



AMERICAN WIRE GAUGE CHART

AWG – Also called American Wire Gauge - is a standard method of denoting wire diameter, by measuring the diameter of the conductor (bare wire) with the insulation removed. VIAIR recommends the following gauge wire be used, depending on the length of wire run (with all bends and routing included in total length), and the maximum amp draw of the system.

AMERICAN WIRE GAUGE (AWG) FOR 12-VOLT CIRCUITS

TOTAL AMPS	TOTAL LENGTH OF WIRE FROM BATTERY TO COMPRESSOR			
	5 FT.	10 FT.	15 FT.	20 FT.
5 Amps	16 AWG	16 AWG	16 AWG	14 AWG
10 Amps	16 AWG	14 AWG	12 AWG	10 AWG
15 Amps	16 AWG	12 AWG	10 AWG	10 AWG
20 Amps	14 AWG	10 AWG	10 AWG	8 AWG
25 Amps	14 AWG	10 AWG	8 AWG	6 AWG
30 Amps	12 AWG	10 AWG	8 AWG	6 AWG
40 Amps	12 AWG	8 AWG	6 AWG	6 AWG
50 Amps	10 AWG	6 AWG	6 AWG	4 AWG
60 Amps	10 AWG	6 AWG	4 AWG	4 AWG

AMERICAN WIRE GAUGE (AWG) FOR 24-VOLT CIRCUITS

TOTAL AMPS	TOTAL LENGTH OF WIRE FROM BATTERY TO COMPRESSOR			
	5 FT.	10 FT.	15 FT.	20 FT.
5 Amps	16 AWG	16 AWG	16 AWG	16 AWG
10 Amps	16 AWG	16 AWG	16 AWG	14 AWG
15 Amps	16 AWG	16 AWG	14 AWG	12 AWG
20 Amps	16 AWG	14 AWG	12 AWG	10 AWG
25 Amps	16 AWG	12 AWG	12 AWG	10 AWG
30 Amps	16 AWG	12 AWG	10 AWG	10 AWG
40 Amps	14 AWG	10 AWG	10 AWG	8 AWG
50 Amps	14 AWG	10 AWG	8 AWG	6 AWG
60 Amps	12 AWG	10 AWG	8 AWG	6 AWG

Ground Wire – The ground lead on the compressor should not be extended (if possible). Always connect ground leads directly to the chassis (frame) of the vehicle. Any other grounding method may result in amp spikes that may damage the compressor motor, as well as sporadic & undesired operation.

Wire Type – Fine stranded copper wire is the item of choice (more strands in the wire result in a better, more flexible, cable). The insulation should be approved for automotive applications. This means that the wire is relatively immune to the adverse effects of petroleum products (gas, diesel, oil, brake fluid, radiator coolant, etc.).

Relays – Install relays that are rated properly compared to amp draw of compressor(s). Always install relays as close to the battery as possible. Relays also help to increase the life expectancy of pressure switches in the system.

SAFETY WARNING:

Failure to use wiring of adequate gauge may result in irreparable damage to the compressor, melted wires, and may cause a fire. Improper installation is not covered by VIAIR Manufacturer Defect Warranty. Failure to adhere to these recommendations and installation procedures can ensure decreased performance, shortened life expectancy of the compressor, as well as possible damage to a vehicle's electrical system. **Following the wiring gauge recommendations above will ensure an acceptable voltage drop of no more than 5% in 12-volt & 24-volt circuits.**