

Bluetti B300K expansion battery			
Battery Capacity	2764.8	Wh	2x = 130
Weight	65.04	lbs	

Bluetti B500K expansion battery			
Battery Capacity	5120.0	Wh	
Weight	99.21	lbs	

Renogy 400W solar suitcase			
Voc (Open-Circuit Voltage)	47.2	Volts	
Vmp (Optimum Operating Voltage)	40.0	Volts	
Isc (Short-Circuit Current)	11.0	Amps	
Imp (Optimum Operating Current)	10.0	Amps	
Pmax (Max Power at STC)	400	Watts	

BougeRV 200W 24V N-Type 16BB BF			
Voc (Open-Circuit Voltage)	36.4	Volts	
Vmp (Optimum Operating Voltage)	31.7	Volts	
Isc (Short-Circuit Current)	6.6	Amps	
<i>Isc (Short-Circuit Current) [2 in parallel]</i>	<i>19.8</i>	<i>Amps</i>	
Imp (Optimum Operating Current)	6.3	Amps	
Pmax (Max Power at STC)	200	Watts	
<i>MAX watts 3 panels: Voc x Isc (or 20A)=</i>	<i>721</i>	<i>Watts</i>	
50.64" x 30.2" x 1.38" & 22.5lbs		\$178 ea	\$534

Renogy 400W Solar Panel Blanket			
Voc (Open-Circuit Voltage)	39.2	Volts	
Vmp (Optimum Operating Voltage)	33.6	Volts	
Isc (Short-Circuit Current)	13.1	Amps	
Imp (Optimum Operating Current)	11.9	Amps	
Pmax (Max Power at STC)	400	Watts	
Size: 17 x 16in folded & 65 x 63in unfolded	16.1	lbs	

Renogy 200W Solar Panel Blanket			
Voc (Open-Circuit Voltage)	19.6	Volts	
Vmp (Optimum Operating Voltage)	16.8	Volts	
Isc (Short-Circuit Current)	13.1	Amps	
Imp (Optimum Operating Current)	11.9	Amps	
Pmax (Max Power at STC)	200	Watts	
Size: 16 x 15in folded & 61 x 32in unfolded	8.9	lbs	

OptiSolex 440W Portable SolarBag			
Voc (Open-Circuit Voltage)	42/21	Volts	
Vmp (Optimum Operating Voltage)	36/18	Volts	
Isc (Short-Circuit Current)	11.8	Amps	
Imp (Optimum Operating Current)	11.1	Amps	
Pmax (Max Power at STC)	440/220	Watts	
Size 440: 21 x 17" folded & 66 x 62" unfolded	17.2/8.6	lbs	

BougeRV 100W N-Type Folding Panel			
Voc (Open-Circuit Voltage)	19.6	Volts	
Vmp (Optimum Operating Voltage)	16.7	Volts	
Isc (Short-Circuit Current)	6.5	Amps	
Imp (Optimum Operating Current)	6.2	Amps	
Pmax (Max Power at STC)	100	Watts	
Size: 9 x 15in folded & 42 x 31in unfolded	4.4	lbs	

BougeRV 300W N-Type 16BB BF			
Voc (Open-Circuit Voltage)	44.2	Volts	
Vmp (Optimum Operating Voltage)	37.6	Volts	
Isc (Short-Circuit Current)	8.9	Amps	
<i>Isc (Short-Circuit Current) [2 in parallel]</i>	<i>17.8</i>	<i>Amps</i>	
Imp (Optimum Operating Current)	8.1	Amps	
Pmax (Max Power at STC)	300	Watts	
<i>MAX watts 2 panels: Voc x Isc (or 20A)=</i>	<i>787</i>	<i>Watts</i>	
61.3" x 37.4" x 1.4" & 32.8lbs		\$390 ea	\$780

Bluetti AC500			
Solar Input:			
Power, Max. (per PV input)	1500	Watts	
Vmp & Voc (Voltage range)	12-150	VDC	
Current, Max.	15.0	Amps	
Power, Max. (both PV inputs)	3000	Watts	

