

About Electrical Design

Electrical Design

All Starrco electrical components are UL listed. The standard components are designed for use with 120/240 volt single-phase systems operating at 60 hertz (HZ).

(Components for three phase and other special requirements are available as special orders).

Lighting

The standard light fixture is a 2' x 4' recessed fluorescent troffer designed for (4) 32 watt bulbs. Total watts per fixture = 128.

Determining the amount of lighting needed for a particular application can be a complex process involving several different formulas. Listed below are some simplified guidelines to help figure the quantity of lights needed. Our standard lighting design is based on 70 foot candles (FC).

Recommended Foot Candles of Lighting

Foot Candles	30FC	50FC	70FC	100FC	150FC
Rooms	Lavatories Conference room Cafeteria Corridors	Classroom Stores Reading room Rough assembly Deskwork	Office area Proof reading General assembly Inspection Testing	Drafting General assembly Testing Inspection Counter display	Fine drafting Display lighting Fine assembly Testing Prolonged visual task

Quantity of Light @ 50FC = Square feet of room x 1.5 watts / 160 watts

Quantity of Light @ 70FC = Square feet of room x 2.0 watts / 160 watts

Quantity of Light @ 100FC = Square feet of room x 3.0 watts / 160 watts

Note: To reduce the quantity of lights needed for an entire area, concentrate the lighting in the areas where the actual work is being performed. Limit the lighting in common or non-critical areas. This not only reduces the number of lights in an area, but will also reduce cooling requirements and maintenance costs.

Outlets

Standard design is to supply an outlet approximately every 8 linear feet of wall, unless specified otherwise. A simple design alternative is to put outlets in the areas they are needed (i.e. around work stations, equipment, etc.)

Outlets for computers, air conditioners, copiers or equipment with motors should be on separate circuits. Do not count on these outlets for general usage.

Circuit Breaker Box

The standard circuit breaker box is a 120/240v single-phase panel capable of handling up to twelve single pole breakers. We use the following guidelines for determining the quantity of breakers supplied with each circuit breaker box.

Ten (10) lights per switch or 20 amp breaker

Eight (8) 120v duplex receptacles per 20-amp breaker. (*Note: the types of electrical components being used may affect the quantity of receptacles assigned to each breaker. For example, if space heaters are going to be used in the office, the quantity of receptacles per breaker should be reduced because of the potential amp draw of the heaters*).

Air conditioners and HVAC units are on separate circuits.

Items requiring 220v – 250v will be on a separate two-pole breaker.

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