

Wire Sizing Table for AWG (American Wire Gauge) and Equivalent Metric Sizes

This table will help to determine the appropriate wire size for charging circuits in your PV power system in AWG or the equivalent metric size. The table shows the maximum one way wire distance the conductor will pass current. Cross-reference by wire gauge (AWG or MM2) and current (Amps) to find length in feet (blue column) or meters (orange column). For example, 2 Amps with #12 wire will run a maximum distance of 303.03 feet. And the equivalent wire gauge area (MM2), 3.31, for the same 2 Amps will run a maximum 92.36 meters.

Amps	AWG	MM2	AWG	MM2	AWG	MM2	AWG	MM2
	#14	2.08	#12	3.31	#10	5.26	#8	8.36
1	382.17	116.49	606.06	184.73	967.74	294.97	1542.42	470.13
2	191.08	58.24	303.03	92.36	483.87	147.48	771.21	235.06
4	95.54	29.12	151.52	46.18	241.94	73.74	385.60	117.53
6	63.69	19.41	101.01	30.79	161.29	49.16	257.07	78.35
8	47.77	14.56	75.76	23.09	120.97	36.87	192.80	58.77
10	38.22	11.65	60.61	18.47	96.77	29.50	154.24	47.01
12	31.85	9.71	50.51	15.40	80.65	24.58	128.53	39.18
14	27.30	8.32	43.29	13.19	69.12	21.07	110.17	33.58
16	23.89	7.28	37.88	11.55	60.48	18.43	96.40	29.38
18	21.23	6.47	33.67	10.26	53.76	16.39	85.69	26.12
20	19.11	5.82	30.30	9.24	48.39	14.75	77.12	23.51
25	15.29	4.66	24.24	7.39	38.71	11.80	61.70	18.81
30	12.74	3.88	20.20	6.16	32.26	9.83	51.41	15.67
35	10.92	3.33	17.32	5.28	27.65	8.43	44.07	13.43
40	9.55	2.91	15.15	4.62	24.19	7.37	38.56	11.75
45	8.49	2.59	13.47	4.11	21.51	6.56	34.28	10.45
50	7.64	2.33	12.12	3.69	19.35	5.90	30.85	9.40
55	6.95	2.12	11.02	3.36	17.60	5.36	28.04	8.55
60	6.37	1.94	10.10	3.08	16.13	4.92	25.71	7.84
65	5.88	1.79	9.32	2.84	14.89	4.54	23.73	7.23
70	5.46	1.66	8.66	2.64	13.82	4.21	22.03	6.71
75	5.10	1.55	8.08	2.46	12.90	3.93	20.57	6.27
80	4.78	1.46	7.58	2.31	12.10	3.69	19.28	5.88
85	4.50	1.37	7.13	2.17	11.39	3.47	18.15	5.53
90	4.25	1.30	6.73	2.05	10.75	3.28	17.14	5.22
95	4.02	1.23	6.38	1.94	10.19	3.11	16.24	4.95
100	3.82	1.16	6.06	1.85	9.68	2.95	15.42	4.70
125	3.06	0.93	4.85	1.48	7.74	2.36	12.34	3.76
150	2.55	0.78	4.04	1.23	6.45	1.97	10.28	3.13
175	2.18	0.66	3.46	1.05	5.53	1.69	8.81	2.69
200	1.91	0.58	3.03	0.92	4.84	1.48	7.71	2.35
225	1.70	0.52	2.69	0.82	4.30	1.31	6.86	2.09
250	1.53	0.47	2.42	0.74	3.87	1.18	6.17	1.88
275	1.39	0.42	2.20	0.67	3.52	1.07	5.61	1.71
300	1.27	0.39	2.02	0.62	3.23	0.98	5.14	1.57
400	0.96	0.29	1.52	0.46	2.42	0.74	3.86	1.18

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Amps	AWG	MM2	AWG	MM2	AWG	MM2	AWG	MM2
	#6	13.3	#4	21.1	#3	26.7	#2	33.6
1	2443.99	744.93	3896.10	1187.53	4897.96	1492.90	6185.57	1885.36
2	1222.00	372.47	1948.05	593.77	2448.98	746.45	3092.78	942.68
4	611.00	186.23	974.03	296.88	1224.49	373.22	1546.39	471.34
6	407.33	124.15	649.35	197.92	816.33	248.82	1030.93	314.23
8	305.50	93.12	487.01	148.44	612.24	186.61	773.20	235.67
10	244.40	74.49	389.61	118.75	489.80	149.29	618.56	188.54
12	203.67	62.08	324.68	98.96	408.16	124.41	515.46	157.11
14	174.57	53.21	278.29	84.82	349.85	106.63	441.83	134.67
16	152.75	46.56	243.51	74.22	306.12	93.31	386.60	117.84
18	135.78	41.39	216.45	65.97	272.11	82.94	343.64	104.74
20	122.20	37.25	194.81	59.38	244.90	74.65	309.28	94.27
25	97.76	29.80	155.84	47.50	195.92	59.72	247.42	75.41
30	81.47	24.83	129.87	39.58	163.27	49.76	206.19	62.85
35	69.83	21.28	111.32	33.93	139.94	42.65	176.73	53.87
40	61.10	18.62	97.40	29.69	122.45	37.32	154.64	47.13
45	54.31	16.55	86.58	26.39	108.84	33.17	137.46	41.90
50	48.88	14.90	77.92	23.75	97.96	29.86	123.71	37.71
55	44.44	13.55	70.84	21.59	89.05	27.14	112.46	34.28
60	40.73	12.41	64.94	19.79	81.63	24.88	103.09	31.42
65	37.60	11.46	59.94	18.27	75.35	22.97	95.16	29.00
70	34.91	10.64	55.66	16.97	69.97	21.33	88.37	26.94
75	32.59	9.93	51.95	15.83	65.31	19.91	82.47	25.14
80	30.55	9.31	48.70	14.84	61.22	18.66	77.32	23.57
85	28.75	8.76	45.84	13.97	57.62	17.56	72.77	22.18
90	27.16	8.28	43.29	13.19	54.42	16.59	68.73	20.95
95	25.73	7.84	41.01	12.50	51.56	15.72	65.11	19.85
100	24.44	7.45	38.96	11.88	48.98	14.93	61.86	18.85
125	19.55	5.96	31.17	9.50	39.18	11.94	49.48	15.08
150	16.29	4.97	25.97	7.92	32.65	9.95	41.24	12.57
175	13.97	4.26	22.26	6.78	27.99	8.53	35.35	10.77
200	12.22	3.72	19.48	5.94	24.49	7.46	30.93	9.43
225	10.86	3.31	17.32	5.28	21.77	6.64	27.49	8.38
250	9.78	2.98	15.58	4.75	19.59	5.97	24.74	7.54
275	8.89	2.71	14.17	4.32	17.81	5.43	22.49	6.85
300	8.15	2.48	12.99	3.96	16.33	4.98	20.62	6.28
400	6.11	1.86	9.74	2.97	12.24	3.73	15.46	4.71