Bluetti AC200MAX			
Solar Input:			
Power, Max. (PV input)	900	Watts	
Vmp & Voc (Voltage range)	10-145	VDC	
Current, Max.	15.2	Amps	
Power, Max. (AC input port)	500	Watts	
Battery Capacity	2048	Wh	
AC inverter rating	2200	Watts	
Battery Voltage	51.2	VDC	
Power, Max. (PV input + D050s)	1400	Watts	
Size: 16.5 x 11 x 15.2in (L,W,H)	61.9	lbs	

Bluetti D050S solar adapter			
Vmp & Voc (Voltage range)	12-60	VDC	
Current, Max.	10.0	Amps	
Power Output, Max.	500	Watts	

Bluetti Elite 200 V2			
Solar Input:			
Power, Max. (PV input)	1000	Watts	
Vmp & Voc (Voltage range)	12-60	VDC	
Current, Max.	20.0	Amps	
Power, Max. (AC input port)	1800	Watts	
Battery Capacity	2073	Wh	
AC inverter rating	2600	Watts	
Battery Voltage	38.4	VDC	
Power, Max. (PV + AC inputs)	2400	Watts	
Size: 13.78 x 9.84 x 12.74in (L,W,H)	53.4	lbs	

Bluetti Elite 30 V2			
Solar Input:			
Power, Max. (PV input)	200	Watts	
Vmp & Voc (Voltage range)	12-28	VDC	
Current, Max.	10.0	Amps	
Power, Max. (AC input port)	380	Watts	
Battery Capacity	288	Wh	
AC inverter rating	600	Watts	
Battery Voltage	16.0	VDC	
Power, Max. (PV + AC inputs)	?	Watts	
Size: 9.8 x 7 x 6.6in (L,W,H)	9.5	lbs	

Bluetti Handsfree 1			
Solar Input:			
Power, Max. (PV input)	200	Watts	
Vmp & Voc (Voltage range)	12-28	VDC	
Current, Max.	8.2	Amps	
Power, Max. (AC input port)	300	Watts	
Battery Capacity	268.8	Wh	
AC inverter rating	300	Watts	
Battery Voltage	22.4	VDC	
Power, Max. (PV + AC inputs)	?	Watts	
Size: 11.3 x 3.7 x 11in (L,W,H)	11.0	lbs	

Bluetti Apex 300			
Solar Input:			
Power, Max. (per PV input)	1200	Watts	
Vmp & Voc (Voltage range)	12-60	VDC	
Current, Max.	20.0	Amps	
Power, Max. (AC input port)	3840	Watts	
Battery Capacity	2765	Wh	
AC inverter rating	3840	Watts	
Battery Voltage	51.2	VDC	
Power, Max. (both PV inputs)	2400	Watts	
Size: 20.67 x 12.87 x 12.6in (L,W,H)	87.3	lbs	

BougeRV panels on AC500 in series, 1 input			
2x Voc	109.2	4x Voc	145.6
3x Vmp	95.1	4x Vmp	126.8
3x Pmax	600	4x Pmax	800
Isc	6.6	Isc	6.6

BougeRV panels on AC200MAX in series, PV input			
2x Voc	72.8	3x Voc	109.2
2x Vmp	63.4	3x Vmp	95.1
2x Pmax	400	3x Pmax	600
Isc	6.6	Isc	6.6
480W & 721W calc. W max			

BougeRV panels on AC200MAX in parallel, PV input			
2x Voc	36.4	3x Voc	36.4
2x Vmp	31.7	3x Vmp	31.7
2x Pmax	400	3x Pmax	600
2x Isc	13.2	3x Isc	19.8
480W & 721W calc. W max			

Renogy 400W suitcase on AC200MAX in series, PV input			
1x Voc	47.2		
1x Vmp	40		
Pmax	400		
Isc	11		
Renogy 400W suitcase + Bluetti D050S, AC input			
1x Voc	47.2		
1x Vmp	40		
1x Pmax	400	519.2 : Voc*Isc=Wmax	
Isc	11	400 : Vmp*Imp=Pmax	
Imp	10		

