

# PowerLogic™

Freedom through  
monitoring solutions





# PowerLogic

*The closer you look the more you'll save*

*Are you getting the best possible rates for your utilities?*

*Are you monitoring your power usage to better control demand charges?*

*Is your existing power equipment operating at maximum efficiency?*

*Are power quality issues such as harmonics/voltage disturbances affecting your operations?*

*If you are not monitoring, you probably cannot answer these questions, and the opportunities to reduce costs, increase efficiency of both energy and production, and improve margins are passing you by.*

*That is where the **PowerLogic** power monitoring system comes in.*

It gives you the information needed to save money on utilities and other hidden costs of operating your facility. A study by the Energy Savings Trust revealed metering and monitors have an average payback period of less than six months and an average return on investment of 200%.

*Merlin Gerin can help you achieve this providing you with...*

## **Specific metering for each area of the system**

**PowerLogic** metering and monitoring devices adhere to the highest revenue class accuracy and the quality standards set by IEEE1159, EN50160 and IEC61036. For critical circuit monitoring, **PowerLogic** meters can simultaneously time stamp and capture events with multiple waveforms while collecting interval logging for cost allocation. Other **PowerLogic** meters can provide the facility to meter and monitor other utilities and perform control functions.

## **Government recognised technology**

The **PowerLogic** range of circuit monitors and meters are recognised by the Government led Enhanced Capital Allowance (ECA) scheme and appear on the Energy Technology List (ETL) for automatic Monitoring and Targeting (a M&T).



## **Open and high speed communications**

**PowerLogic** Systems are built on open Modbus and Ethernet TCP/IP standards.

## **Part of an integrated solution**

**PowerLogic** is one of the building blocks of Transparent Building Integrated Systems, providing integrated service of supply for intelligent buildings that represent the next giant step forward in technology.

**T-BIS**<sup>™</sup> TRANSPARENT  
BUILDING  
INTEGRATED  
SYSTEMS

# The PowerLogic value statement

*Look below the surface for additional savings*



## *Icebergs:*

*Typically, we think of them as huge peaks rising above the water. In reality, the majority of an iceberg is actually under the water, out of view. Utility savings at most facilities can be thought of in much the same way.*

Think of your utility bills as being the peak, easy to see every month. By installing a **PowerLogic** power monitoring system and beginning to manage this resource, you can realise anything up to a 5% reduction in utility costs - but that's just the "tip of the iceberg" in terms of your potential savings.

Looking beyond a utility bill, or below the surface, and you can derive the majority of savings, using a **PowerLogic** system. Typically, an additional 2-5% can be saved through better equipment utilisation and avoiding unnecessary capital purchases. As much as 10% of potential savings can be found by improving power system reliability.

A **PowerLogic** system gives you the power to achieve these kinds of savings, resulting in a quick return on investment. We are happy to produce a model based upon your facility.

At Schneider Electric we pride ourselves on reliable products, innovative systems and expert engineering services.

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# PowerLogic

*Reduces utility costs*

*We're all working harder these days to reduce costs and increase productivity.*

But it takes the right tools and technology to make effective decisions to reduce utility costs and improve your facility's efficiency. The **PowerLogic** monitoring system for all utilities (electricity, water, air, gas, and steam) is a single system that makes it easy to obtain the information you need, when you need it, to make those important cost saving decisions.

*"I found a better tariff for the way our facility uses electricity. I realised we could monitor gas and electricity together for a lower cost mix, and my department is collecting revenue for energy used by others."*

Facility Manager  
Major automotive manufacturer

## *Monitoring all utilities without gaps*

Imagine tracking all of your utilities and receiving automatically generated monthly reports without having to fill in missing data points due to network errors. That is exactly what the **PowerLogic** system is designed to do.



You won't have to worry if your IT network suffers from an unexpected failure. With onboard logging of utility information, as well as other event-based information, the data is retained in the metering device until network operation is restored. Data is regularly, on a daily, weekly or monthly basis, uploaded to the **PowerLogic** system manager to become available for reporting and analysis.

