



PENPOWER
DIESEL GENERATORS

6 CALCUTTA STREET/ P.O BOX 61
PAARDEN EILAND • 7420
TEL: (021) 511-5661 • FAX (021) 511-5441
E-MAIL: info@penpower.co.za
WEBSITE: www.penpower.co.za
Reg. No . 2018/455814/07

Date
To
Attention
Your Reference
Your Tel
Our Ref

PenPower Diesel Generators
Quotation

PenPower Diesel Generators are long standing generator manufactures based in Cape Town, South Africa. Working with dependable engine and alternator partners, PenPower are able to offer a product with cutting edge design and unrivalled support

Since 1965



PenPower PPb70.5D

	Prime kVA	Prime kW	Standby kVA	Standby kW
Output	63	50	70	56
Rating	50Hz, 400v 3ph			

Rating definitions

Prime Power - This rating is applicable for supplying continuous electric power (at variable load) in lieu of commercially purchased power. 10% Overload power is available for 1 hour in 12 hours continuous operation.

Standby Power - This rating is applicable for supplying continuous electric power (at variable load) in the event of an utility power failure. No overload is permitted for this rating.

Standard reference conditions

Output ratings are presented at 25°C air inlet temperature, barometric pressure 100 kPa, relative humidity 30%. This Generating set is designed to operate at high ambient temperatures (up to 55°C), humidity (up to 99%) and higher altitudes. De-rating may apply, please consult us for a site rating.

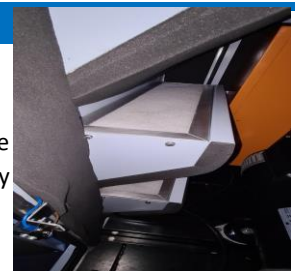


Designed to stand the test of time

Often it happens that generators need to be decommissioned or refurbished long before the useful mechanical life of the engine and alternator has been reached. This is particularly true for generators in standby duty. The primary cause of this corrosion due inferior materials and or design of the generator. Our PPb generator comes standard with a canopy made from aluminium. the canopy roof is pitched to prevent water collecting on the roof. canopy is primed with Jotun Alu90 and finished with Jotun Hardtop Flexi. Thereby giving this range of generators every possible chance of matching the engine and alternator life spans

Breathe easy

Inlet filters go a long way to maintaining a good work environment for the generator while it is running and while it is standing. The coarse air filters fitted to all the inlets of the canopy require little to no maintenance. They filter out large particles when the set is running and go a long way to preventing dust, salty air and rodents entering the set when it is standing.





PENPOWER
DIESEL GENERATORS

6 CALCUTTA STREET/ P.O BOX 61
PAARDEN EILAND • 7420
TEL: (021) 511-5661 • FAX (021) 511-5441
E-MAIL: info@penpower.co.za
WEBSITE: www.penpower.co.za
Reg. No . 2018/455814/07

Know your set's status at a distance



The PPb range comes standard with a status beacon. This multi coloured beacon enables you to at a glance know which one of the four states your generator is in. Green indicates that the set is not in auto and that there are no alarms or faults present. When not in auto the set will not operate automatically even if an event such as a mains failure. A blue glow indicates that the set is in auto and will operate automatically when required to do so. Amber indicates a common warning, this is not a critical fault and set will still be able to operate but should be seen to. Very often warning are precursors to critical faults for example you may be running low on fuel. Red glow indicates a critical fault and the set will not operate under this condition. Generator will also need attention. These faults can occur when the generator is not running, the status beacon will easily notify you that this has occurred with out having to actually go to the generator



Making sure you don't get left in the dark



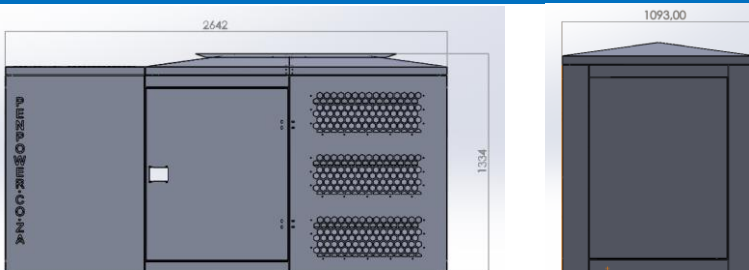
your generator is fitted with internal lighting as well as external swivelling LED flood light. These lights are activated by opening any of your generator doors. The DC LED lights are powered from the generator battery so if things go wrong you will not be left in the dark while trying to sort out a problem. Also handy for fuel filling, service or repair work that needs to be carried out in the dark

