PR POWER

Generator set

Containerized type

PR1650P-SAE

SPECIFICATIONS

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Rev. [March].[2023]

Perkins series
PR1650P-SAE
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

- Perkinks engine 4012-46TAG2A
- Close coupled to a Leroy Somer alternator LSA50.2L8
- Microprocessor control module DSE 7420
- ABB main circuit breaker: 3-Phase 2500A
- Rotate speed governor: Electronic fuel injection governor
- Excitation system: AREP
- A.V.R model: R448
- Key switch
- Emergency stop switch
- ATS (automatic transfer switch) receptacle
- 4x12V sealed for life maintenance free battery
- Lockable battery isolator switch
- Powder coated canopy
- 50℃ radiator
- Fire extinguisher
- Oil pump on the engine
- Steel base frame with forkslots
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Fuel tank for 8 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 / Parts List / Specifications

3 Equipment Specification

General technical data

1000021261-AP1-D2

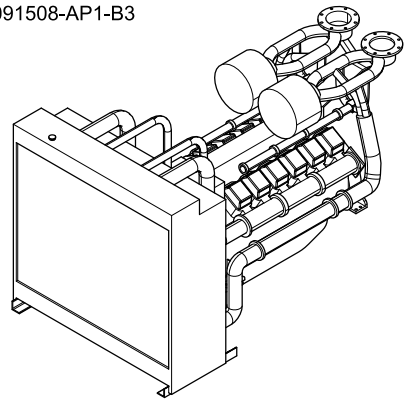
Model..... PR1650P-SAE
Structure type C
Tank capacity.....2400L
Dry weight.....21130kg
Noise level @7m 75.6dBA
Dimensions L×W×H.....12192×2438×3097mm
Standby Power 1650kVA/1320kW
Prime Power 1500kVA/1200kW

Voltage	380V	400V	415V	440V
Ampere	2279.1A	2165.1A	2086.9A	1968.3A

Genset Fuel Consumption					
Frequency/Load	25%	50%	75%	100%	110%
50Hz (L/h)	N/A	162.0	237.0	301.0	335.0

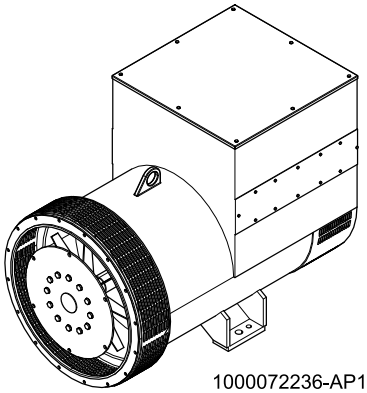
Diesel Engine

1000091508-AP1-B3



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
Fuel Consumption(100%load)	201g/kW.H

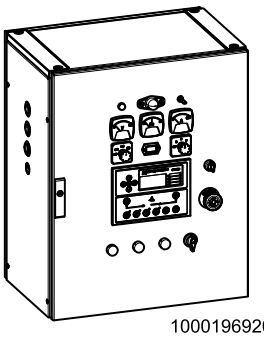
Alternator



1000072236-AP1-A1

Alternator Manufacturer/Brand	Leroy Somer
Alternator Model	LSA50.2L8
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	1.8m³/s(50Hz),2.2m³/s(60Hz)
Voltage Regulation	±0.5%
Total harmonic TGH / THC	< 3.5%
Telephone Interference	THF<2%;TIF<50

DSE 7420 Control System

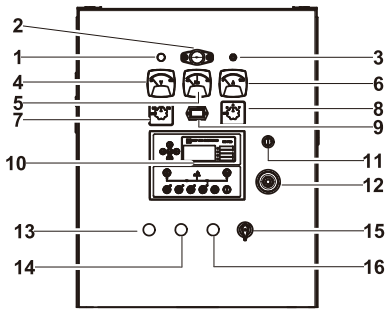


1000196920-AP1-A2

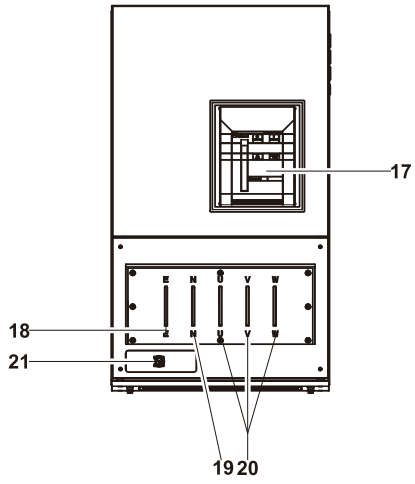
DSE 7420 is an advanced control module based on microprocessor, containing all necessary functions for protection of the genset and the breaker control. It can monitor the mains supply, and automatically start the engine when the mains is abnormal. Accurately measure various operational parameters and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

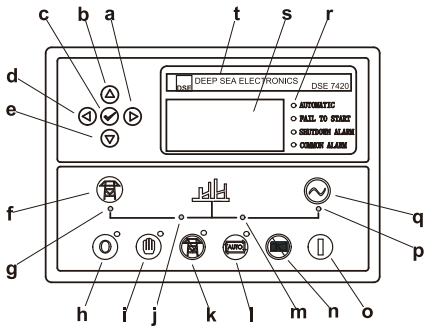
4 Control System



Control cabinet



Field wiring cabinet



Control module

Ref.	Description
1	Charge indicator
2	Control cabinet lamp
3	Control cabinet lamp 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	Fuel leak 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/ ATS 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

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