

NSol! Hybrid System Summary

Solar Power

FearTheSkunk

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Site Summary

Site Name:
Location: MAHALAPYE, BOTSWANA
Latitude: 23.08S **Longitude:** 26.86E **Elevation:** 0 m
Comments: U Lowell : BOT1A, type H

Load / System Summary

Design Load: 364.1Ah Day @ 48.0VDC
Tilt: 15N **Azimuth:** 0E **Tracking:** Fixed
Avg ALR: 0.50
Gen Hrs: 881hrs **Fuel:** 2,334L **Cycles:** 130

System Summary

PV (Module / Array)

Model: SW75A
Rating: 75 / 2.25kWp
Modules: 30
Config: 5S x 6P
Vtyp: 16.70 / 83.5V
Ityp: 4.50 / 27.0A
Voc: 22.50 / 112.5V
Isc: 4.83 / 29.0A
V_dsgn: 27.0V @ Max Power

Battery Bank (Unit/Sys)

Model: Generic 2V
Rating: 43.54kWh
Units: 24
Config: 24S x 1P
Voltage: 2.0 / 48.0V
Amp-hr: 907.0 / 907.0Ah
Rating: 2.0 days

Controller:

Model: Standard
Type: MPPT
Voltage: 48V
Rating: 60A

Generator

Model: kW9-ACHD
Rated Pwr: 9
PF: 9.00

Inverter:

Model:
Voltage: 120V
Rating: 4kVA

Battery Charger

Efficiency: 90^U

Hybrid Sizing Analysis

Month	Array Insol (kWh/m2/d)	Load (Ah/day)	Array Output (Ah/day)	PV Contrib (%)	Gen Load (%)	Runtime (hrs)	Gen Starts (#)	Fuel Use Liters
Jan	6.32	364.1	189.6	52.1	85	72.0	10.5	191
Feb	6.34	364.1	190.2	52.2	85	65.5	9.4	174
Mar	6.08	364.1	183.0	50.3	85	74.4	10.9	197
Apr	5.84	364.1	177.1	48.6	85	74.3	11.0	197
May	5.51	364.1	168.7	46.3	85	79.6	12.0	211
Jun	5.09	364.1	157.4	43.2	85	81.2	12.4	215
Jul	5.44	364.1	167.8	46.1	85	79.8	12.2	211
Aug	5.94	364.1	181.1	49.7	85	75.0	11.2	199
Sep	6.23	364.1	187.4	51.5	85	70.6	10.3	187
Oct	6.57	364.1	196.7	54.0	85	69.4	10.1	184
Nov	6.39	364.1	191.7	52.6	85	69.1	10.0	183
Dec	6.47	364.1	194.1	53.3	85	70.3	10.2	186

Hybrid System Analysis
PV And Genset Contr

