



## HOW TO CALCULATE BREAKER SIZE, WIRE SIZE AND WATTAGES

The chart below will help you determine fuse or breaker size and the necessary wire size to service various wattage loads. To protect against material failures, the National Electric Code requires that most materials be derated 20%. This means that only an 80% load factor may be used when figuring electrical material needs and is already calculated in the chart.

BREAKER SIZE	WIRE SIZE Based on copper THHN wire — increase one size when using aluminum conductors	MAXIMUM ALLOWABLE WATTAGE	
		<u>Single Phase</u>	
		AT 115 VOLTS	AT 230 VOLTS
15 amp	#14	1,380	2,760
20 amp	#12	1,840	3,680
30 amp	#10	Seldom used on 115 voltage	5,520
40 amp	# 8	Seldom used on 115 voltage	7,360
50 amp	# 6	Seldom used on 115 voltage	9,200
*60 amp	# 6	Seldom used on 115 voltage	11,000
70 amp	# 4	Seldom used on 115 voltage	12,800
100 amp	# 2	Seldom used on 115 voltage	18,400
125 amp	#1/0	Seldom used on 115 voltage	23,000
150 amp	#2/0	Seldom used on 115 voltage	27,600
200 amp	#3/0	Seldom used on 115 voltage	36,800

\*Most electric furnaces have resistance elements divided into banks totaling near 11,000 watts or 48 amps. This is the largest branch circuit allowed for such use.