Once in the **PowerLogic** system manager, your job could not be made easier. With standard web-based displays, reports of usage pattern, trends, cost allocation and more made available.

The **PowerLogic** system helps you take advantage of those energy saving opportunities by providing you with the information to have the confidence to make important purchasing decisions.



### *Real-time information exported on demand*

If energy usage is your prime concern, data points can be viewed real-time via a web browser from any point on the IT network.

This data can be exported via the web browser at any time for further manipulation.

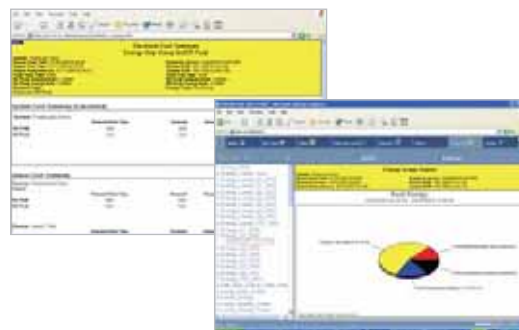
Through special metering algorithms, forecasting can be achieved based upon past data and taking into account seasonal changes in load based on a running average of each hour of the week and each week of the year.



### *Know where energy is being used*

Having all utility data in a single system and being able to correlate electrical and mechanical parameters, not only helps to forecast for expenditure, but also provides an important insight when optimising facilities.

On demand, you can intuitively access this information over the web using scheduled reports. Using our cost allocation reports and usage trends, you can verify utility billing accuracy, distribute bills internally by department, make effective fact-based energy decisions and drive accountability in every level of your organisation.



### *View all of your utilities on a single page*

If utilities are central to your facility, the ability to view all of the information in a format that you need is essential.

By using the graphical capabilities embedded within **PowerLogic**, this is simple and straightforward.





# PowerLogic

*Improves system reliability*

- Why has production stopped?*
- Why is the power out?*
- When is it going to be restored?*
- What are you doing to prevent it from happening again?*

*"If you think electricity is expensive, try running without it. Lost production, scrap, clean up, idle resources, frustration and pressure. Many of these problems can be avoided and repeats prevented. But you have to know what causes problems with electricity supply, and monitor for these quality problems early."*

**Plant Manager**  
Semiconductor manufacturer

With a **PowerLogic** system you have all of the information together with all of the analytical tools and reports to help you determine the cause and effect of every problem. Using powerful event capture information makes it possible to determine:

- If a power quality problem lies with the utility supplier or on your plant
- Whether suppliers have provided equipment that withstands specified ratings
- The existence of transients, which due to their accumulative effect can lead to sensitive electronic equipment damage
- Whether other power quality issues are affecting your business

### *Accurate alarm detection and event information help support your business*

In industrial plants, hospitals, data centres and critical power facilities, electrical disruptions can lead to unexpected financial loss or even endanger safety. Because modern equipment used in these facilities tends to be more sensitive to voltage sags, swells, and momentary interruptions, momentary voltage disturbances are an increasing concern. To take corrective action, you need to be able to diagnose equipment problems from voltage sags or swells, and identify areas of vulnerability. This means you need a system that provides detailed

critical event information so you can understand and resolve the root cause of problems.

**PowerLogic** circuit monitors or power meters provide accurate and fast alarm detection with event-captured data. Armed with this information, **PowerLogic** systems empower you to protect your investments. It helps you troubleshoot continuous and unresolved equipment damage or incorrect operation.

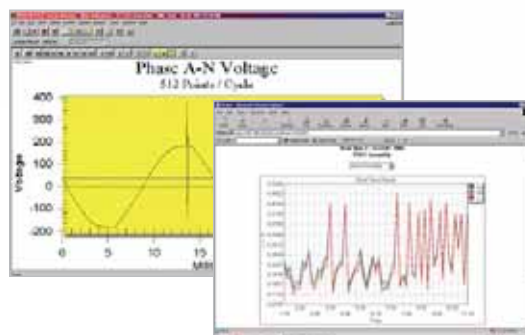




### *High-speed sampling and zero blind time metering make all the difference*

Most meters are capable of monitoring continuous power quality concerns such as voltage imbalance, undervoltages or overvoltage. However, other power quality categories such as higher order harmonics, voltage fluctuations and transient overvoltage, require additional microprocessor resources to adequately represent the electric environmental condition.