Fuel for thought



The generator comes standard with a self contained base fuel tank. Filling is done via a fuel filler located behind the side door. Filler cap is located in a recessed catchment area which assists with catchment of small spills which arise while filling and also prevents over filling of the tank which is a common problem. Set is also fitted with two fuel senders; one drives a dial gauge located next to the filler so that you can actively see the fuel level while filling from jerry cans or bowser and the other is read by the generator controller. Fuel level on the generator controller enables you to read fuel level not only from the controller HMI but also from your phone or laptop via DSE WebNet (optional). Further you are able to low fuel warning as well as low fuel level shut down are standard on this machine so if by chance you do run out of fuel it is a simple matter of refuelling and you are running again as you will not have run your engine dry and you will not need to bleed the system to get it running again.

General info



Length	2642	mm
Breadth	1093	mm
Height	1334+200	mm
Fuel tank	240	L
Sound level	75	dBA @ 7m



PENPOWER

DIESEL GENERATORS

6 CALCUTTA STREET/ P.O BOX 61
PAARDEN EILAND • 7420
TEL: (021) 511-5661 • FAX (021) 511-5441
E-MAIL: info@penpower.co.za
WEBSITE: www.penpower.co.za
Reg. No . 2018/455814/07

		Price		
Item	Description	Unit price	Quantity	Total
1	New PPb70.5DE	R210,000.00	1	R210,000.00
2	New PS100 set mounted ATS 100A	R6,000.00	1	R6,000.00
3	New PS100, 100A ATS panel supplied loose	R14,000.00		R0.00
4	DSE890 WebNet net work and early notification module (Excl sim)	R12,000.00		R0.00
5	Additional sound reduction kit	R38,000.00		R0.00
6				R0.00
7				R0.00
8				R0.00
9				R0.00
10				R0.00
Total				R216,000.00

Price basis

Valid ex works (EXW INCO terms 2010) unless indicated otherwise in above schedule
Exclusive of VAT
The above prices are net
The above prices are in ZAR (South African Rands)

Delivery

Weeks from date of receipt of deposit
Lead time based on current factory lead time subject to change without notice
Furthermore lead time is subject to prior sale of engine and alternator stock.

Payment terms

50% on order
Balance on factory acceptance testing

Terms and Conditions

This offer is in accordance with PenPower Diesel Generators general condition of tender, copy available on request.

Discounts

Discounts of any nature whatsoever are neither inferred nor to be construed
Early settlements are not cause for discount, unless otherwise agreed in writing.

Transfer of ownership

The equipment will remain the property of PenPower Diesel Generators and transfer of ownership will only pass on receipt of full and final payment.
Payments will be considered complete upon confirmation by our bankers.

Validity

This offer will remain valid for:
calendar days from the date of this offer

Contact details

We trust that the information supplied in this offer meets with your approval.
If we can be of further assistance please don't hesitate to contact the under signed.

Offer drawn up by

Tauben Langford

Cell: +2774 86 4321 8
Tell: +2721 511 5061
Email:
tauben@penpower.co.za

Or feel free to contact

Alistair Lockhart

Cell: +2782 658 5077
Tell: +2721 511 5061
Email:
alistair@penpower.co.za



PENPOWER

DIESEL GENERATORS

6 CALCUTTA STREET/ P.O BOX 61
 PAARDEN EILAND • 7420
 TEL: (021) 511-5661 • FAX (021) 511-5441
 E-MAIL: info@penpower.co.za
 WEBSITE: www.penpower.co.za
 Reg. No . 2018/455814/07



Engine Data Sheet

4M10G70

Basic Data

Engine Model	4M10G70/5
No. cylinder * valve	4 * 8
Cylinder arrangement	in line
Bore x Stroke	105 x 118
Displacement	4.087 L
Thermodynamic Cycle	Diesel 4 stroke
Cooling system	Water
Injection system	Direct
Fuel system	Mechanical pump
Aspiration	Turbocharged
Compression ratio	17.5 : 1

