



MNKID Sizing Tool

PV Module Data

Power	100	Watts
VOC	22.50	Volts
VMP	18.9	Volts
ISC	5.75	Amps
IMP	5.29	Amps
VOC Temp Coef %	0.33	C
VMP Temp Coef %	0.45	Amps

Environmental Data

Coldest Ambient Temperature	-30	C
Hottest Ambient Temperature	40	C
Nominal Battery Volts	24	Volts

PV Array

Number Of Modules In Series	2	
Number Of Parallel Strings	3	
Total Modules	6	
Rated PV Array Power	600	Watts
Anticipated Array Power @ 40 C	560	Watts
Rated PV Array Current	15.87	Amps
Battery Charging Current @ 28.8V	20.8	Amps
VMP (Maximum Power Point Voltage)	37.8	Volts
VOC (Open Circuit Voltage)	45	Volts
VMP @ -30 C	47.2	Volts
VOC @ -30 C	53.2	Volts

Charge Controller

Max Operating Voltage	150
Max Non Operating	162
VOC (HyperVOC) @ 48V Nominal Bat Voltage	
Maximum Number Of Modules In Series Configuration	5
Max Allowable Output Current Per KID Based On This Current	30
Max Allowable Wattage Per KID Based On This Configuration	861
Present PV Array Wattage Of This Configuration	600

Design Check

Max VOC	OK
Temp The MNKID Enters HyperVOC	-68.2 C°
Array Power (Wattage)	OK
Classics Required	0.7

NOTE: MidNite Solar recommends a second controller be added after 1.2
 WARNING: MidNite Solar makes no representation, warranty or assumption of liability
 regarding the use of the String Calculator. This tool uses data provided by other parties
 (such as PV module specs) and makes calculations based on assumptions which may or may not
 prove to be valid.