



TECH TIP

VICON TECHNICAL SERVICES GROUP

Subject: Power Cable Distances
Product: 24VAC Products
Number: 1400-0001-23-00
Date: 07/03/01

AC-powered devices usually must operate within ten percent of their rated voltage. The following chart lists recommended maximum distances for the gauge of wire indicated, based on a 24 VAC supply with a maximum voltage drop of ten percent.

		American Wire Gauge (AWG)						
		22	20	18	16	14	12	10
T o t a l V o l t a g e	10	173	275	439	699	1107	1764	2801
	20	87	137	219	349	554	882	1401
	30	56	89	142	226	358	570	905
	40	43	68	108	173	274	436	692
	50	35	55	88	140	221	353	560
	60	29	46	74	117	186	296	471
	70	25	40	64	101	160	255	406
	80	22	35	56	89	141	224	357
	90	19	30	49	77	122	195	310
	100	-	27	44	70	111	176	280
	110	-	25	40	64	101	161	256
	120	-	23	37	59	93	148	235
	130	-	21	34	54	86	137	218
	140	-	20	31	50	79	126	199
	150	-	-	29	47	74	118	187
	160	-	-	28	44	69	111	176
	170	-	-	26	41	66	104	166
180	-	-	25	39	62	99	157	
190	-	-	23	37	59	94	149	
200	-	-	22	35	55	88	140	

Note: These numbers are approximate as they are based on typical resistances of the various gauges of wire. Resistances for a specific gauge may vary between wire manufacturers as well as differ between solid and stranded varieties. Check the wire manufacturer's specifications for actual resistance figures if in doubt.