Lubrication System

Total capacity (incl filters)	15L
Capacity low*high	12*14
Pressure normal idle	> 1 bar
Pressure normal 1500rpm	3 - 5 bar
Oil pressure alarm	1 bar
Max oil temp	110 c
Flow	44 l/min
oil fuel consumption ratio	<0.2%

Cooling system

Max ambient temp	50 deg C
Radiator type	Mechanical
Fan type	belt driven pusher
Radiator and pipe capacity	7L
Engine capacity	9.4
thermostat opening temp	76
fan air flow	190 m3/min

Fuel system

Governor	Electronic
steady state stability	about 0.5%
Governor class	ISO8528-5 class G3
Fuel supply flow	84l/hr
Min fuel pump pressure	1.3bar

Electrical system

Voltage	12v
starter motor rating	3.8kW
charging alternator current	80A
charging alternator absorbed power	1.12kW
Min cold start temp without auxiliary device	minus 15 deg C
Min cold start temp with auxiliary device	minus 25 deg C



Performance data @ 1500rpm

Mean piston speed	5.9M/s
BMEP	12.9 Bar
Fan absorbed power	1.5kW
Gross PRP	60kWm
Gross ESP	66kWm
Net PRP	57.38kWm
Net ESP	63.38kWm

Fuel Consumption

rating	g/kWh	L/hr
100% ESP / 110% PRP	210.9	16.7
100% PRP	208.9	15
75% PRP	206.9	11.1
50% PRP	214.5	7.74
25% PRP	253.6	4.5



PENPOWER
DIESEL GENERATORS

6 CALCUTTA STREET/ P.O BOX 61
PAARDEN EILAND • 7420
TEL: (021) 511-5661 • FAX (021) 511-5441
E-MAIL: info@penpower.co.za
WEBSITE: www.penpower.co.za
Reg. No . 2018/455814/07



Alternator Data Sheet

Stamford S1L2-Y1 Winding 311/711

Excitation and Voltage Regulation		Ratings at 0.8pf 400v Series Star connection 50Hz			
AVR	AS540		kVa	kWe	Efficiency
AVR Power	Self excited/ Aux winding	Standby 163/27 deg C	68.8	55	88.8
Voltage regulation	about 1%	Standby 150/40 deg C	66.6	53.3	89.2
No load excitation V	14v	Cont. H 125/40 deg C	62.5	50	89.9
Full load excitation V	48v	Cont. F 105/40 deg C	56.9	45.5	90.6

Electrical Data

Insulation System	Class H
Stator Winding	Double layer concentric
Winding Pitch	Two thirds
Winding Leads	12
Winding Number	311 / 711
Number of poles	4
IP Rating	IP23
RFI Suppression	EN 61000-6-2 & EN 61000-6-4
Waveform Distortion	no load < 2% non-distorting balanced linear load < 5%
Short Circuit Ratio	1/Xd
Steady state X/R Ratio	8.7

Saturated values in per unit at base ratings and voltages

Xd Dir Axis Synchronous	1.994
X'd Dir Axis Transient	0.113
X''d Dir Axis subtransient	0.108
Xq Quad Axis Reactance	1.414
X''q Quad Axis Subtransient	0.136
XL Stator Leakage Reactance	0.065
N2 Negative Sequence Reactance	0.237
X0 Zero Sequence Reactance	0.057

Unsaturated values in per unit at base ratings and voltages

Xd Dir Axis Synchronous	2.55
X'd Dir Axis Transient	0.13
X''d Dir Axis subtransient	0.126
Xq Quad Axis Reactance	1.457
X''q Quad Axis Subtransient	0.163
XL Stator Leakage Reactance	0.073
N2 Negative Sequence Reactance	0.284
X0 Zero Sequence Reactance	0.067

Time constraints in seconds

T'd transient time const.	0.028
T''d sub-trans time const.	0.003
T'do O.C field time const.	0.2
Ta armature time const	0.008

Resistances in Ohms at 22 deg C

Stator winding resistance	0.0841
Rotor winding resistance	1.279
Exciter stator winding resistance	16
Exciter rotor winding resistance	0.137 per phase
Positive Sequence resistance	0.105
Negative sequence resistance	0.121
Zero sequence resistance	0.105



