



MNKID Sizing Tool

PV Module Data		
Power	250	Watts
VOC	37.6	Volts
VMP	30.6	Volts
ISC	8.22	Amps
IMP	6.64	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	12	Volts
PV Array		
Number Of Modules In Series	1	
Number Of Parallel Strings	3	
Total Modules	3	
Rated PV Array Power	750	Watts
Anticipated Array Power @ 40 C	699	Watts
Rated PV Array Current	19.92	Amps
Battery Charging Current @ 14.4V	52.1	Amps
VMP (Maximum Power Point Voltage)	30.6	Volts
VOC (Open Circuit Voltage)	37.6	Volts
VMP @ -30 C	38.2	Volts
VOC @ -30 C	44.4	Volts
Charge Controller		
Max Operating Voltage	150	
Max Non Operating	162	
VOC (HyperVOC) @ 48V Nominal Bat Voltage		
Maximum Number Of Modules In Series	3	
Configuration		
Max Allowable Output	30	
Current Per KID Based On This Current		
Max Allowable Wattage Per KID Based On This Configuration	432	
Present PV Array Wattage Of This Configuration	750	
Design Check		
Max VOC	OK	
Temp The MNKID Enters HyperVOC	-881 CÂ°	
Array Power (Wattage)	EXCESSIVE	
KIDs Required	1.8	

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.