This setup worked on the camper!			
BougeRV panels on AC200MAX in series, PV input			
3x Voc	109.2		
3x Vmp	95.1		
3x Pmax	600		480W & 721W calc. W max
Isc	6.6		
Renogy 400W suitcase + Bluetti D050S, AC input			
1x Voc	47.2		
1x Vmp	40		
1x Pmax	400	519.2 : Voc*Isc=Wmax	
Isc	11	400 : Vmp*Imp=Pmax	
Imp	10		

Renogy Solar Suitcase on Apex 300			
1x Voc	47		
1x Vmp	40	Voc x Isc = W max:	
1x Pmax	400	519.2	
Isc	11.0		

BougeRV panels on Apex 300 in parallel			
3x Voc	36.4		
3x Vmp	31.7	Voc x Isc = W max:	
3x Pmax	600	720.7	
3x Isc	19.8		

BougeRV panels on Apex 300 in series			
3x Voc	109.2		
3x Vmp	95.1		
3x Pmax	600		
Isc	6.6		

BougeRV panels on Apex 300 in series-parallel			
Parallel 2 sets of 2 panels			
2x Voc	36.4		
2x Vmp	31.7	Voc x Isc = W max:	
2x Pmax	400	480.5	
2x Isc	13.2		
Series the 2 sets of 2 panels			
2x Voc	72.8		
2x Vmp	63.4	Voc x Isc = W max:	
2x Pmax	800	961.0	
2x Isc	13.2		

BougeRV panels on Apex 300 in parallel			
4x Voc	36.4		
4x Vmp	31.7	Voc x Isc = W max:	
4x Pmax	800	961.0	
4x Isc	26.4	Voc x 20A = W max	
4x Imp	25.2	728	

4 panels aren't much better than 3 panels!

Renogy Solar Suitcase on Elite 200 V2			
1x Voc	47		
1x Vmp	40	Voc x Isc = W max:	
1x Pmax	400	519.2	
Isc	11.0		

BougeRV panels on Elite 200 V2 in parallel			
3x Voc	36.4		
3x Vmp	31.7	Voc x Isc = W max:	
3x Pmax	600	720.7	
3x Isc	19.8		

BougeRV panels on Elite 200 V2 in series			
3x Voc	109.2		
3x Vmp	95.1		
3x Pmax	600		
Isc	6.6		

BougeRV panels on Elite 200 in series-parallel			
Parallel 2 sets of 2 panels			
2x Voc	36.4		
2x Vmp	31.7	Voc x Isc = W max:	
2x Pmax	400	480.5	
2x Isc	13.2		
Series the 2 sets of 2 panels			
2x Voc	72.8		
2x Vmp	63.4	Voc x Isc = W max:	
2x Pmax	800	961.0	
2x Isc	13.2		

OptiSolex 440W Portable SolarBag on Elite 200 V2			
1x Voc	42		
1x Vmp	36	Voc x Isc = W max:	
1x Pmax	440	495.6	
Isc	11.8		

Renogy Solar Suitcase on Elite 30 V2			
1x Voc	47.2		
1x Vmp	40		
1x Pmax	400		
Isc	11.0		

BougeRV panel on Elite 30 V2 (single)			
1x Voc	36.4		
1x Vmp	31.7		
1x Pmax	200		
Isc	6.6		

Renogy 200W Solar Panel Blanket on Elite 30 V2			
1x Voc	19.6		
1x Vmp	16.8		
1x Pmax	200	Voc of panel x Isc of PS = W max:	
Isc	13.1	196	

OptiSolex 220W Portable SolarBag on Elite 30 V2			
1x Voc	21		
1x Vmp	18		
1x Pmax	220	Voc of panel x Isc of PS = W max:	
Isc	11.8	210	

BougeRV 100W Folding Panel on Elite 30 V2			
1x Voc	19.6		
1x Vmp	16.7		
1x Pmax	100		
Isc	6.5		