PENPOWER
DIESEL GENERATORS

6 CALCUTTA STREET/ P.O BOX 61
PAARDEN EILAND • 7420
TEL: (021) 511-5661 • FAX (021) 511-5441
E-MAIL: info@penpower.co.za
WEBSITE: www.penpower.co.za
Reg. No . 2018/455814/07



Controller Data Sheet

Generator controller - DSE6120MK3

Auto mains (utility) failure control Module suitable for single gen set applications

Some Key Features

- 4-line back-lit LCD text display
- Multiple display languages
- LCD alarm indications
- DSENet compatible
- Data logging facility
- Internal PLC editor
- PC via USD configurable
- Front panel configurable
- Power save mode
- 3-phase gen sensing and protection
- 3-phase utility sensing and protection
- Monitory: kW, kVA, PF, kVAr, A, V, Hz
- kW overload protection
- Switch control via facia
- 6 configurable DC outs
- 4 configurable analogue ins
- 8 configurable analogue ins
- Real time clock
- Fuel pump control
- Engine run time scheduler
- Fuel level monitoring and alarms
- Licence-free software
- Engine idle control

Specifications

- DC Supply:**
- 8V to 35V continuous
- 5V for up to 1 min
- cranking drop out 0V for 100ms
- Max operating current 260mA @12v
- Max standby current 145mA @12v
- Generator and utility**
- Voltage range 26 - 719 Ph to Ph
- Frequency range 3.5 - 75
- Mag pickup**
- Voltage range: about 0.5 - 70
- Frequency range 0 - 10 000
- Inputs**
- Digital in A-H negative switching
- Analogue in A&D configurable as:
- digital in, 0-10V sensor, 4-10mA sensor
- Resistive sensor
- Analogue in B&DCconfigurable as:
- Digital in & resistive sensor
- Outputs**
- A&B Fuel and start 10A at 12v
- Auxiliary outs C - H:
- 2A at 12v



Key Benefits

- Automatically transfers between utility and generator for convenience
- Hours counter provides accurate information for monitoring and maintenance periods
- User-friendly set-up and button layout for ease of use
- Multiple parameters are monitored & displayed simultaneously for full
- The module can be configured to suit a wide range of applications for user flexibility

DSE890 Network Module (optional)



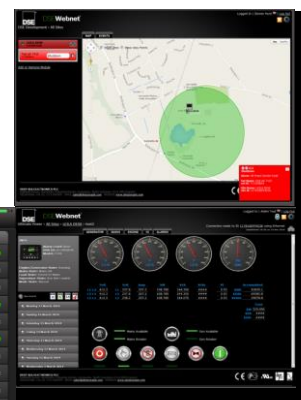
The DSE890 MK2 is a 4G gateway module used with supported DSE controllers such as the DSE6120 MK3. The unit is a remote monitoring, remote operation as well as an early notification module.

The unit can be ordered with your new generator and can also be retro fitted to an existing compatible machine.

You are able to check the location and health of a single set or a fleet at a glance using map

Module will notify you via text or e mail for any parameter you request it to

You are able to operate and monitor your set remotely either via app on your phone or on your PC





PENPOWER
DIESEL GENERATORS

6 CALCUTTA STREET/ P.O BOX 61
PAARDEN EILAND • 7420
TEL: (021) 511-5661 • FAX (021) 511-5441
E-MAIL: info@penpower.co.za
WEBSITE: www.penpower.co.za
Reg. No . 2018/455814/07

Warranty

We got your back

All Penpower generators are covered by a PenPower warranty. Further Major components also carry their own warranties . All active warranties run concurrently and do not impact on one another. Warranty procedure can be carried by via PenPower and affiliated agents as well as component manufacturers support networks.

