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Energy Management Service

Ver. 1

Array Sizing Worksheet

[See Instructions.](#)

Step 1: Enter home's annual Kilowatt Hour (kWh) usage.					11,000	
Annual Kilowatt Hours are calculated on the Utility Bill Audit or other energy audit worksheet. Max. kWh = 15000.						
Step 2: Enter the other variables needed to determine array size.					Grid Offset (Default=50 %)	
Daily Peak Sun Hours	4.65	Worksheet is for arrays mounted level to the roof or ground. Click Resources tab below for help.	Derate Factor	0.77	50	
May be a general value for the region or a measured one based on azimuth/tilt angles and shading.			Percentage accounts for wire losses, soiling, age, etc. A default of 0.77 is provided.		Use Derate Calculator	
Total Array DC Watts Needed	4208		Convert Feet to Inches	Enter Feet:		
Step 3: Determine roughly how many modules will fit in your array space(s).					Inches	0.00
Dimensions (inches)	Array #1	Array #2 (optional)	Array #3 (optional)	Use inches only.	Convert Centimeter to Inches	
Area Length	434.0				Enter cm:	
Area Width	131.0					
Module Length	65.0	Module Width	40.0	Total Array Module Count		
Rows possible	2				Inches	
Quantity per row	10			20	0.00	
Default of 65 & 40 provided for Module Length/Width. (You can change these.) For a landscape orientation, enter Module Length in the Module Width box, and vice versa. If you need more than 1" space between rows, or more than 1" between modules, add the extra space to the module or array dimensions as needed. Arrays of 4+ rows require extra access space for workers.						
Step 4: Calculate the number of modules needed to cover Total Array DC Watts calculated in Step 2, based on a nameplate size.						
Module Watt Size (e.g. 240)	240	Modules Needed	18	Is there enough space?	Yes	
If "Module Count" in Step 3 is not equal to or larger than "Modules Needed" in Step 4, try a different sized module or adding more array area. Also be sure to factor in any shading over your array that may decrease the "Daily Peak Sun Hours" value.						