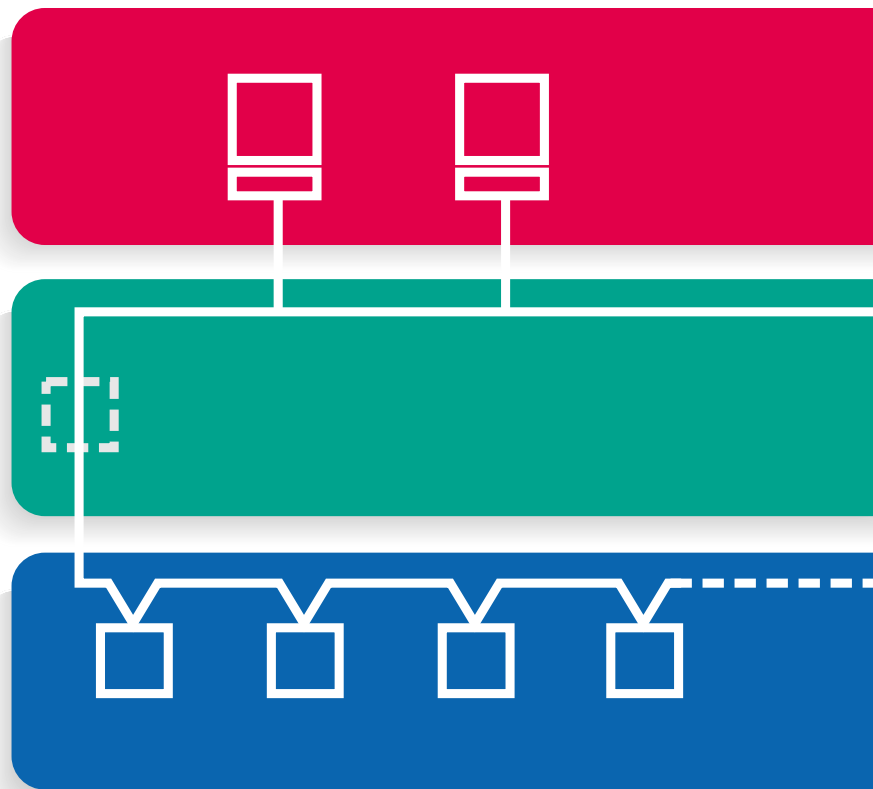


# Power management

## PowerLogic System



Merlin Gerin  
Square D

**Schneider**  
 **Electric**

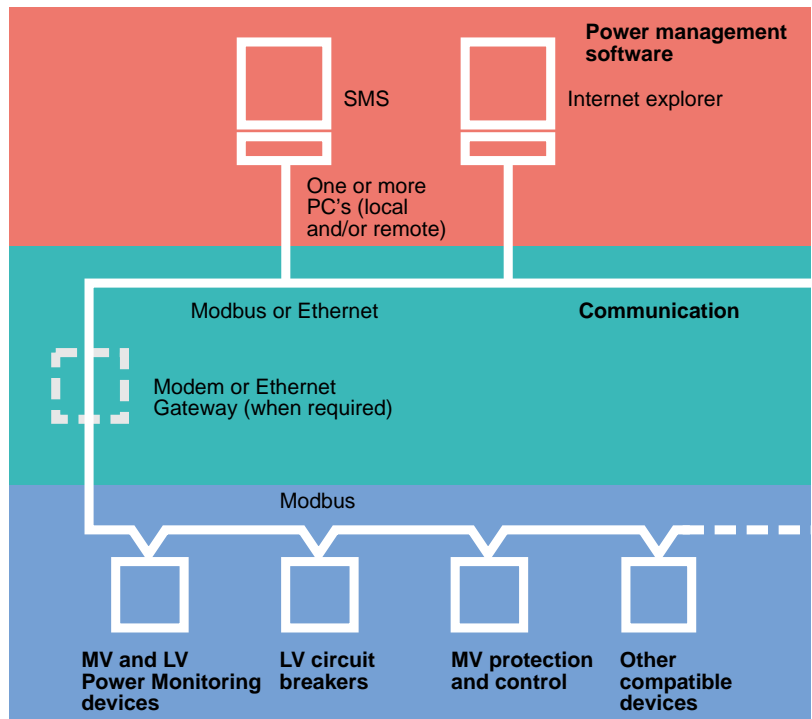
*Get more with the world's Power & Control specialist*

# *The PowerLogic System gives you complete information and control over your electrical power network...*



## **Do you have complete control over your electrical network?**

If you knew how to reduce your energy usage, you could lower direct and indirect costs and ensure continuity of supply. You need to know about faults, harmonic problems or voltage disturbances - before they affect operations. Having the right information about your electrical network would give your company a real competitive advantage. How can you get that information? With the PowerLogic system.