Baudouin Powerkit warranty summary - Full warranty statement available on request

Duration

Standby application: 48 months or 600 run hrs, whichever occurs first

Prime Power application: 24 months, unlimited run hours

This warranty is applicable to all owners in the sales channel and the coverage continuous to all subsequent owners unit the duration of the coverage expires. Manufacturer is not responsible for incidental or consequential damages

Limitation

The warranty does not cover product failures or defects resulting from:

Inappropriate use of the product relative to the rating definitions

Normal wear and tear, and corrosion

Failures due to inadequate maintenance not in accordance with the operating and maintenance manual

Improper storage

Improper fuel, lube oil or coolant and/or contaminants in fuel, lube oil or coolant

Installation not in accordance with the instructions of manufacturer

Modification of the products manufactured without the consent of manufacturer

Owners or operators negligence

Use of non-genuine spare parts

Damage as a result of Climate or Natural disasters, social conflicts and all other cases of force majeure

STAMFORD s-range warranty summary - full warranty statement available on request

Warranty period

The warranty start date is the date of shipment by STAMFORD. The coverage duration is 3 years from warranty start date.

Limitations

Inappropriate use relative to designated power rating

Inappropriate use relative to application guidelines. Please be aware of maximum kVA rating per alternator specifications but application

Improper and/or unauthorized installation

Owner's or operator's negligence, accidents or misuse

Noncompliance with any STAMFORD published guideline or policy

Use of improper or contaminated lubricants

Improper storage before and after commissioning

Owner's delay in making product available after notification of potential product problem

Replacement parts and accessories not authorized by STAMFORD

Owner or operator abuse

Progressive damage resulting from a defective shutdown or warning device not provided by STAMFORD

Damage to engine, parts, fixtures, housings, attachments and accessory items that are not part of the alternator

Damage caused by improper transportation after customer's receipt of product



PENPOWER
DIESEL GENERATORS

6 CALCUTTA STREET/ P.O BOX 61
PAARDEN EILAND • 7420
TEL: (021) 511-5661 • FAX (021) 511-5441
E-MAIL: info@penpower.co.za
WEBSITE: www.penpower.co.za
Reg. No . 2018/455814/07

PenPower Diesel Generators : end-user warranty

This is a warranty which applies to all generating sets furnished by PenPower Diesel Generators (hereinafter referred to as "the company"). All generating sets are warranted against defects in materials and workmanship for a period of twelve

The company's responsibilities

If a defect in material or workmanship arises during the warranty period the company will:

Replace or, at the company's discretion, repair the defective parts.

Provide for reasonable and customary labour costs incurred while effecting repairs to engine defects in accordance with the policies and repair times laid down by the engine manufacturer.

Provide for the cost of service supplied such as coolant, oil and filters which are made unserviceable by the defect.

The user's responsibilities

The user is responsible for:

Installing and operating the generating set in accordance with the manufacturer's instructions

Returning the warranty registration form within the ten days from the date of start-up or one month from the date of sale, whichever is earlier.

Ensuring that the initial start-up is performed by an authorized representative company or its distributors or agents

Exceptional Circumstances

In exceptional circumstances, the said start-up will be waived but only if a pre-delivery inspection has been completed.

Conditions

This warranty is conditional on the user's agreement to accept.

The company's sole judgement as to whether the faulty part is defective in material or workmanship

Labour costs, except as stated under "the company's responsibility" including costs incurred in removing and replacing the engine, (though consideration will be given by the company in certain circumstances)

The costs and risks for the transporting / shipping and other charges associated with the replacement of the repair parts.

Any costs in excess of the purchase price of the product

Other miscellaneous costs including but not limited to travel, mileage, lodging, taxes, telephone calls and overtime, except as stated under "the company's responsibilities"

His obligation to make complete payment for the purchase of the equipment, parts per services relating to the equipment under warranty.

Limitations, this warranty does not cover

Defects due to the user's improper installation, maintenance or use.

Alternations or repairs not authorized by the company in writing

Any operation in excess of the company's rating or outside of the stated site conditions

Normal wear and tear

This warranty is expressly in lieu of all other warranted, express or implied, including, but not limited to, any warranty of merchantability or fitness for the particular purpose. All warranties which exceed the aforementioned obligations are hereby disclaimed by the company and excluded from this warranty. The company shall, under no circumstances, be held liable for any special direct, indirect, incidental or consequential damages – in particular, when the product is operating in conjunction with a transmission system where there is a risk of potentially damaging electrical stresses in the event of transmission failure. All claims made under the warranty should be made by contacting your local distributor or agent or the company who will outline the administration and scope.