**PowerLogic** meets those requirements. The circuit monitor 4000T records an astonishing 83,333 samples per 50Hz cycle, with zero blind time.



### *Power quality made simple*

Power quality issues are often difficult to detect and even more difficult to understand! With a **PowerLogic** solution, finding the issues is just as simple as understanding them.

Alarm trends and power quality index readings tell you how your system is performing, whether it is getting better, worse or staying steady. Data can be viewed directly from the metering device or via a web interface for simplicity.



### *Unique disturbance detection capability*

When a fault occurs, it is always your problem until proven otherwise.

With the unique disturbance detection feature found only in circuit monitors from **PowerLogic**, the fault can be indicated upstream or downstream to the metering device, enabling rapid pinpointing of the fault.





# PowerLogic

*Enables you to get the most out of your assets*

## *Monitor equipment to get the most out of your assets*

In your facility, over its lifetime, potentially millions of pounds will be invested in your equipment and the energy that runs it. Trying to determine where excess equipment capacity exists, where it's being over-stressed, and how to balance loads on substations, MCCBs, and other power equipment can be tricky.

**PowerLogic** removes all of the guesswork so you can extend the life of equipment and, in turn, maximise your investment. It can also help you identify spare capacity within the power system and compare energy efficiencies between your facilities or departments. You will then know which is the most efficient and profitable, as well as where improvements can be made.

**PowerLogic** systems help you determine where excess capacity exists, identify where equipment is being over-stressed, and balance loads on substations, panelboard, and other power equipment, to help you extend the life of your equipment and maximise your equipment investments.

*"With **PowerLogic**, my client found existing equipment could supply their new production line by shifting loads to spare capacity at another substation. These kinds of decisions still require engineering judgement, but the risky guesses are eliminated!"*

Consulting Specifying Engineer



Medium voltage transformer

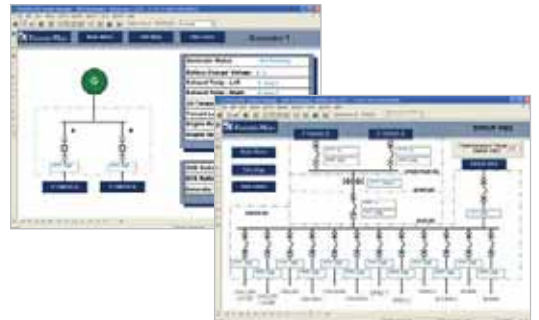
### *Compare facility energy efficiency*

**PowerLogic** systems let you compare the utility efficiency of your facilities or departments to determine which are the most efficient and profitable.



### *Identify spare capacity within the power system*

**PowerLogic** systems give you information so you know where system capacity exists. You can make effective decisions to add new loads, or expansions, and save money by avoiding unnecessary capital expenditures.



### *Get the full life out of your power equipment with planned maintenance*

Over the lifetime of your power equipment, millions of pounds will be invested in the equipment and energy that runs through it. By monitoring your electrical and piped utilities, you can improve the life and return on your investment. Utilise trend information to prevent future occurrences by analysing loading and take corrective steps to balance loads. Make capital equipment purchase decisions based on actual usage performance. Alarm analysis reports can provide a quick indication of how often the value exceeded setpoint limits, as well as a statistical analysis, giving minimum, maximum, average and standard deviation for the selected time range. Standard real time displays, with capacity ratings and percentage capacity used, provide a quick indication of how your system is loaded.





# PowerLogic

*Implementation of solutions*

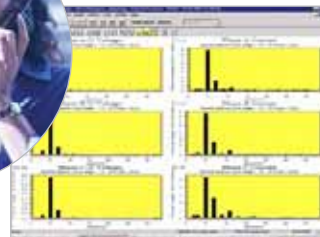


**Facilities manager**  
Interactive graphical mimics enable complete and simple management of the entire facility.



**Financial controller**  
Automatically generated financial reports enables fast, effective and simple control of the entire utility budget.





