

Perkins series

P450D5

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



1 Standards & Conditions

Design Standards

The designs and the productions are in conformity with:

- Conformance European (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.

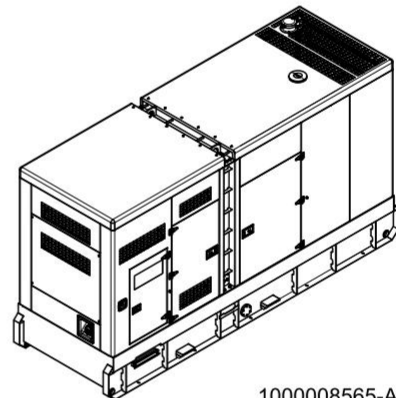
2 General Features

- Perkins engine 2506C-E15TAG1
- Close coupled to a Stamford alternator HCI544C
- Microprocessor control module PLC-7420
- NADER main circuit breaker: 700A
- Rotate speed governor: Electronic fuel injection governor
- Excitation System: Self excited, SHUNT
- A.V.R. Model: AS440
- 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 forklifts
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Base fuel tank for 10 hours running
- Drain points for fuel tank
- Operation Manual / Specifications

3 Equipment Specification

General technical data

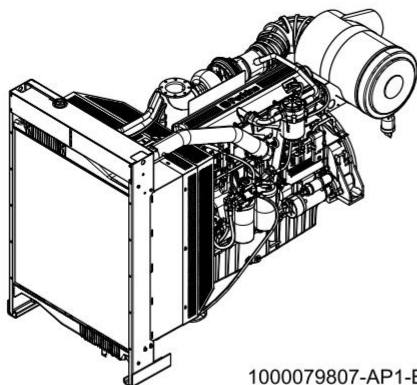


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Model.....P450D5
Structure type..... R
Tank capacity.....1020L
Dry weight.....5301kg
Sound pressure level @1m/ 7m 92dB(A)/82dB(A)
Sound power acc. 2000/14/EC109.5dB(A)
Dimensions L×W×H.....4592×1523×2562mm
Standby Power 495kVA/396kW
Prime Power 450kVA/360kW

Voltage	380V	400V	415V	440V	
Ampere	683.7A	649.5A	626A	590A	
Genset Fuel Consumption					
Frequency/Load	25%	50%	75%	100%	110%
50Hz (L/h)	N/A	57	77	100	114

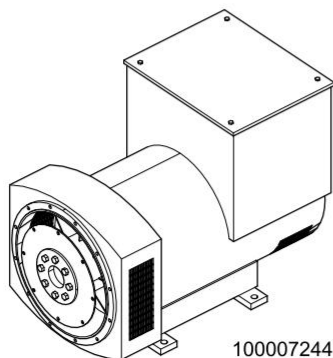
Diesel Engine



1000079807-AP1-B3

Engine Manufacturer/Brand.....	Perkins
Engine Model.....	2506C-E15TAG1
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 C14 or ACEA E5
Oil Capacity	62L
Type of Coolant	Glycol Mixture
Coolant capacity.....	58L
Back Pressure	≤6.8kPa
Standby Power	514kW
Prime Power	458kW
Fuel Consumption(100%load).....	199g/kW.h

Alternator

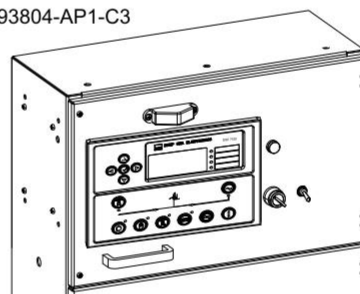


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Alternator Manufacturer/Brand	Stamford
Alternator Model	HCI544C
Exciter.....	Brushless
Cooling Fan	Cast alloy aluminum
Windings.....	100% copper
Insulation Class	H
Winding Pitch.....	2/3
Terminals	12
Drip Proof	IP23
Altitude.....	≤1000m
Overspeed	2250 rpm
Air Flow.....	1.035m³/s(50HZ),1.312m³/s(60HZ)
Voltage Regulation	±1.0%
Total harmonic TGH / THCat no load < 1.5 % - on load < 5%	
Telephone Interference.....	THF<2%;TIF<50

