

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 (%) 50 %

Consumption per day: 1200 Wh

Number of days used for the calculation: 1801

Percentage of days with fully charged battery 9.22%

Average energy not captured due to full battery: 305.03Wh

Percentage of days the battery became fully discharged: 66%

Average energy missing: 656Wh

Month	Ed	Ff	Fe
Jan	271.0	0	99
Feb	454.0	0	99
Mar	753.0	0	87
Apr	1100.0	18	43
May	1080.0	19	34
Jun	1060.0	18	36
Jul	1100.0	29	24
Aug	1150.0	18	20
Sep	916.0	5	56
Oct	676.0	0	91
Nov	387.0	0	99
Dec	197.0	0	100

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

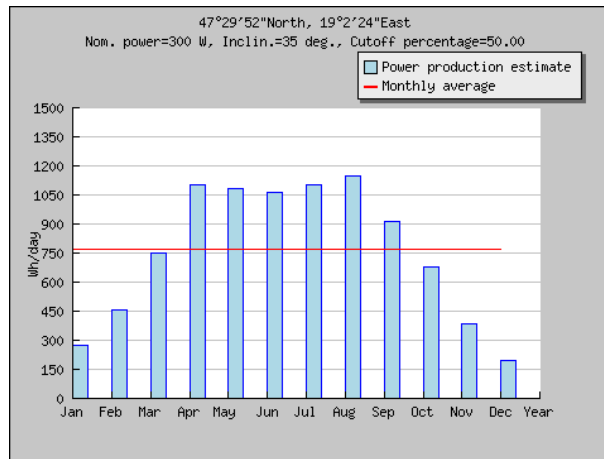
Ff: Percentage of days when battery became full (%)

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

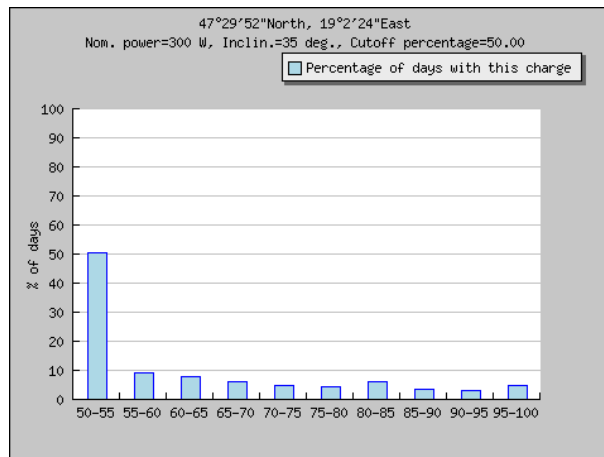
Cs	Cb
50-55	50
55-60	8
60-65	7
65-70	6
70-75	4
75-80	4
80-85	6
85-90	3
90-95	3
95-100	4

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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