
| Windings.....                       | 100% copper         |
| Insulation Class .....              | H                   |
| Winding Pitch.....                  | 2/3                 |
| Drip Proof .....                    | IP23                |
| Overspeed .....                     | 2250rpm             |
| Voltage Regulation .....            | ±0.5%               |
| Total harmonic TGH / THC .....      | < 2.5%              |
| Telephone Interference.....         | THF<2%;TIF<50       |

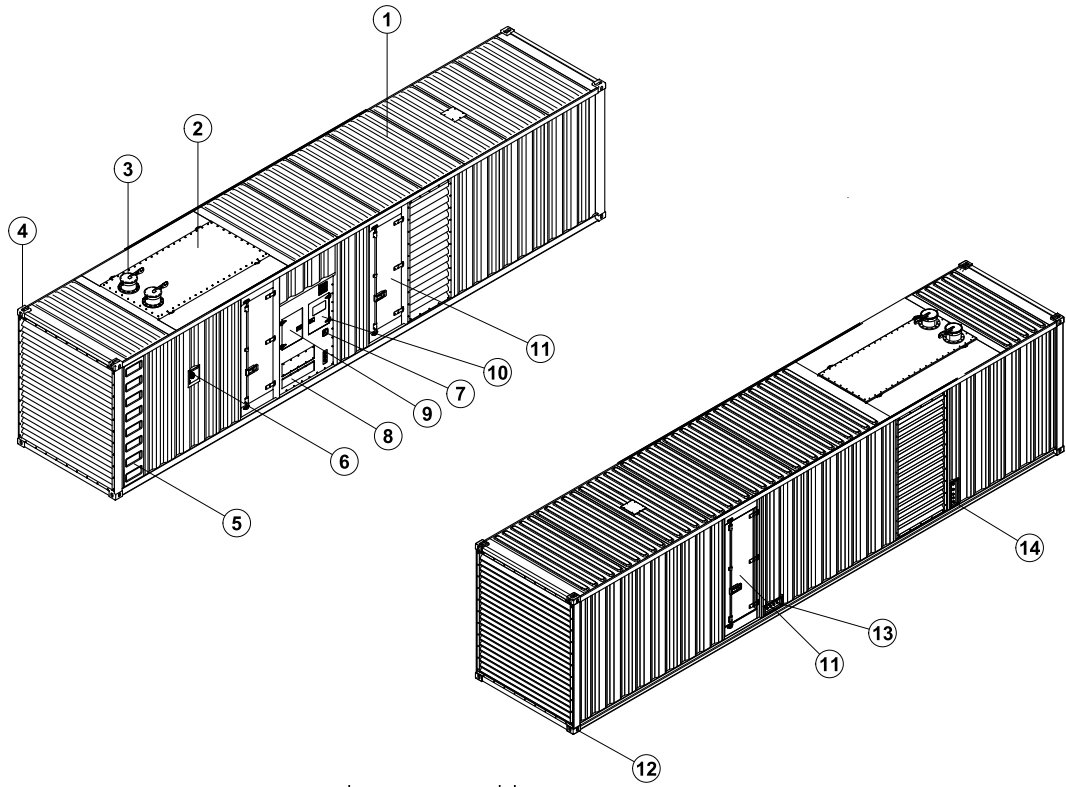
## PLC-7420 Control System



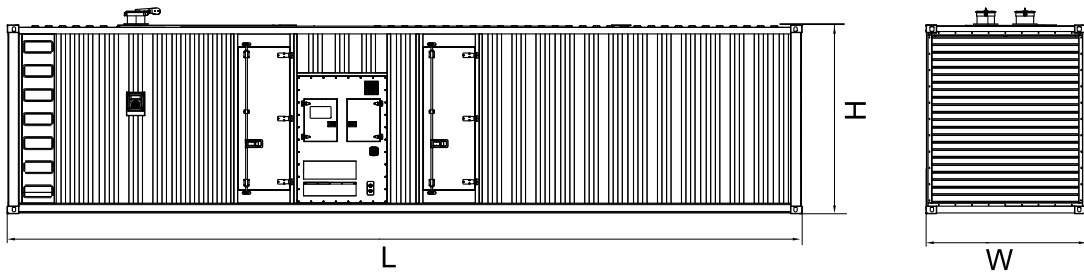
PLC-7420 is an advanced control module based on micro-processor, containing all necessary functions for protection of the genset and the breaker control. It can monitor the mains supply, and automatically start the engine when the mains is abnormal. Accurately measure various operational parameters and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

