

### COPPER WIRE RESISTANCE

Gauge A.W.G.*	Feet per Ohm @ 77°F	Ohms per 1000 ft @ 77°F	Feet per Ohm @ 149°F	Ohms per 1000 ft @ 149°F
0000	20000	0.050	17544	0.057
000	15873	0.063	13689	0.073
00	12658	0.079	10870	0.082
0	10000	0.100	8621	0.116
1	7936	0.128	6849	0.146
2	6289	0.159	5435	0.184
3	4975	0.201	4310	0.232
4	3953	0.253	3425	0.282
5	3135	0.319	2710	0.369
6	2481	0.403	2151	0.465
7	1988	0.508	1706	0.586
8	1560	0.641	1353	0.739
9	1238	0.808	1073	0.932
10	980.4	1.02	847.5	1.18
11	781.3	1.28	675.7	1.48
12	617.3	1.62	534.8	1.87
13	490.2	2.04	423.7	2.36
14	387.6	2.58	336.7	2.97
15	307.7	3.25	266.7	3.75
16	244.5	4.09	211.4	4.73
17	193.8	5.16	167.8	5.96
18	153.6	6.51	133.2	7.51
19	121.8	8.21	105.5	9.48
20	96.2	10.4	84.0	11.9
21	76.3	13.1	66.2	15.1
22	60.6	16.5	52.6	19.0
23	48.1	20.8	41.7	24.0
24	38.2	26.2	33.1	30.2
25	30.3	33.0	26.2	38.1
26	24.0	41.6	20.8	48.0
27	19.0	52.5	16.5	60.8
28	15.1	66.2	13.1	76.4
29	12.0	83.4	10.4	96.3
30	9.5	105	8.3	121
31	7.5	133	6.5	153
32	6.0	167	5.2	183
33	4.7	211	4.1	243
34	3.8	266	3.3	307
35	3.0	335	2.6	387
36	2.4	423	2.0	488
37	1.9	533	1.6	618
38	1.5	673	1.3	776
39	1.2	848	1.0	979
40	0.93	1070	0.81	1230

### WIRE SIZE VS VOLTAGE DROP

Max Wire Feet @ 120 Volts, 1 Phase, 2% Max Voltage Drop

Amps	Volt-Amps	#14	#12	#10	#8	#6
1	120	460	700	1100	1800	2800
5	600	90	140	220	360	575
10	1200	45	70	110	180	285
15	1800	30	47	75	120	190
20	2400	23	36	57	90	140
25	3000	18	28	46	72	115
30	3600	14	21	38	60	95
40	4800	10	16	28	45	72
50	6000	8	12	21	35	57

Max Wire Feet @ 240 Volts, 1 Phase, 2% Max Voltage Drop

Amps	Volt-Amps	#14	#12	#10	#8	#6
1	240	900	1400	2200	3600	5600
5	1200	180	285	455	720	1020
10	2400	90	140	225	360	525
15	3600	60	95	150	240	350
20	4800	45	70	110	180	265
25	6000	36	53	85	144	210
30	7200	30	44	70	120	175
40	9600	23	33	53	90	130
50	12000	18	26	41	70	105

Amps	Volt-Amps	#4	#2	1/0	2/0	3/0
1	240	9000	2800	4500	7000	10000
5	1200	1750	560	850	1300	1800
10	2400	875	280	425	650	900
15	3600	600	195	300	450	630
20	4800	450	145	225	330	470
25	6000	360	110	180	260	370
30	7200	300	90	150	210	300
40	9600	230	68	115	160	230
50	12000	180	53	90	120	180
100	24000	90	26	45	60	90
150	36000	60	19	33	45	63
200	48000	45	14	25	33	47