The PowerLogic system integrates all the intelligent components of the electrical network, using standard communications and powerful software. This provides you with optimum information to safely manage the cost and quality of power.

# The PowerLogic System is the most powerful system of its kind

## Power management software



### Powerful and flexible software

- tables, bar charts, trend plots, power quality analysis
- early warning alarms and powerful diagnostic tools
- graphical interface for creating one-line diagrams, equipment drawings, photos, etc.

- advanced network monitoring and control from one-line diagram
- completely user-configurable and easy to use

## Power monitoring devices

### Power Meter PM500

#### Measurements and monitoring

- accurate to within 0.5% for currents and voltages
- class 1 for energy
- basic measurements: I, U, F, P, Q, S, E, PF
- current and power demand
- optional modules:
  - Modbus communication
  - alarms, min/max, 2 digital inputs/2 digital outputs
  - 1 sync input/1 pulse output
  - 2 analog outputs.

#### Power quality analysis

- harmonic distortion (THD) for currents and voltages.

### Power Meter 600 series

#### Measurements and monitoring

- accurate to within 0.25% for currents and voltages
- basic measurements: I, U, F, P, Q, S, E, PF
- current and power demand
- alarms with time stamping
- min/max
- 1 pulse output.

#### Power quality analysis

- THD and harmonic analysis up to 31<sup>st</sup> harmonic.

### Circuit Monitor 3000 series

#### Measurements and monitoring

- accurate to within 0.2% for currents and voltages
- class 0.5 for energy
- alarms with 1 ms time stamping
- custom onboard logs
- 8 Mbytes of memory
- up to 9 inputs/outputs
- Ethernet port and HTML-page web server.

#### Power quality analysis

- THD and harmonic analysis up to 63<sup>rd</sup> harmonic
- waveform capture
- detection of voltage sags and swells.

### Circuit Monitor 4000 series

#### Measurements and monitoring

- accurate to within 0.07% for currents and voltages
- class 0.2 for energy
- alarms with 1 ms time stamping
- custom onboard logs
- up to 32 Mbytes of memory
- up to 25 analog and digital inputs/outputs
- Ethernet port and HTML-page web server.

#### Power quality analysis

- THD and harmonic analysis up to 255<sup>th</sup> harmonic
- waveform capture
- detection of voltage sags and swells
- transient detection and capture (< 1 μs).

## Communication

### Standard and open protocols

- Modbus on RS485
- Modbus on Ethernet TCP/IP
- HTML-page web server for standard browsers
- remote connection via modem
- EGX Ethernet gateway.



Power Meter PM500



Power Meter 600 series



Circuit Monitor 3000



Circuit Monitor 4000



EGX



## LV circuit breakers

### Real-time monitoring of circuit breakers

- status of circuit breakers (open, closed, tripped)
- trip settings, percent loading
- fault diagnostics, cause of trip information.

### Circuit breaker control

- remote control via communications (open, close).

### Micrologic measurements

- accurate to within 1.5% for currents and voltages
- current, voltage, power, energy, frequency
- harmonic analysis.

## MV protection and control

### Real-time monitoring of breakers and relays

- status of circuit breakers (open, closed, tripped)
- trip settings, relay status
- fault diagnostics, event logs
- remote setting of protection devices
- oscilloperturbo-graphy.

### Circuit breaker control

- remote control via communications (open, close)
- automatic control schemes.

### Measurements

- accurate to within 2% for currents and voltages
- current, voltage, power, energy, frequency.

## Other compatible devices

### Integration of system-compatible devices

- Schneider Electric PLCs and others
- other communicating devices from Schneider Electric
- third-party Modbus-compliant products.

### Many more possibilities...

- status monitoring of drives, contactors, relays
- insulation monitoring using the Vigilohm range.



Dipact



Masterpact NT, NW + Micrologic



Sepam



PLC



Compact NS



Compact NS+Micrologic



MV circuit breaker

## PowerLogic System brings the benefits right to your screen...

### PowerLogic software provides you the tools ...

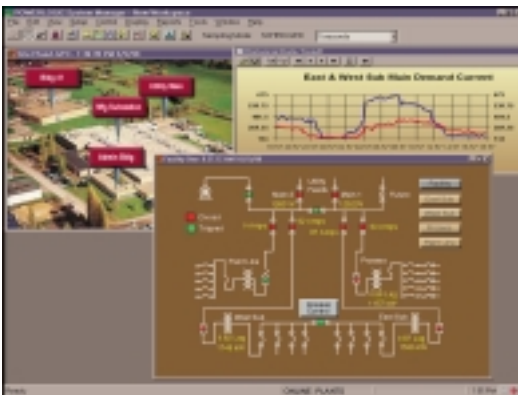
- standard software - configure it yourself in minutes
- many standard displays and reports available instantly
- create your own custom displays, drawings and reports
- harmonics analysis and voltage disturbance monitoring
- Web served historical data.