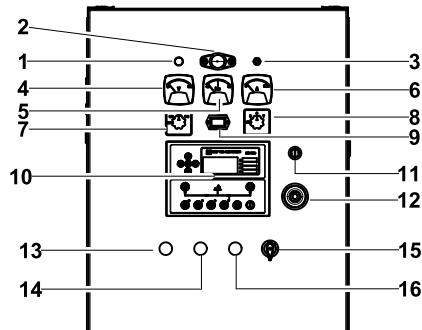
## 4 Overall Dimensions



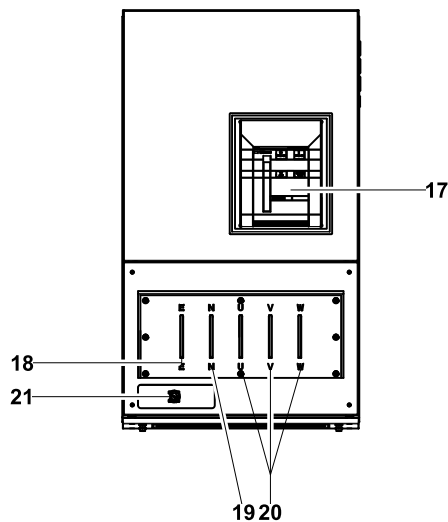
- |                         |                                                                             |
|-------------------------|-----------------------------------------------------------------------------|
| ⑦ Emergency stop switch | ⑭ External fuel inlet/return hose fitting                                   |
| ⑥ Fuel inlet            | ⑬ External fuel inlet/return hose fitting<br>Coolant/Oil drain hose fitting |
| ⑤ Ladder                | ⑫ Fixing lug                                                                |
| ④ Lifting lug           | ⑪ Access door                                                               |
| ③ Exhaust gas outlet    | ⑩ Switch cabinet                                                            |
| ② Muffler               | ⑨ Control cabinet                                                           |
| ① Canopy                | ⑧ Cable trench                                                              |



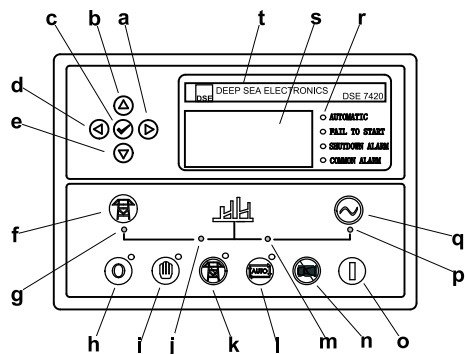
# 5 Control System



Control cabinet



Field wiring cabinet



Control module

| Ref. | Description                                                              |
|------|--------------------------------------------------------------------------|
| 1    | Large indicator                                                          |
| 2    | Control cabinet lamp                                                     |
| 3    | Control cabinet amp switch                                               |
| 4    | Voltage meter                                                            |
| 5    | Frequency meter                                                          |
| 6    | Current meter                                                            |
| 7    | Changerover switch-Voltage                                               |
| 8    | Changerover switch-Current                                               |
| 9    | Time counter                                                             |
| 10   | Control module                                                           |
| 11   | Key switch                                                               |
| 12   | Emergency stop switch                                                    |
| 13   | Blue LED indicator                                                       |
| 14   | Running button with indicator                                            |
| 15   | Oil drain switch                                                         |
| 16   | Stop button with indicator                                               |
| 17   | Main circuit breaker                                                     |
| 18   | Ground wire terminal                                                     |
| 19   | Neutral wire terminal                                                    |
| 20   | Live wire terminals                                                      |
| 21   | Mains input/Remote control/RS communication connector                    |
| 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                                               |
|      | Stop / Reset button                                                      |
| i    | Manual button (Manual control mode)                                      |
| j    | Mains supply on load                                                     |
|      | Test button (Test mode)                                                  |
| l    | Auto button (Auto mode)                                                  |
| m    | Genset on load LED                                                       |
| n    | Rate/amp 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    | CD display                                                               |
| t    | Control module name                                                      |