(b) In accordance with 620.13(D), for six elevators, the total conductor ampacity is the sum of all the currents.

$$6 \text{ elevators} \times 133 \text{ A} = 798 \text{ A}$$

(c) In accordance with 620.14 and Table 620.14, the conductor (feeder) ampacity would be permitted to be reduced by the use of a demand factor. Constant loads are not included *(see 620.13, Informational Note No. 2)*. For six elevators, the demand factor is 0.79. The feeder diverse ampacity is, therefore, 0.79 × 798 A = 630 A.

(d) In accordance with 430.24 and 215.3, the controller continuous current is 125% × 10 A = 13 A.

(e) The total feeder ampacity is the sum of the diverse current and all the controller constant current.

$$I_{total} = 630 \text{ A} + (6 \text{ elevators} \times 12.5 \text{ A}) = 705 \text{ A}$$

(f) This ampacity would be permitted to be used to select the wire size.

See Figure D10.

Example D11 Mobile Home *(see 550.18)*

A mobile home floor is 70 ft by 10 ft and has two small appliance circuits; a 1000-VA, 240-V heater; a 200-VA, 120-V exhaust fan; a 400-VA, 120-V dishwasher; and a 7000-VA electric range.

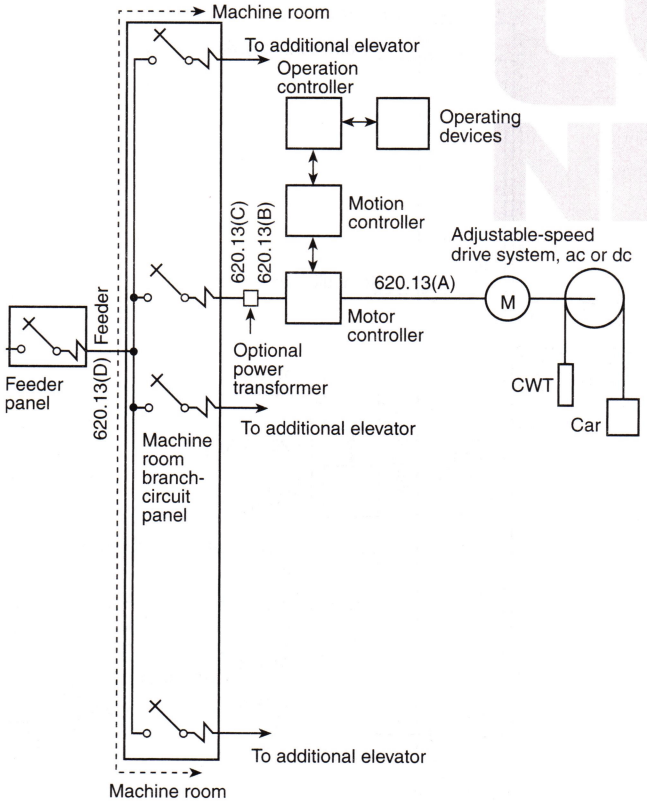

FIGURE D10 *Adjustable Speed Drive Control.*

Lighting and Small-Appliance Load

Lighting (70 ft × 10 ft × 3 VA per ft²)		2,100 VA
Small-appliance (1500 VA × 2 circuits)		3,000 VA
Laundry (1500 VA × 1 circuit)		1,500 VA
	Subtotal	6,600 VA
First 3000 VA at 100%		3,000 VA
Remainder (6600 VA – 3000 VA = 3600 VA) × 35%		1,260 VA
	Total	4,260 VA

4260 VA ÷ 240 V = 17.75 A per leg

Amperes per Leg	Leg A	Leg B
Lighting and appliances	18	18
Heater (1000 VA ÷ 240 V)	4	4
Fan (200 VA × 125% ÷ 120 V)	2	—
Dishwasher (400 VA ÷ 120 V)	—	3
Range (7000 VA × 0.8 ÷ 240 V)	23	23
Total amperes per leg	47	48

Based on the higher current calculated for either leg, a minimum 50-A supply cord would be required.

For SI units, 0.093 m² = 1 ft² and 0.3048 m = 1 ft.

Example D12 Park Trailer *(see 552.47)*

A park trailer floor is 40 ft by 10 ft and has two small appliance circuits, a 1000-VA, 240-V heater, a 200-VA, 120-V exhaust fan, a 400-VA, 120-V dishwasher, and a 7000-VA electric range.

Lighting and Small-Appliance Load

Lighting (40 ft × 10 ft × 3 VA per ft²)		1,200 VA
Small-appliance (1500 VA × 2 circuits)		3,000 VA
Laundry (1500 VA × 1 circuit)		1,500 VA
	Subtotal	5,700 VA
First 3000 VA at 100%		3,000 VA
Remainder (5700 VA – 3000 VA = 2700 VA) × 35%		945 VA
	Total	3,945 VA

3945 VA÷ 240 V = 16.44 A per leg

Amperes per Leg	Leg A	Leg B
Lighting and appliances	16	16
Heater (1000 VA ÷ 240 V)	4	4
Fan (200 VA × 125% ÷ 120 V)	2	—
Dishwasher (400 VA ÷ 120 V)	—	3
Range (7000 VA × 0.8 ÷ 240 V)	23	23
Totals	45	46

Based on the higher current calculated for either leg, a minimum 50-A supply cord would be required.

For SI units, 0.093 m² = 1 ft² and 0.3048 m = 1 ft.

Example D13 Cable Tray Calculations

(see Article 392)

D.13(a) Multiconductor Cables 4/0 AWG and Larger

Use: *NEC*392.22(A)(1)(a)