### Standard communication devices deliver information...

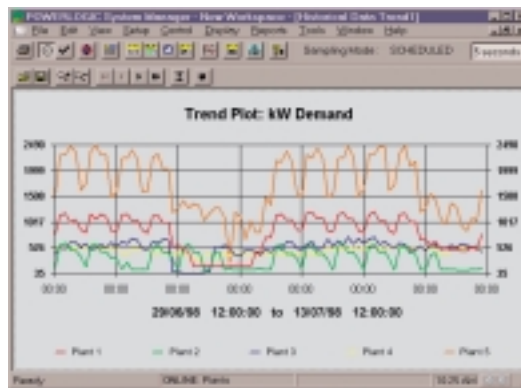
- Ethernet networking based on open TCP/IP protocol - transparent access via your intranet or the Internet
- Web servers embedded in the products or in the Ethernet gateways let you access information via a simple Web browser
- scalable system architecture lets you start small and add devices and upgrade your system as you want.

### Schneider Electric ensures your complete satisfaction.

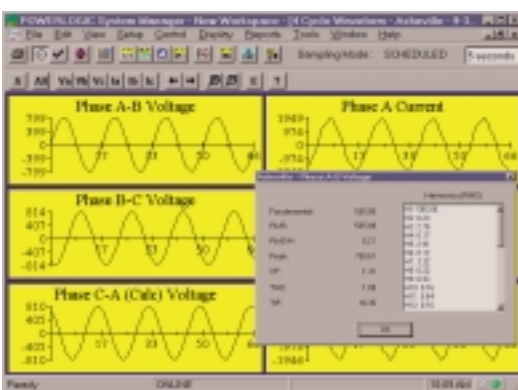
- engineering support services are available for on-site start-up assistance, training, and technical support
- broad range of components can be installed on existing equipment by any manufacturer
- field-upgradeable products and periodic software upgrades guarantee that the system will respond well to your changing needs.



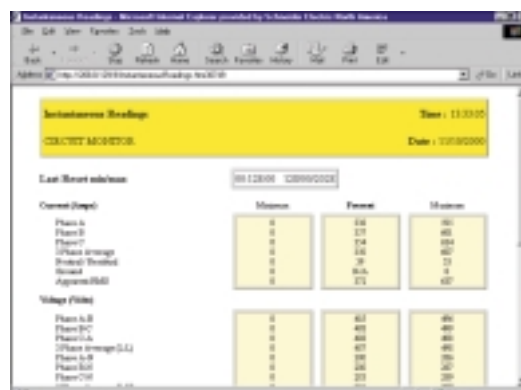
Powerful graphics tools allow you to create exactly the interactive screens you want: from site plans to one line diagrams.



Standard trend plots warn you of unusual load patterns and help you to optimise your energy consumption.



Harmonic analysis is available any time you need it, with simultaneous capture of current and voltage waveforms, plus summary information.

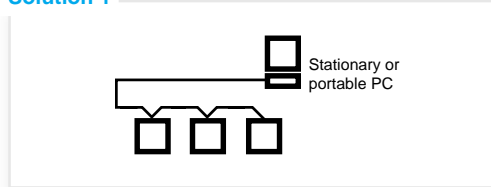


Web servers embedded in the products or in the communication gateways provide easy access to information via a simple Web browser.

# Your PowerLogic system doesn't need to be complex to be powerful

Start with a simple system...

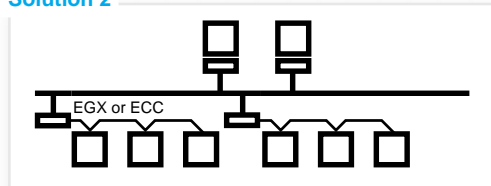
## Solution 1



One or more devices connected to a single PC (directly or via modem).

...add devices and expand your system using your plantwide Ethernet network...

