

Performance of solar home system

Location: 47°29'52" North, 19°2'24" East, Elevation: 150 m a.s.l.,

Nominal power of the PV system: 300 W

Inclination of modules: 35 deg.

Battery size : 12 V, 350 Ah

Discharge cutoff limit (%) 20 %

Consumption per day: 600 Wh

Number of days used for the calculation: 1801

Percentage of days with fully charged battery 46.97%

Average energy not captured due to full battery: 615.38Wh

Percentage of days the battery became fully discharged: 26%

Average energy missing: 351Wh

Month	Ed	Ff	Fe
Jan	271.0	0	85
Feb	453.0	0	59
Mar	643.0	27	10
Apr	600.0	85	0
May	600.0	85	0
Jun	599.0	85	0
Jul	599.0	82	0
Aug	599.0	90	0
Sep	590.0	59	0
Oct	532.0	32	7
Nov	369.0	8	55
Dec	197.0	0	100

Ed: Average energy production per day (Wh/day)

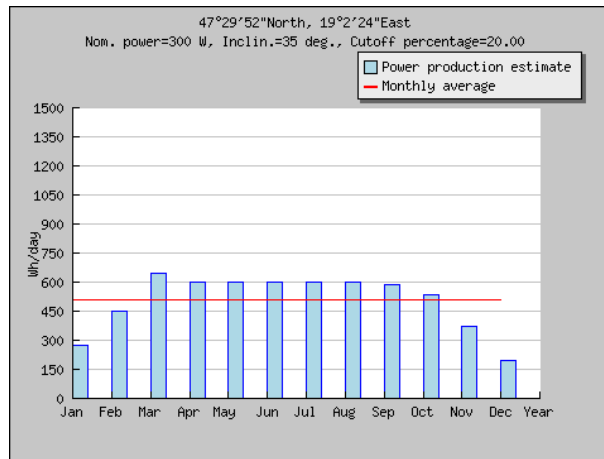
Ff: Percentage of days when battery became full (%)

Fe: Percentage of days when battery became empty (%)

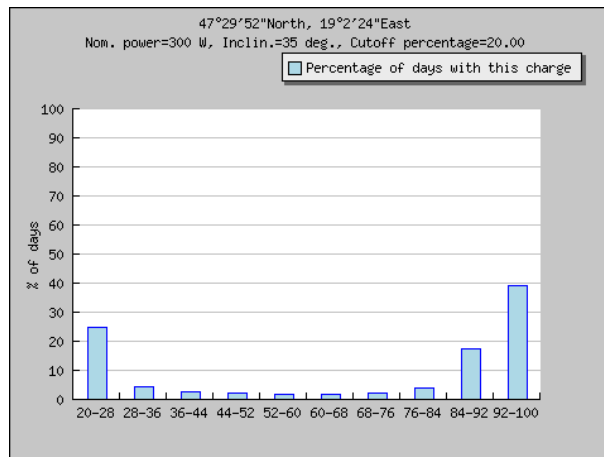
Cs	Cb
20-28	24
28-36	4
36-44	2
44-52	2
52-60	1
60-68	1
68-76	2
76-84	3
84-92	17
92-100	39

Cs: Charge state at end of each hour (%)

Cb: Percentage of days with this charge state (%)



Monthly energy output from SHS system



Probabilities of battery charge state at the end of each hour

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