Wire Sizing Table for AWG (American Wire Gauge) and Equivalent Metric Sizes

Amps	AWG	MM2	AWG	MM2	AWG	MM2	AWG	MM2
	#1	42.4	#1/0	53.5	#2/0	67.4	#3/0	85
1	7792.21	2375.07	9836.07	2998.03	12409.51	3782.42	15665.80	4774.94
2	3896.10	1187.53	4918.03	1499.02	6204.76	1891.21	7832.90	2387.47
4	1948.05	593.77	2459.02	749.51	3102.38	945.61	3916.45	1193.73
6	1298.70	395.84	1639.34	499.67	2068.25	630.40	2610.97	795.82
8	974.03	296.88	1229.51	374.75	1551.19	472.80	1958.22	596.87
10	779.22	237.51	983.61	299.80	1240.95	378.24	1566.58	477.49
12	649.35	197.92	819.67	249.84	1034.13	315.20	1305.48	397.91
14	556.59	169.65	702.58	214.15	886.39	270.17	1118.99	341.07
16	487.01	148.44	614.75	187.38	775.59	236.40	979.11	298.43
18	432.90	131.95	546.45	166.56	689.42	210.14	870.32	265.27
20	389.61	118.75	491.80	149.90	620.48	189.12	783.29	238.75
25	311.69	95.00	393.44	119.92	496.38	151.30	626.63	191.00
30	259.74	79.17	327.87	99.93	413.65	126.08	522.19	159.16
35	222.63	67.86	281.03	85.66	354.56	108.07	447.59	136.43
40	194.81	59.38	245.90	74.95	310.24	94.56	391.64	119.37
45	173.16	52.78	218.58	66.62	275.77	84.05	348.13	106.11
50	155.84	47.50	196.72	59.96	248.19	75.65	313.32	95.50
55	141.68	43.18	178.84	54.51	225.63	68.77	284.83	86.82
60	129.87	39.58	163.93	49.97	206.83	63.04	261.10	79.58
65	119.88	36.54	151.32	46.12	190.92	58.19	241.01	73.46
70	111.32	33.93	140.52	42.83	177.28	54.03	223.80	68.21
75	103.90	31.67	131.15	39.97	165.46	50.43	208.88	63.67
80	97.40	29.69	122.95	37.48	155.12	47.28	195.82	59.69
85	91.67	27.94	115.72	35.27	145.99	44.50	184.30	56.17
90	86.58	26.39	109.29	33.31	137.88	42.03	174.06	53.05
95	82.02	25.00	103.54	31.56	130.63	39.82	164.90	50.26
100	77.92	23.75	98.36	29.98	124.10	37.83	156.66	47.75
125	62.34	19.00	78.69	23.98	99.28	30.26	125.33	38.20
150	51.95	15.83	65.57	19.99	82.73	25.22	104.44	31.83
175	44.53	13.57	56.21	17.13	70.91	21.61	89.52	27.29
200	38.96	11.88	49.18	14.99	62.05	18.91	78.33	23.87
225	34.63	10.56	43.72	13.33	55.15	16.81	69.63	21.22
250	31.17	9.50	39.34	11.99	49.64	15.13	62.66	19.10
275	28.34	8.64	35.77	10.90	45.13	13.76	56.97	17.36
300	25.97	7.92	32.79	9.99	41.37	12.61	52.22	15.92
400	19.48	5.94	24.59	7.50	31.02	9.45	39.16	11.94

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Amps	AWG	MM2
	#4/0	107
1	19736.84	6015.79
2	9868.42	3007.89
4	4934.21	1503.95
6	3289.47	1002.63
8	2467.11	751.98
10	1973.68	601.58
12	1644.74	501.32
14	1409.77	429.70
16	1233.55	375.99
18	1096.49	334.21
20	986.84	300.79
25	789.47	240.63
30	657.89	200.52
35	563.91	171.88
40	493.42	150.39
45	438.60	133.69
50	394.74	120.32
55	358.85	109.38
60	328.95	100.26
65	303.64	92.55
70	281.95	85.94
75	263.16	80.21
80	246.71	75.20
85	232.20	70.77
90	219.30	66.84
95	207.76	63.33
100	197.37	60.16
125	157.89	48.12
150	131.58	40.11
175	112.78	34.38
200	98.68	30.08
225	87.72	26.74
250	78.95	24.06
275	71.77	21.88
300	65.79	20.05
400	49.34	15.04