**Engineering manager**

Graphical spectral plots show the relative magnitude of harmonics at a glance. Individual harmonic reports provide valuable information for solving power quality related problems.



**Operations manager**

Real time alarm management provides the awareness to react in the shortest possible time, minimising production loss.



**Service engineer**

Real time displays enable efficient management and servicing of PowerLogic solutions.



# PowerLogic

## *Success stories*

### *Mercedes-Benz*

**All the assurance needed to maintain plant operation.**

When Mercedes-Benz began building a sophisticated plant to manufacture its M-Class sports utility, the company were determined to find an equally sophisticated system for monitoring and troubleshooting power quality problems, reducing plant downtime and reducing energy cost. The **PowerLogic** system supplied from Schneider Electric did just that and paid for itself in just two years, one year ahead of schedule. *"The **PowerLogic** system optimises production uptime and cost efficiency" says Randal Sagan, Facilities Electrical Engineer. "Its ability to store massive amounts of data on each monitor is what sets it apart from other systems. Using **PowerLogic** throughout our entire operation compounds its value".*



*To discuss your requirements  
with a **PowerLogic** specialist  
call: **0870 608 8 608***



### *William Grants & Sons*

#### **Freedom to win 80% rebates with advanced system.**

William Grants and sons produce world famous Scotch whisky brands, including Glenfiddich, the worlds best selling single malt scotch whisky. When encouraged to review its energy costs at its largest plant in Scotland, located in Girvan, Schneider Electric was approached to provide an advanced system to meet the clients needs. The food and beverage industry is faced with high energy bills arising from the Climate Change Levy (CCL). In a bid to alleviate this the T-BIS team focussed on the information that would be required to enable Grants to qualify for an 80% discount scheme. Through the use of a **PowerLogic** system, T-BIS provided reports in HTML format so that William Grants and Sons Distillers Ltd employees could connect to the Local Area Network and review not only energy consumption but overall performance of the plant.

