

Wire Gauge Calculation

To choose an adequate wire gauge, determine the amp draw (amperage) that the wire circuit will carry. Then measure the distance that the wire will travel (length) including the length of the return to ground (the ground wire running to the chassis or back to a ground block or battery). Using these two numbers, Amps and length, locate the nearest gauge value in chart below. For 6 volt automotive systems typically a wire gauge 2 sizes larger than what is shown should be used.

Amps @ 12 Volts	LENGTH OF WIRE American Wire Gauge (AWG)						
	3'	5'	7'	10'	15'	20'	25'
0 to 1	18	18	18	18	18	18	18
1.5	18	18	18	18	18	18	18
2	18	18	18	18	18	18	18
3	18	18	18	18	18	18	18
4	18	18	18	18	18	18	18
5	18	18	18	18	18	18	18
6	18	18	18	18	18	18	16
7	18	18	18	18	18	18	16
8	18	18	18	18	18	16	16
10	18	18	18	18	16	16	14
11	18	18	18	18	16	16	14
12	18	18	18	18	16	16	14
15	18	18	18	18	14	14	12
18	18	18	16	16	14	14	12
20	18	18	16	16	14	12	10
22	18	18	16	14	12	12	10
24	18	18	16	14	12	12	10
30	18	16	14	12	10	10	10
36	16	14	14	12	10	10	10
40	16	14	12	12	10	10	8
50	16	14	12	10	10	10	8
100	12	12	10	10	6	6	4
150	10	10	8	8	4	4	2
200	10	8	8	6	4	4	2