

**SINGLE FAMILY SERVICE LOAD CALCULATIONS
BASED ON THE 2023 NEC SECTION 220.82**

GENERAL LOADS NEC 220.82(B)

TOTAL SQ FOOTAGE (1,000 SQ FT X 3 VA) = 3,000 VA
 APPLIANCE CIRCUITS (2 X 1,500 VA) = 3,000 VA
 LAUNDRY CIRCUITS (1 X 1,500 VA) = 1,500 VA

RANGE (1 RANGE X 8,000 VA) = 8,000 VA

DRYER (1 DRYER X 5,000 VA) = 5,000 VA

WATER HEATERS (1 X 2,500 VA) = 2,500 VA

MISC LOADS NEC 220.82(B)(4)

DISHWASHER (1 X 10A X 120 V) = 1,200 VA

**PROJECT NAME
DWELLING UNIT**

**SAMPLE
DP1**

NEUTRAL LOAD NEC 220.61

TOTAL SQ FOOTAGE (1,000 SQ FT X 3 VA) = 3,000 VA
 APPLIANCE CIRCUITS (2 X 1,500 VA) = 3,000 VA
 LAUNDRY CIRCUITS (1 X 1,500 VA) = 1,500 VA
 TOTAL CONNECTED NEUTRAL LOAD 7,500 VA

FIRST 3,000 VA @ 100% (3,000 VA X 1.00) = 3,000 VA
 3,000-120,000 VA @ 35% (4,500 VA X 0.35) = 1,575 VA
 OVER 120,000 VA @ 25% (0 VA X 0.25) = 0 VA
 SUBTOTAL 4,575 VA

RANGE DEMAND
 TABLE 220.55 COLUMN C
 70% OF TABLE 220.55 (8,000 VA X 0.70) = 5,600 VA

DRYER DEMAND
 TABLE 220.54
 70% OF TABLE 220.54 (5,000 VA 1.00 VA X 0.70) = 3,500 VA

UNBALANCED MISC LOADS 1,200 VA

NEUTRAL LOAD VA 14,875 VA

NEUTRAL LOAD (14,875 VA ÷ 208 V) = 72 A

FURTHER DEMAND FACTOR - NEC 220.61(B)(2)

FIRST 200 A @ 100% (72 A X 1.00) = 72 A
 REMAINDER @ 70% (0 A X 0.70) = 0 A

MINIMUM NEUTRAL CONDUCTOR AMPACITY 72 A

TOTAL GENERAL LOAD 24,200 VA
 FIRST 10 KVA AT 100% 10,000 VA
 REMAINDER OF LOAD AT 40% 5,680 VA
 SUB TOTAL GENERAL LOAD 15,680 VA

HEATING & COOLING LOADS - NEC 220.82(C)

(1) AC LOAD (4,000 VA X 100%) = 4,000 VA << LARGEST

(2) HEAT PUMPS NO SUPP (0 VA X 100%) = 0 VA

(3) HEAT PUMPS (0 VA X 100%) = 0 VA
 SUPPLEMENTAL HEAT (0 VA X 65%) = 0 VA

(4) ELECTRIC SPACE (0 VA X 65%) = 0 VA
 LESS THAN FOUR SEPARATELY CONTROLLED UNITS.

(5) SPACE HEATING (0 VA X 40%) = 0 VA
 MORE THAN FOUR SEPARATELY CONTROLLED UNITS.

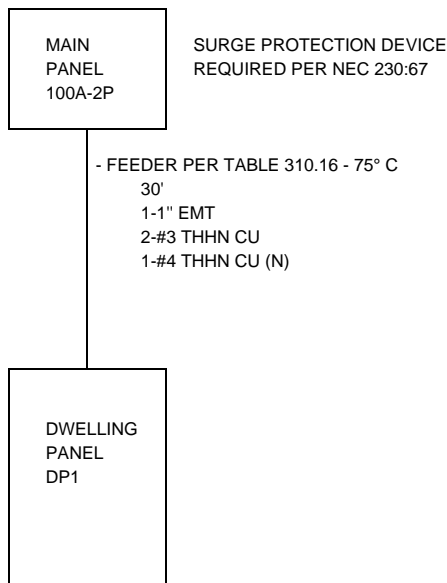
(6) SPACE HEATING (0 VA X 100%) = 0 VA
 CONTINUOUS AT THE FULL NAMEPLATE VALUE.

LARGEST HEATING OR COOLING LOAD 4,000 VA
 TOTAL KVA 19,680 VA

TOTAL AMPS (19,680 VA ÷ 208 V) = 95 A

FUTURE AMPS (0%) 0 A

DESIGN AMPS 95 A



KEY
 (N) - Neutral
 A - Amps
 VA - Volt Amps