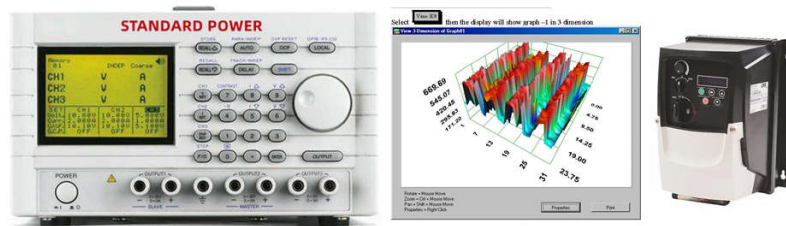STANDARD POWER

Powe Demand Management System

# Powe Demand Management System   STANDARD POWER

The energy challenge facing the world is real. Most country continues to experience
electrical shortages and rolling blackouts throughout the world. To reduce the risk of
power outages, the most important thing we can do in the short term is reduce our demand for electricity and use energy more efficiently. Saving the energy, it will also help saving the world from bad environmental and pollution.
There are 4 methods that we can do to save the electrical energy.
1. Improve Power Factor
2. Demand Controller
3. Use other type of equipment for specific tasks
4. Select better efficiency equipment
In this case, we are emphasizing on Demand Controller.

How can The Demand Controller System save your electricity cost?
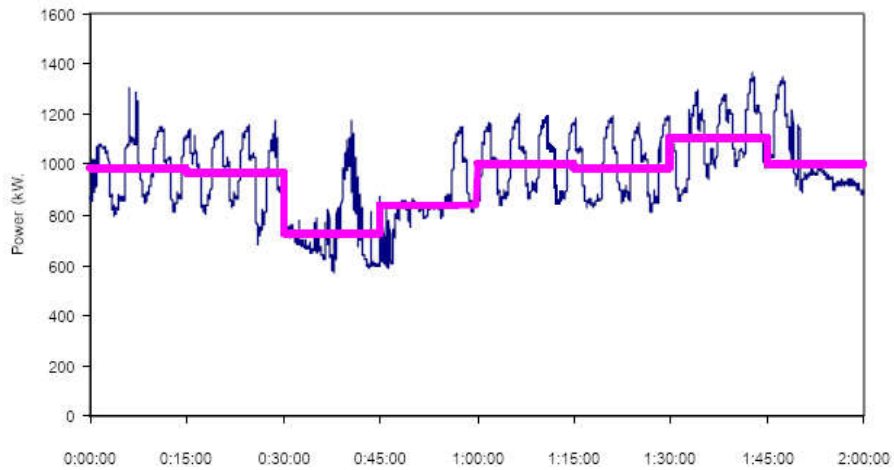What happen if we calculate on the average of kW in every 15(or 3) minutes!
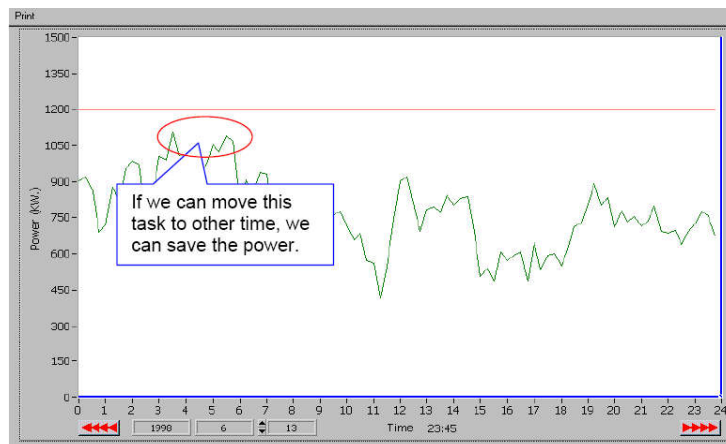
Demand can be controlled by cutting on the highest spice of power usage. So we can monitor the way that the power is consumed. We can manage it.
If we can move this task to other time, we can save the power.

We can calculate the demand by average kW in every 15 minutes

(Red line) and the maximum average will be the maximum demand in the month. So if demand is very high we can reduce by
1. Move some works that are not important to other time
2. Stop some equipment that can stop such as pump our conditioner' etc.
3. In case of lender, we have to ask the renter to reduce electrical consumption when it is too high and must install its own power meter.
4. Avoid electrical consumption at on-peak period
5. Use another of power that is cheaper

Demand Controller

From the figure, if show electrical consumption in 15 minutes. There are 3 lines in the
Figure
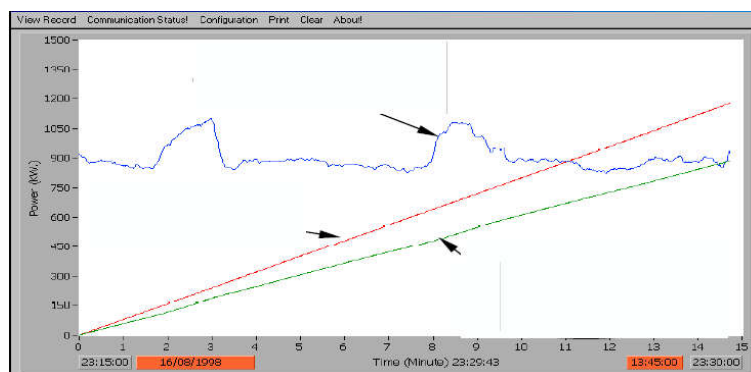
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1. Blue line shows electrical consumption
2. Green line shows demand, average of kW in 15 （or 3 ）minutes
3. Read line shows control line, control demand not over the maximum
If demand line is higher than the control line, it means electrical consumption is very high
and trends to be higher than we expected. And if we reduce electrical consumption, the
demand line will be lower than the control line. And, it need to do immediately or within 15 minutes

Principal in Demand Controller
The computer will get data from power meter, kW and kWh, at the incoming of the transformer by using RS-422/485 interface card. Then the computer will calculate
demand from every load in every second and compare with set up data. The computer will transfer the result to PLC to control load by cutting or connecting load.

Reason of using Programmable Logic Control (PLC).
1. PLC is reliable and factory type of equipment
2. PLC can be programmed, and perform more complicated function.
3. PLC can be monitored and control remotely from management office with a maximum of 1,200 Meters.