Renogy Solar Suitcase on Handsfree 1			
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**** Updated Dec. 2. 2025 ****

Battery Amp-Hour (Ah) rating = Wh / VDC

BougeRV 300W 12BB Mono BF

Voc (Open-Circuit Voltage)	40.7	Volts
Vmp (Optimum Operating Voltage)	34.8	Volts
Isc (Short-Circuit Current)	9.6	Amps
<i>Isc (Short-Circuit Current) [2 in parallel]</i>	19.3	Amps
Imp (Optimum Operating Current)	8.6	Amps
Pmax (Max Power at STC)	300	Watts
MAX watts 2 panels: Voc x Isc (or 20A)=	785	Watts
64.57" x 34.65" x 1.38" & 35.3lbs	\$300 ea	

600W

2x = \$600

Renogy 320W N-Type 18BB

Voc (Open-Circuit Voltage)	43.8	Volts
Vmp (Optimum Operating Voltage)	37.9	Volts
Isc (Short-Circuit Current)	8.9	Amps
<i>Isc (Short-Circuit Current) [2 in parallel]</i>	17.8	Amps
Imp (Optimum Operating Current)	8.5	Amps
Pmax (Max Power at STC)	320	Watts
MAX watts 2 panels: Voc x Isc (or 20A)=	782	Watts
64.6" x 34.7" x 1.44" & 32.9lbs	\$315 ea	

620W

2x = \$630

BougeRV 400W 10BB Mono BF

Voc (Open-Circuit Voltage)	37.1	Volts
Vmp (Optimum Operating Voltage)	31.0	Volts
Isc (Short-Circuit Current)	13.8	Amps
<i>Isc (Short-Circuit Current) [2 in parallel]</i>	27.6	Amps
Imp (Optimum Operating Current)	12.9	Amps
Pmax (Max Power at STC)	400	Watts
MAX watts 2 panels: Voc x Isc (or 20A)=	742	Watts
67.9" x 44.6" x 1.4" & 45.2lbs	\$390 ea	

800W

2x = \$780

Canadian 445W N-Type

Voc (Open-Circuit Voltage)	35.6	Volts
Vmp (Optimum Operating Voltage)	30.4	Volts
Isc (Short-Circuit Current)	16.0	Amps
<i>Isc (Short-Circuit Current) [2 in parallel]</i>	31.9	Amps
Imp (Optimum Operating Current)	14.6	Amps
Pmax (Max Power at STC)	445	Watts
MAX watts 2 panels: Voc x Isc (or 20A)=	712	Watts
67.8 x 44.7 x 1.2" & 54.5lbs	\$200 ea	

890W

2x = \$400

Renogy 590W N-Type 16BB BF

Voc (Open-Circuit Voltage)	52.6	Volts
Vmp (Optimum Operating Voltage)	43.7	Volts
Isc (Short-Circuit Current)	14.1	Amps
<i>Isc (Short-Circuit Current) [2 in parallel]</i>	28.3	Amps
Imp (Optimum Operating Current)	13.5	Amps
Pmax (Max Power at STC)	590	Watts
MAX watts 2 panels: Voc x Isc (or 20A)=	1053	Watts
89.7" x 44.6" x 1.4" & 58.4lbs	\$600 ea	

1180W

2x = \$1,200

Talesun 450W N-Type BF

Voc (Open-Circuit Voltage)	39.6	Volts
Vmp (Optimum Operating Voltage)	33.2	Volts
Isc (Short-Circuit Current)	13.9	Amps
<i>Isc (Short-Circuit Current) [2 in parallel]</i>	27.7	Amps
Imp (Optimum Operating Current)	13.6	Amps
Pmax (Max Power at STC)	450	Watts
MAX watts 2 panels: Voc x Isc (or 20A)=	792	Watts
67.8 x 44.7 x 1.2" & 54.5lbs	\$195 ea	