PLC-7420 Control System

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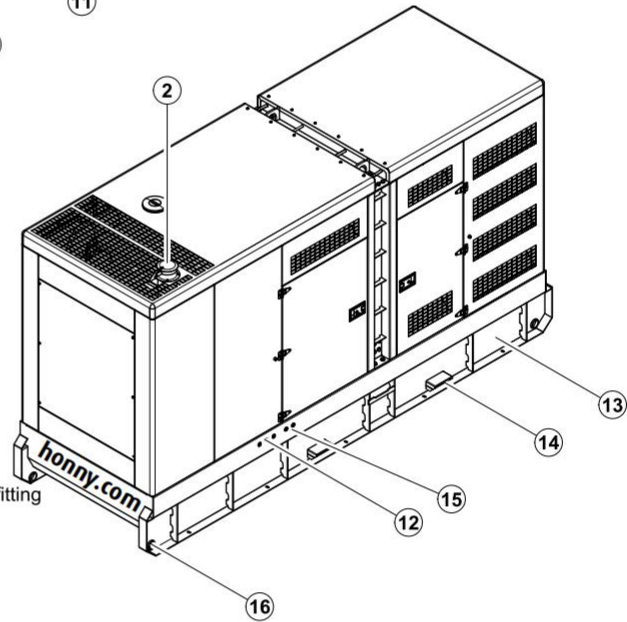
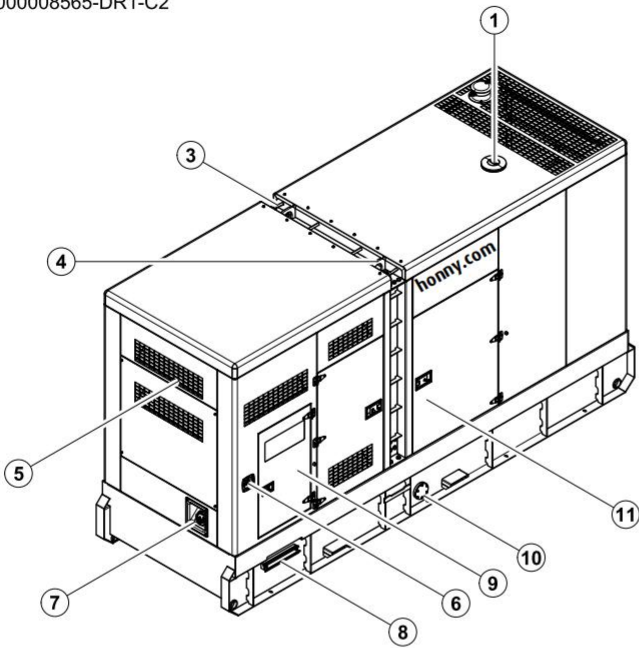
PLC-7420 is an advanced control module based on micro-processor, containing all necessary functions for protection of the genset and the breaker control. It can monitor the mains supply, and automatically start the engine when the mains is abnormal. Accurately measure various operational parameters and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

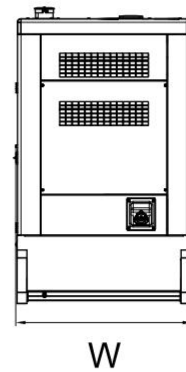
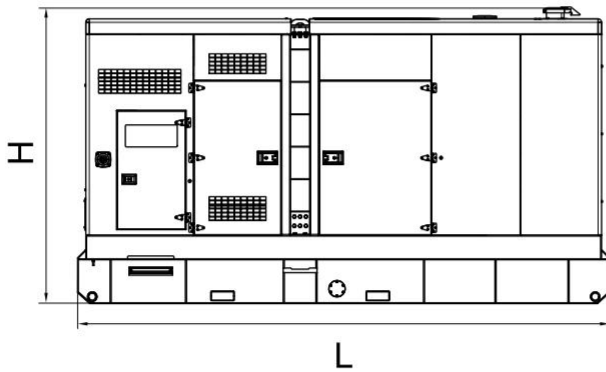
Overall Dimensions

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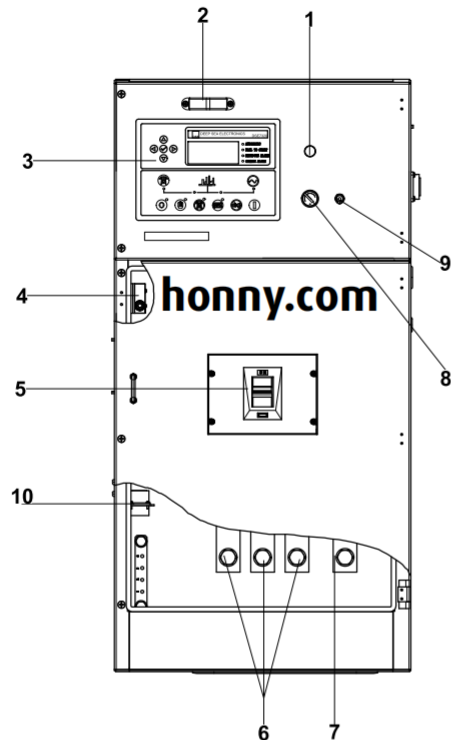
Dry weight	5301kg
Fuel tank capacity	1020L
Dimensions L x W x H	4592x1523x2562mm



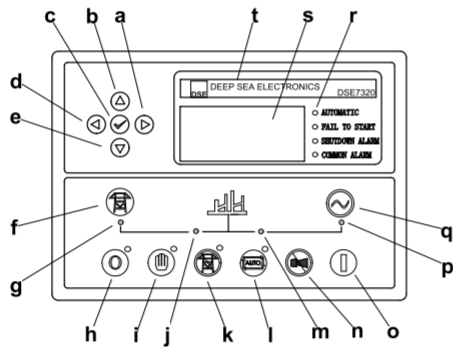
- ⑧ Cable trench
- ⑦ Fuel inlet
- ⑥ Emergency stop switch
- ⑤ Air inlet
- ④ Lifting lug
- ③ Roping lug
- ② Exhaust gas outlet
- ① Coolant inlet
- ⑬ Base frame
- ⑫ Coolant drain/
External fuel inlet/return hose fitting
- ⑪ Access door
- ⑩ Fuel drain
- ⑨ Control cabinet
- ⑮ Oil drain hose fitting
- ⑭ Fork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



4 Control System



Control & field wiring cabinet



Control Panel

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

1000093804-IT1-C3