Perkins series
P500D5
50 Hz @ 1500rpm, 3-phase/4-wiring

1 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

Environmental Operating Conditions

- Installation place: Outdoors or indoors (well ventilated).
- Ambient temperature: -25℃ to 45℃. The coolant heater is needed when the temperature is below 5℃
- 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.

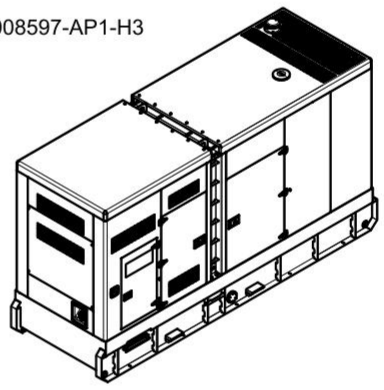
2 General Features

- Perkins engine 2506C-E15TAG2
- Close coupled to a Leroy somer alternator LSA47.2M7
- Microprocessor control module PLC-7420
- NADER main circuit breaker: 800A
- Rotate speed governor: Electronic fuel injection gover-nor
- Excitation System: Self excited , SHUNT
- A.V.R.Model: R250
- 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℃ radiator
- Oil pump on the engine
- Steel base frame with forklift
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Base fuel tank for 9 hours running
- Drain points for fuel tank
- Operation Manual / Specifications

3 Equipment Specification

General technical data

1000008597-AP1-H3



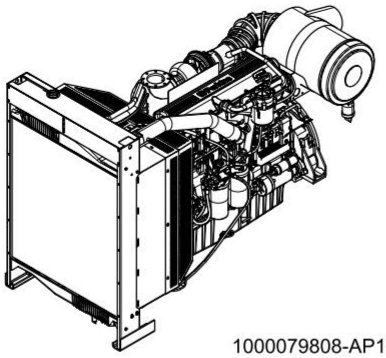
Model.....P500D5
Structure type ..... R
Tank capacity.....1020L
Dry weight.....5243kg
Noise level @7m .....N/A
Dimensions L×W×H..... 4592x1538x2561mm
Standby Power 550kVA/440kW
Prime Power..... 500kVA/400kW

Voltage	380V	400V	415V	440V
Ampere	759.7A	721.7A	695.6A	656.1A

Genset Fuel Consumption					
Frequency/Load	25%	50%	75%	100%	110%
50Hz (L/h)	N/A	55.0	81.0	106.0	115.0

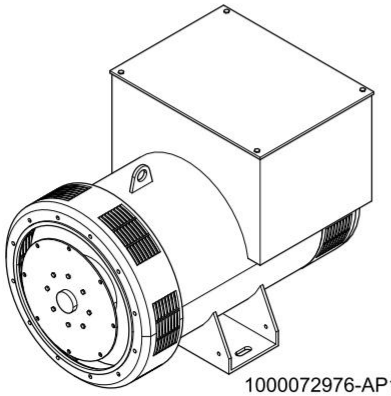
© Guangdong Power Ltd | www.guangdongpower.com

Power System



1000079808-AP1-B3

Engine Manufacturer/Brand	Perkins
Engine Model	2506C-E15TAG2
Dimensions L×W×H	2657×1120×1718mm
Dry Weigh (approx.)	1633kg
Number of Cylinders	6
Bore	137mm
Stroke	171mm
Displacement	15.2L
Compression Ratio	16
Type of Injection	MEUI
Intake System	Turbocharged, air-to-air charge cooled
Intake Resistance	≦6.2kPa
Cooling System	Water cooled
Fan	Pusher
Battery Voltage	24V
Type of Fuel	BS2869 class A2 or BS EN590
Type of Oil	API CI4 or ACEA E5
Oil Capacity	62L
Type of Coolant	Glycol Mixture
Coolant Capacity	58L
Back Pressure	≦6.8kPa
Standby Power	495kW
Prime Power	451kW
Fuel Consumption(100%load)	211g/kW.h

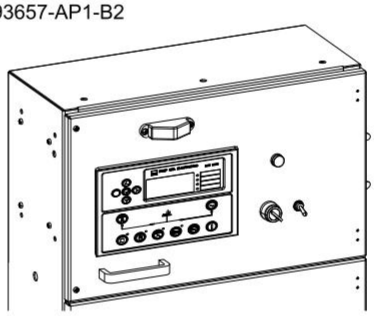


1000072976-AP1-A2

Alternator Manufacturer/Brand	Leroy Somer
Alternator Model	LSA47.2M7
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	0.9m³/s(50Hz),1.1m³/s(60Hz)
Voltage Regulation	±0.5%
Total harmonic	TGH / THCat no load < 1,5 % - on load < 2 %
Telephone Interference	THF<2%;TIF<50

PLC-7420 Control System

1000093657-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.