900W

2x = \$390

Heliene 370W

Voc (Open-Circuit Voltage)	48.7	Volts
Vmp (Optimum Operating Voltage)	40.2	Volts
Isc (Short-Circuit Current)	9.8	Amps
<i>Isc (Short-Circuit Current) [2 in parallel]</i>	19.5	Amps
Imp (Optimum Operating Current)	9.3	Amps
Pmax (Max Power at STC)	370	Watts
MAX watts 2 panels: Voc x Isc (or 20A)=	951	Watts
77" x 39" x 1.6" & 52.4lbs	\$150 ea	

740W

2x = \$300

Ureco 430W N-Type BF

Voc (Open-Circuit Voltage)	38.8	Volts
Vmp (Optimum Operating Voltage)	32.9	Volts
Isc (Short-Circuit Current)	13.8	Amps
<i>Isc (Short-Circuit Current) [2 in parallel]</i>	27.5	Amps
Imp (Optimum Operating Current)	13.1	Amps
Pmax (Max Power at STC)	430	Watts
MAX watts 2 panels: Voc x Isc (or 20A)=	776	Watts
67.8 x 44.7 x 1.2" & 54.5lbs	\$172 ea	

860W

2x = \$344

NESE 370W PERC 9BB

Voc (Open-Circuit Voltage)	41.0	Volts
Vmp (Optimum Operating Voltage)	34.2	Volts
Isc (Short-Circuit Current)	11.4	Amps
<i>Isc (Short-Circuit Current) [2 in parallel]</i>	22.8	Amps
Imp (Optimum Operating Current)	10.8	Amps
Pmax (Max Power at STC)	370	Watts
MAX watts 2 panels: Voc x Isc (or 20A)=	820	Watts
69" x 41" x 1.6" & 45.2lbs	\$125 ea	

740W

2x = \$250

Axitec 440W N-type BF

Voc (Open-Circuit Voltage)	39.8	Volts
Vmp (Optimum Operating Voltage)	32.2	Volts
Isc (Short-Circuit Current)	14.3	Amps
<i>Isc (Short-Circuit Current) [2 in parallel]</i>	28.7	Amps
Imp (Optimum Operating Current)	13.7	Amps
Pmax (Max Power at STC)	440	Watts
MAX watts 2 panels: Voc x Isc (or 20A)=	797	Watts
70.87 x 44.65 x 1.18" & 55.8lbs	\$176 ea	

880W

2x = \$352

Runergy Hyperion 400W PERC BF

Voc (Open-Circuit Voltage)	37.1	Volts
Vmp (Optimum Operating Voltage)	31.0	Volts
Isc (Short-Circuit Current)	13.8	Amps
<i>Isc (Short-Circuit Current) [2 in parallel]</i>	27.6	Amps
Imp (Optimum Operating Current)	12.9	Amps
Pmax (Max Power at STC)	400	Watts
MAX watts 2 panels: Voc x Isc (or 20A)=	741	Watts
67.8" x 44.6" x 1.2" & 53.4lbs	\$163 ea	

800W

2x = \$326

???

Voc (Open-Circuit Voltage)		Volts
Vmp (Optimum Operating Voltage)		Volts
Isc (Short-Circuit Current)		Amps
<i>Isc (Short-Circuit Current) [2 in parallel]</i>	0.0	Amps
Imp (Optimum Operating Current)		Amps
Pmax (Max Power at STC)		Watts
MAX watts 2 panels: Voc x Isc (or 20A)=	0	Watts
67.8" x 44.6" x 1.2" & 53.4lbs	ea	

800W

2x = \$0

ZoupeW 450W solar suitcase

Voc (Open-Circuit Voltage)	45.9	Volts
Vmp (Optimum Operating Voltage)	38.3	Volts
Isc (Short-Circuit Current)	12.4	Amps
Imp (Optimum Operating Current)	11.7	Amps
Pmax (Max Power at STC)	450	Watts