### *Durham College*

#### **College finds knowledge of power is power.**

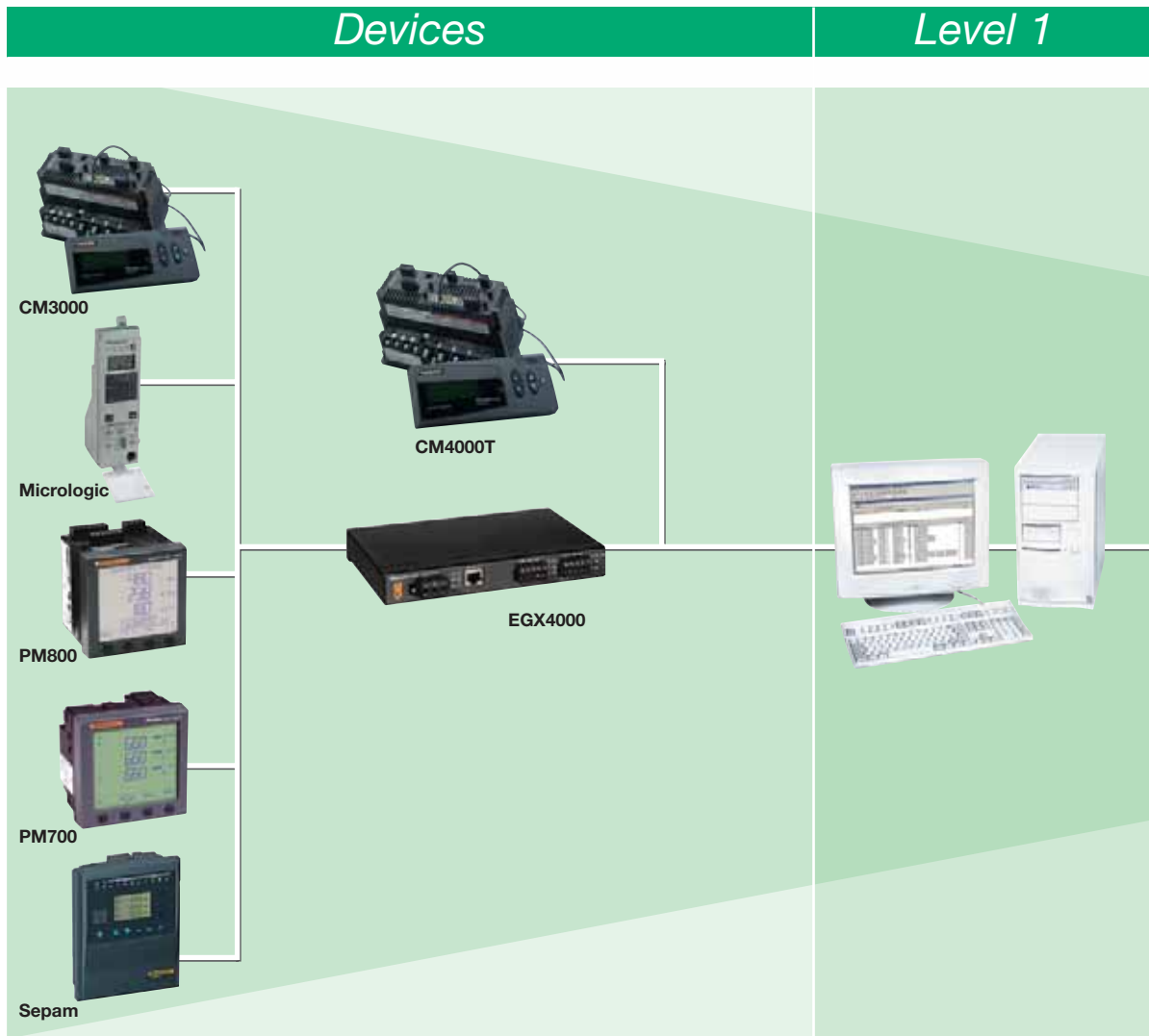
Durham College, a rapidly growing, multi campus facility wanted to create a baseline to gauge the success of its energy saving programs as well as a system to identify cost saving opportunities across its campus. Power quality problems were also a concern with the proliferation of personal computers and electronic ballasts for lighting. The college saved £250,000 in reduced demand charges and energy consumption in a single year. Circuit monitors also uncovered utility overcharging, by 26% on demand and 28% on consumption, leading to a significant refund. With the **PowerLogic** unique waveform capture, the college was also able to isolate harmonic problems caused by PC's and take proactive steps to control the power quality problem.





# PowerLogic

*The right solution for any application*



## Devices

PowerLogic family data acquisition devices provide the correct level of monitoring and control for the right location.

