

# INTEGRATED ENERGY AUTOMATION SYSTEM - EAS

## REASONS WHY?

- ☑ Escalating energy costs
- ☑ Ecological goals
- ☑ Energy supplier and electricity quality
- ☑ New era of Building Management System

## POWER MANAGEMENT

An electricity distribution system, within a Building or Facility, consists of the following devices. All devices are factory fitted with required measuring points and the operation and configuration software.

- Circuit Breakers
- Fuse protected switchgear
- Measurements
- Measuring Instruments
- Electricity Meters

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## OPERATOR CONTROL AND MONITORING

User or operator has the following requests:

- ❖ Graphic representation of electrical plant diagram.
- ❖ Load curves for electricity power distribution
- ❖ Operating cycle listing of a circuit breaker
- ❖ Event log from archives
- ❖ Overview of an electric power distribution
- ❖ Report generator for (a) Evaluation of the consumption data in detail and (b) Determination of the load duration curve based on the acquired mean power value reports.

## LOAD MANAGEMENT

The following issues are very important for the Energy Manager of a Facility:

- Automatic and manual mode of loads
- Cost rates management
- Rolling switching of consuming devices / motors.

- Analyses and Reports of energy data

#### ENERGY PROCUREMENT

This is becoming more hot aspect and every day discussion for decision making:

- Electricity purchasing contracts
- Gas purchasing contacts

#### COMMISSIONING OF AN ENERGY AUTOMATION SYSTEM - EAS

Commissioning of an EAS is very simple, because all data points are transferred through open communication standards, such as IEC 60870, IEC 61850, PROFIBUS and Modbus to the EAS Server. Main steps are Coordination and the acceptance of all required and specified Analyses and Reports in a user friendly format.

## CHAZAPIS COMMISSIONING

COMBINED EFFORTS FOR ENERGY EFFICIENCY AND IEQ				
Item	Strategy or technology	Indoor air quality	Energy savings in Ventilation	Commissioning
1	Target set points for indoor air quality	Improved	up to 60% depending on climate	Yes
2	Particulate filtration of intake air	Improved	Minor effect	Yes
3	Chemical air cleaning	Improved	up to 100% in ventilation increase in fan power	Yes
4	Balancing of air flows	Improved	up to 10%, even 20%	Yes
5	Better ventilation efficiency	Improved	up to 50%	Yes
6	Location of air intakes	Improved	no effect	No
7	Heat recovery units	Improved	up to 70% in heating loads	Yes
8	Demand controlled ventilation	no effect	up to 50 % in large spaces	Yes
9	Control of specific pollution sources	Improved	Depends on application	No
10	Control of material Emissions	Improved	up to 50%	No
11	Task Ventilation	Improved	up to 10%, or even 30%	Yes
12	Local Exhausts	Improved	Depends on application	Yes
13	Natural Ventilation and Free Cooling strategies	Improved	up to 60%	Yes
14	Operation and Maintenance	Improved	High!	No