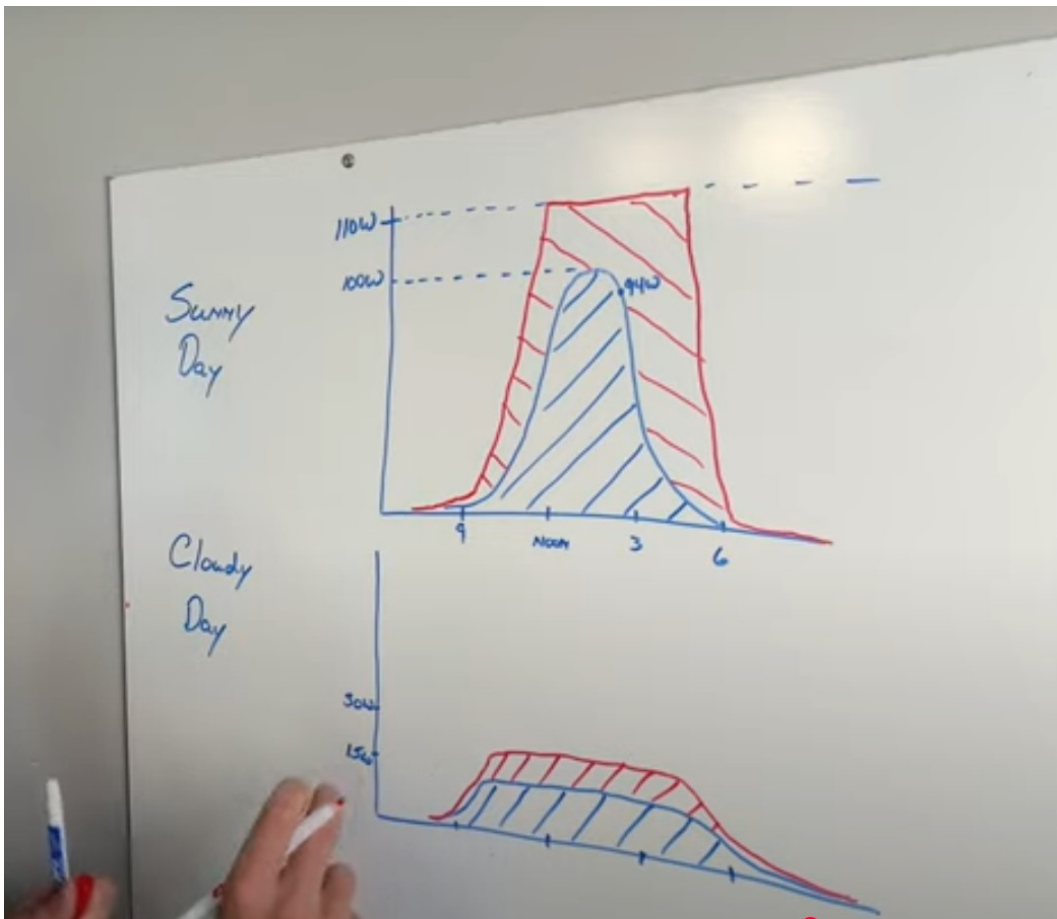


Image from: "How To Double Solar Charge Capability On Any Power Station" by Everyday Solar
https://youtu.be/_HgON2TFAal?si=kuh7EVJJAQ2iILCCU

1x Voc	47.2
1x Vmp	40
1x Pmax	400
Isc	11.0

BougeRV panel on Handsfree 1 (single)

1x Voc	36.4
1x Vmp	31.7
1x Pmax	200
Isc	6.6

Renogy 200W Solar Panel Blanket on Handsfree 1

1x Voc	19.6
1x Vmp	16.8
1x Pmax	200
Isc	13.1

Voc of panel x Isc of PS = W max: 166.6

OptiSolex 220W Portable SolarBag on Handsfree 1

1x Voc	21
1x Vmp	18
1x Pmax	220
Isc	11.8

Voc of panel x Isc of PS = W max: 178.5

BougeRV 100W Folding Panel on Handsfree 1

1x Voc	19.6
1x Vmp	16.7
1x Pmax	100
Isc	6.5