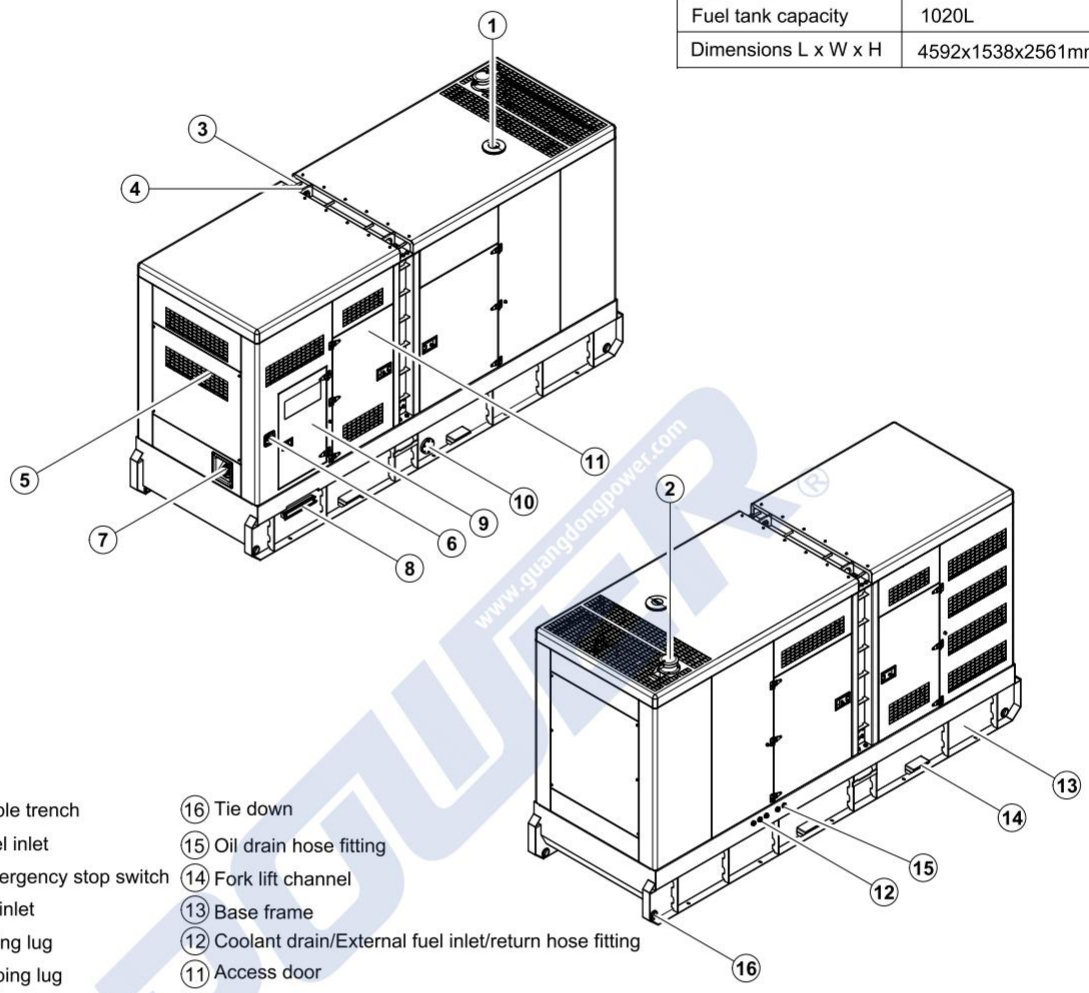
- Microprocessor control, with high stability and credibility
- Monitoring and measuring operational parameters of the mains supply and genset
- Indicating operation status, fault conditions, all parameters and alarms
- Multiple protections; multiple parameters display, like pressure, temp. etc.
- Manual,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

