Load Calculator

Complete your calculations and determine your daily loads in three easy steps:

For the most complete picture, complete this form both for days when you are anchored and separately for days when you are sailing.

Step 1: Calculate your AC loads.

Step 2: Calculate your DC loads.

Step 3: Note your total loads from the bottom of the sheet. Repeat steps 1&2 for auxilliary bank.

Step 1: Calculate your AC loads.

1.1 If there are no AC loads, skip to **Step 2**.

1.2 Enter your battery voltage (e.g. 12,24,48) — 12

1.3 Add correction factor for inverter inefficiency (typically 15%) — 15.00%

1.4 List your AC devices below. For each one, list the quantity, volts, amps, and average hrs/day of use. If you have information on watts but not amps, use the Amps Calculator at right to convert to amps.

Description of AC Loads run by an inverter	Qty	Volts (110/220)	Amps	Watts	Hrs/Day of Use	Watt Hrs/Day
Microwave	1	110	9.583	1054.13	0.1	105.41
Television	1	110	0.6	66	1.5	99.00
Electric Kettle	1	110	12.5	1375	0.5	687.50
Ice Maker	1	110	1	110	6	660.00
Induction Cooktop	1	110	12	1320	1.5	1,980.00
Coffee Maker	1	110	7.3	803	1	803.00
Water Heater	1	110	14	1540	2	3,080.00
Convection Oven	1	110	13.6	1496	1	1,496.00
Laptop	1	110	0.7	77	3	231.00
Laundry Machine	1	110	6	660	1	660.00
				0		0.00
				0		0.00
				0		0.00
				0		0.00
				0		0.00
				0		0.00
				0		0.00
				0		0.00
				0		0.00
				0		0.00
				0		0.00
				0		0.00
				0		0.00

mps Calculator

If your device is listed in watts, convert to amps and then enter in yellow **Amps** column at left

Watts	Volts (110/220)	Amps
460	110	4.182

Results for AC loads

Total Watt Hrs/Day for listed AC loads	9,801.91
Corrected Watt Hrs/Day for AC loads	11,272.20
Corrected Amp Hrs/day for AC loads	939.35

Step 2: Calculate your DC loads

2A.1 Battery voltage entered above. — 12

2A.2 Add correction factor for battery charge/discharge loss (typically 15%) — 15.00%

2A.3 List your DC devices running off the house battery. For each one, list the quantity, volts, amps, and average hrs/day of use. If you have information on watts but not amps, use the **Amps Calculator** at right to convert to amps.

Description of DC loads run from house battery	Qty		Amps	Watts	Hrs/Day of Use	Watt Hrs/Day
Cabin Fan (stateroom)	1		0.41	4.92	8	39.36
Cabin Fan (main cabin)	2		0.41	9.84	16	157.44
Cabin Lights (LED)	7		1	84	6	504.00
Cockpit Lights (LED)	2		0.75	18	2	36.00

mps Calculator

If your device is listed in watts, convert to amps and then enter in yellow **Amps** column at left

Watts	Volts (110/220)	Amps
80	12	6.667

Companionway Courtesy Light (LED)	1		0.5	6	6	36.00
Refrigerator	1		5	60	12	720.00
Freezer	1		6.6	79.2	8	633.60
Stereo	1		2.5	30	4	120.00
USB Charging hub/Phone Charging station	2		3.4	81.6	3	244.80
12v Power Supply ("cigarette lighter")	1		10	120	1	120.00
Running Lights	1		4	48	0.3	14.40
Bilge Pump	2		10	240	0.4	96.00
Windlass	1		200	2400	0.2	480.00
Radar	1		5	60	8	480.00
Chartplotter	1		2	24	24	576.00
Sonar	1		0.5	6	8	48.00
AIS and transmitter	1		2	24	12	288.00
Anchor Light	1		2.5	30	12	360.00
VHF Transmit	1		5	60	0.2	12.00
VHF Receive	1		0.5	6	12	72.00

Results for DC loads Battery Bank 1: House

Total Watt Hrs/Day for listed DC loads	5,037.60
Corrected Watt Hrs/Day for DC loads	5,793.24
Corrected Amp Hrs/day for DC loads	482.77

Total for AC + DC loads

Corrected Watt Hrs/Day for AC and DC loads	17,065.44
Corrected Amp Hrs/day for AC and DC loads	1,422.12