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### AWG - American Wire Gauge

See our other [Electronics Calculators](#).

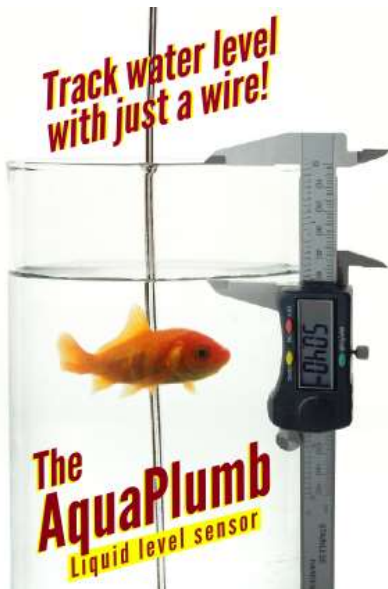
The AWG is a logarithmic scale, so given an know resistance or diameter for a certain gauge, you can quickly figure out the resistance and diameter of another gauge number, by addition and subtraction.

**Resistance:**

1. AWG 15 is 10 mohm/m.
2. Adding 3 doubles the resistance, and subtracting 3 halves it.
3. Adding 10 multiplies the resistance by 10, and subtracting 10 it divides by 10.

**Diameter:**

1. AWG 18 has a solid diameter of about 1mm
2. Adding 6 halves the diameter, Subtracting 6 doubles the diameter
3. Adding 20 divides the diameter by 10, and subtracting 20 multiplies the diameter by 10.



AWG Chart				
AWG Number	⌀ [Inch] for Solid Rod	⌀ [mm] for Solid Rod	⌀ [mm] ⌀ for Solid Rod	Resistance [Ohm/m] Copper (20 ⌀ C,68 ⌀ F)
4/0 = 0000	0.460	11.7	107	0.000161
3/0 = 000	0.410	10.4	85.0	0.000203
2/0 = 00	0.365	9.26	67.4	0.000256
1/0 = 0	0.325	8.25	53.5	0.000323
1	0.289	7.35	42.4	0.000407
2	0.258	6.54	33.6	0.000513
3	0.229	5.83	26.7	0.000647
4	0.204	5.19	21.1	0.000815
5	0.182	4.62	16.8	0.00103
6	0.162	4.11	13.3	0.00130
7	0.144	3.66	10.5	0.00163
8	0.128	3.26	8.36	0.00206
9	0.114	2.91	6.63	0.00260
10	0.102	2.59	5.26	0.00328
11	0.0907	2.30	4.17	0.00413
12	0.0808	2.05	3.31	0.00521
13	0.0720	1.83	2.62	0.00657
14	0.0641	1.63	2.08	0.00829
15	0.0571	1.45	1.65	0.0104
16	0.0508	1.29	1.31	0.0132
17	0.0453	1.15	1.04	0.0166
18	0.0403	1.02	0.823	0.0210
19	0.0359	0.912	0.653	0.0264
20	0.0320	0.812	0.518	0.0333
21	0.0285	0.723	0.410	0.0420
22	0.0253	0.644	0.326	0.0530
23	0.0226	0.573	0.258	0.0668
24	0.0201	0.511	0.205	0.0842
25	0.0179	0.455	0.162	0.106
26	0.0159	0.405	0.129	0.134
27	0.0142	0.361	0.102	0.169
28	0.0126	0.321	0.0810	0.213
29	0.0113	0.286	0.0642	0.268

AWG American Wire Gauge Diameter and Resistance

30	0.0100	0.255	0.0509	0.339
31	0.00893	0.227	0.0404	0.427
32	0.00795	0.202	0.0320	0.538
33	0.00708	0.180	0.0254	0.679
34	0.00631	0.160	0.0201	0.856
35	0.00562	0.143	0.0160	1.08
36	0.00500	0.127	0.0127	1.36
37	0.00445	0.113	0.0100	1.72
38	0.00397	0.101	0.00797	2.16
39	0.00353	0.0897	0.00632	2.73
40	0.00314	0.0799	0.00501	3.44

### Manufacturer Links

The best way to find electronic parts is to use our free [Electronics Component Directory](#), where a myriad of electronics manufactures are listed.

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