© Guangdong Power Ltd | www.guangdongpower.com

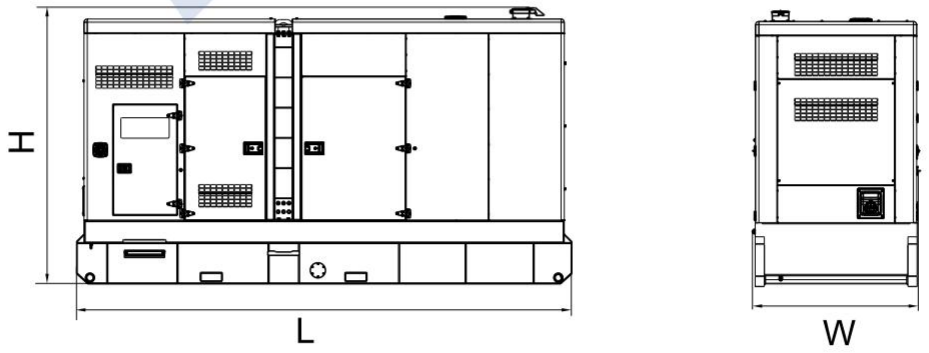
4 Overall Dimensions

1000008597-DR1-H3

Dry weight	5243kg
Fuel tank capacity	1020L
Dimensions L x W x H	4592x1538x2561mm

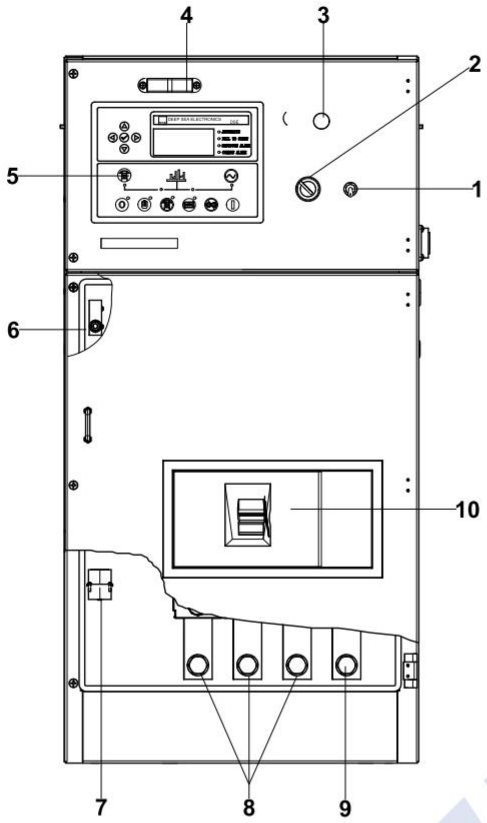


8 Cable trench
7 Fuel inlet
6 Emergency stop switch
5 Air inlet
4 Lifting lug
3 Roping lug
2 Exhaust gas outlet
1 Coolant inlet
16 Tie down
15 Oil drain hose fitting
14 Fork lift channel
13 Base frame
12 Coolant drain/External fuel inlet/return hose fitting
11 Access door
10 Fuel drain
9 Control cabinet



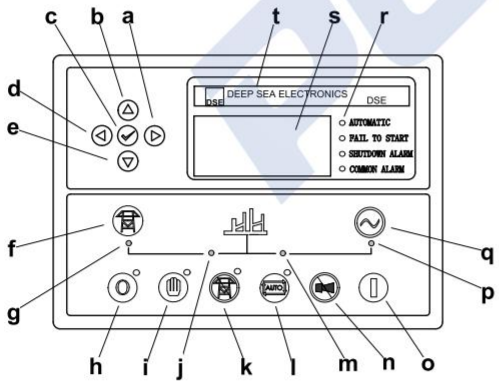
© Guangdong Power Ltd | www.guangdongpower.com

5 Control System



Control & field wiring cabinet

Ref.	Description
1	Control panel lamp switch
2	Key switch
3	Charge indicator
4	Control panel lamp
5	Control module
6	Limit switch
7	Mains input/remote/ATS/AMF communication connector
8	Live wire terminals
9	Neutral wire terminal
10	Main circuit breaker



Control Panel

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

1000093657-IT1-B2

© Guangdong Power Ltd | www.guangdongpower.com