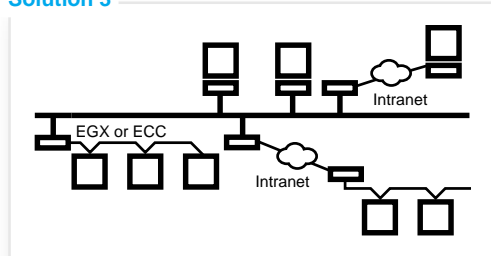
## Solution 2



EGX and ECC Ethernet Gateways ensure connectivity for many devices, accessible by multiple users.

...access information via your company Intranet...

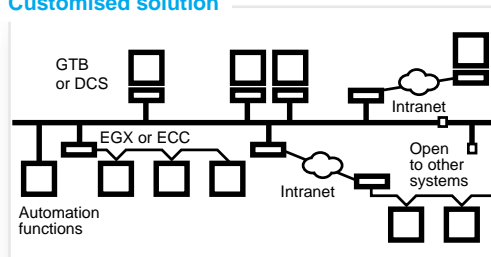
## Solution 3



Standard TCP/IP protocol means transparent communications via Internet technologies.

...add automation or share information with your building management system or process control.

## Customised solution



Add automatic controls using PLCs, and/or data-sharing with other systems such as building management or process control.

## Get started right away!



Power management is no longer an option in today's competitive environment; it's essential. To help you realise the benefits right away, Schneider Electric offers a starter kit.

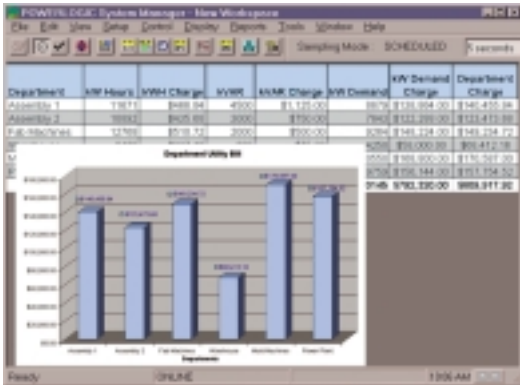
Begin by monitoring a critical circuit. You won't even need a network to start - just attach your portable PC to the front of a Circuit Monitor from time to time to access stored information. From now on you can see what the PowerLogic System can do for you on a daily basis.

### PowerLogic starter kit

- PM or CM monitoring device
- SMS power management software
- communications accessories
- "getting started" manual.

# Manage your entire investment in power...

The PowerLogic System is designed for industrial and commercial applications, large and small, to help you manage your entire electrical network investment: energy usage, operating costs, and the availability of supply.



You can allocate energy costs by department or by product range.

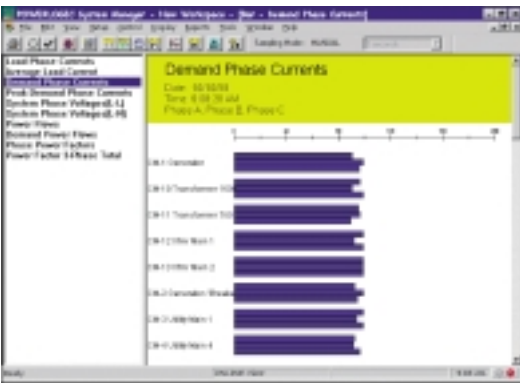
## Energy usage

### Save energy

- internal cost allocation
- implement awareness programs
- analyse usage patterns.

### Reduce energy costs

- manage peak usage
- optimise utility contract
- improve power factor
- automatic load-shedding.



Display of feeder loads can help you to locate areas of possible savings.

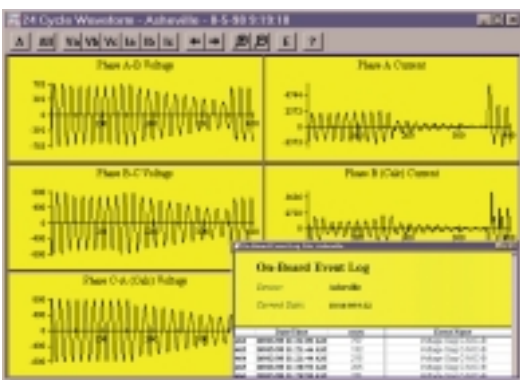
## Operating costs

### Ensure power quality

- detect problems early
- diagnose harmonics problems
- monitor neutral currents.

### Operation and maintenance

- identify spare capacity
- real-time network status
- preventive maintenance
- reports and documentation.



With a record of each voltage sag, you can diagnose problems and prevent future downtime.

## Availability of supply

### Improve reliability

- detect voltage disturbances
- automatic source transfer
- load preservation schemes
- network reconfiguration after a fault
- monitor the protection scheme.

### Minimize downtime

- fault diagnostics
- trouble-shooting help
- manage the network from remote site.

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