

# How to calculate the right size wire

## Step 1:

Determine the current rating (i.e. amps) for every appliance you expect to use in your campervan. Some appliances will state their rating as watts rather than amps. For 12 volt components like your fridge, campervan lights and USB phone charger for example the calculation is: Amps = Watts / 12 volts (if running a 24 volt system then divide it by 24.)

## Step 2:

Determine the length of the longest circuit you plan to install. To do this, measure the total distance you'll lay your cable from the battery to the appliance and back to the battery again.

## Step 3:

For a quick estimate to determine the exact minimum wire gauge needed, use the table below. Choose the maximum cable length on the left based on your measurements in step 2 above, and the amps based on the highest number calculated in step 1 above.

max length		Current load in Amps										
		5A	10A	15A	20A	25A	30A	40A	50A	100A	120A	200A
3ft	AWG	16	16	16	14	12	10	8	8	2	0	410
1m	METRIC mm <sup>2</sup>	1.5	1.5	1.5	2.5	4	6	10	10	35	50	120
6ft	AWG	16	16	14	14	12	10	8	8	2	0	410
2m	METRIC mm <sup>2</sup>	1.5	1.5	2.5	2.5	4	6	10	10	35	50	120
10ft	AWG	16	14	12	12	10	10	8	8	2	0	410
3m	METRIC mm <sup>2</sup>	1.5	2.5	4	4	6	6	10	10	35	50	120
15ft	AWG	16	12	10	10	8	8	6	6	2	0	410
4m	METRIC mm <sup>2</sup>	1.5	2.5	4	6	6	10	10	16	35	50	120
20ft	AWG	14	12	10	8	8	6	6	4	2	0	410
6m	METRIC mm <sup>2</sup>	2.5	4	6	10	10	16	16	25	35	50	120
25ft	AWG	14	10	8	8	6	6	4	4	0	0	410
7m	METRIC mm <sup>2</sup>	2.5	6	6	10	16	16	25	25	50	50	120
30ft	AWG	12	10	8	6	6	4	4	2	0	210	410
9m	METRIC mm <sup>2</sup>	4	6	10	16	16	25	25	35	50	50	120