RIPLEY LIGHTING CONTROLS

DIVISION OF SOUTHCONN TECHNOLOGIES INC

Technical Note

Power Consumption

Electronic Twist-Lock Photocontrols

Ripley 120 Volt photocontrols require less than 0.5 watts of power

The big deal about photocontrol power requirements - Cost of Operation

The seemingly low level of power required for operating individual photocontrols becomes exceedingly significant when considering the large quantities generally required. Multiply the number of photocontrols by the power required for each, and the overall power requirements become obvious.

How Much? $$$

The cost of operating electrical loads is broken into two parts:

Energy Consumption - measured in Kilowatt-hours (KWH)

Electrical Demand (Connected Load) - measured in Kilowatts (KW)

Calculating the cost for Energy Consumption is straight forward, and is the sum of power requirements accumulated over time.

Calculating the costs associated with Electrical Demand can be much more complex. A demand charge is levied monthly based on the maximum average rate of energy consumption over a time period of measurement (typically 15 or 30 minutes). This time period of measurement is generally referred to as the Demand Interval. Additionally, many utility rates include provisions for assessing Peak Demand charges based on the single highest Demand Interval occurring during summer months, that can substantially affect utility bills for the month of occurrence, and each of the following eleven months.

A review of local utility rates will reveal the impact for each individual case.

Photocontrols are <u>not</u> created equal

In a recent study Ripley engineers tested the power requirements of individual off-the-shelf 120 volt photocontrols manufactured by Ripley and three competitors.[3]

Testing results were as follows:

Ripley	0.5 watts
Competitor "A"	1.4 watts
Competitor "B"	1.6 watts
Competitor "C"	1.8 watts

Potential $$$ savings using Ripley = 72%

As depicted in the chart at right, measured performance of Ripley's 120 volt photocontrol over that of competitor "C" represents a 72% reduction in power requirements. By applying this reduction to both energy consumption charges and electrical demand charges, annual cost savings for the above example can be calculated as follows:

Typical application using 100,000 photocontrols:

Energy Consumption (KWH) Calculation

$$\frac{\text{100,000 x 1.8 watts x 24 hours x 365 days}}{\text{1,000 watts per kilowatt}} = \text{1,576,800 KWH per year}$$

Energy Consumption $$$ Calculation

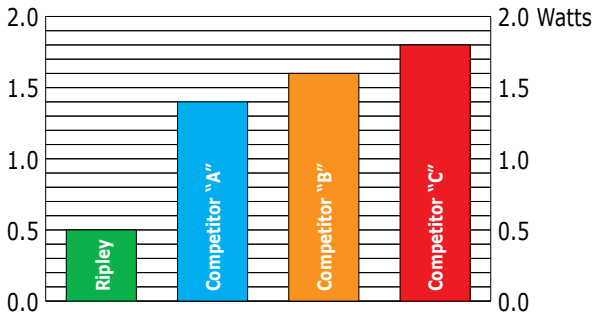
1,576,800 KWH per year x $0.09[1] per KWH = $141,912 per year

Electrical Demand (KW) Calculation

$$\frac{\text{100,000 x 1.8 watts}}{\text{1,000 watts per kilowatt}} = \text{180 KW}$$

Electrical Demand $$$ Calculation

180 KW x $120.00[2] per KW per year = $21,600 per year



Photocontrol Power Requirements
Comparative Analysis

Annual Energy Cost Savings for above example:

($141,912 Consumption + $21,600 Demand) x 72% reduction in power requirements = Savings of $117,729 per year

1 National Commercial Average from the Energy Information Administration, October 13, 2005
2 Center for Energy Efficiency and Renewable Energy, University of Massachusetts Amherst
3 Actual Testing Included:
Ripley (SouthConn Technologies Inc.) Model 6246B measured 0.5 watts
Sunrise Technologies / Fisher Pierce Model S120-1.5 STM measured 1.4 watts
Area Lighting Research (ALR) Model 2060NC1 measured 1.8 watts
Precision Lumitrol Model P2-455L measured 1.6 watts
Measurements taken with photocontrol in off state (street light off) at 120 vac

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