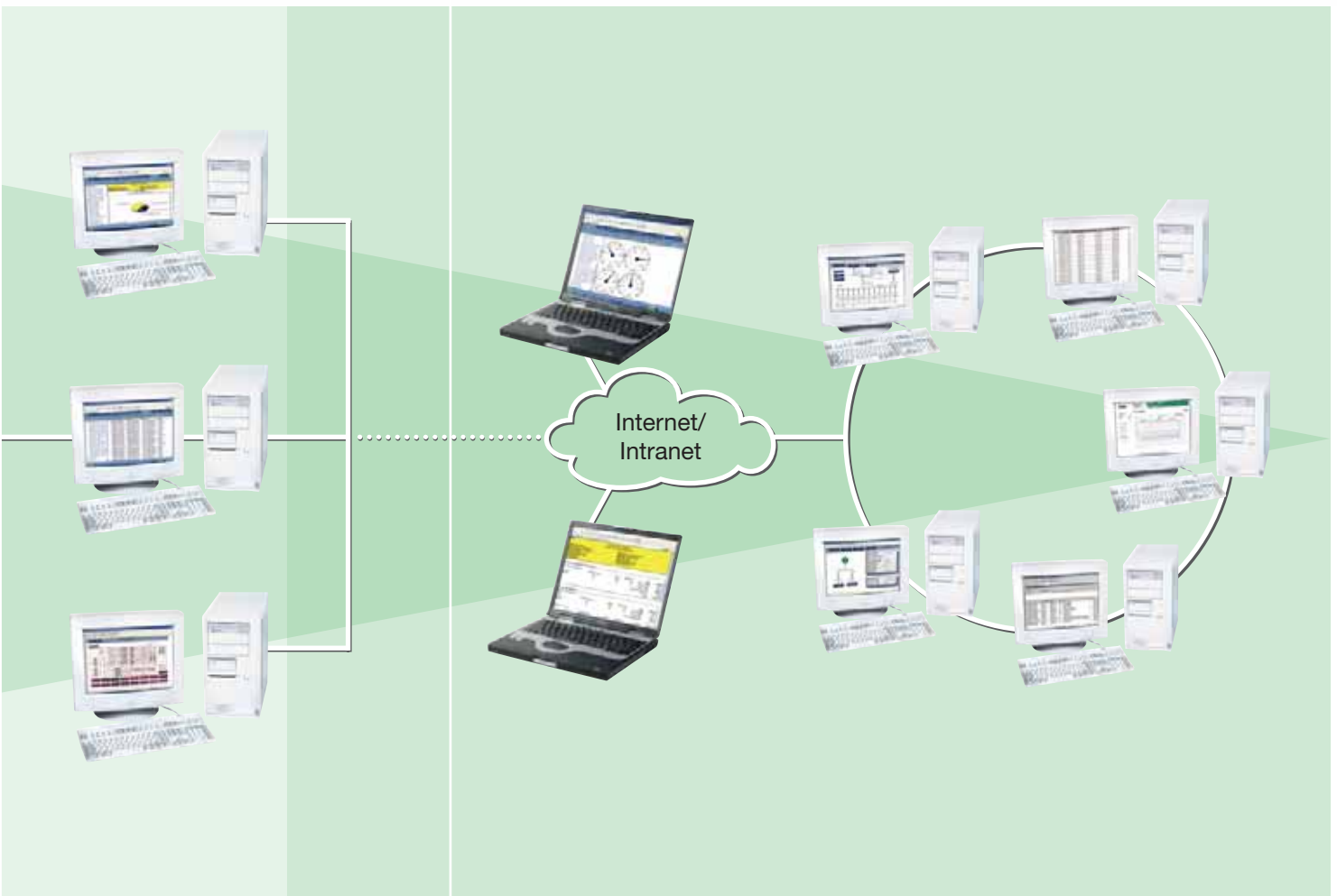
For more detailed device information, refer to PowerLogic technical guide MGLV 5401.

## Level 1: Stand alone monitoring

A single workstation can provide a full featured PowerLogic system. Including HTML monitoring and reports.

## Level 2

## Level 3



### Level 2: Information over your network

A **PowerLogic** network server connects multiple locations and hundreds of monitoring devices, viewing through web based clients.

### Level 3: Information over the internet

**PowerLogic** advanced level solution is designed for businesses that require access to detailed utility data for complete system management and reporting.

The system is able to depict status and comprehensive utility information in various formats through an internet browser.

Nationwide support on one number -  
call the Customer Information Centre on

**0870 608 8 608**

Fax 0870 608 8 606

### Schneider Electric's local support

Schneider Electric is committed to supporting its customers at every stage of a project. Our 180 sales engineers, the largest dedicated sales force in the UK electrical industry, operate from 4 customer support centres.

Our sales engineers are skilled at assessing individual requirements and combined with the expert support of our product specialists, will develop the most effective and economical answer taking relevant regulations and standards fully into account.

To access the expertise of the Schneider Electric group, please call 0870 608 8 608. Each customer support centre includes facilities for demonstrations and training, and presentation rooms fully equipped with audio visual and video, providing excellent meeting facilities.

#### Merlin Gerin

**Merlin Gerin** is a world leader in the manufacture and supply of high, medium and low voltage products for the distribution, protection, control and management of electrical systems and is focused on the needs of both the commercial and industrial sectors. The newly launched VDI Network Solutions offer provides flexible, configurable ethernet systems for all communication needs.

#### Square D

**Square D** is a total quality organisation and its business is to put electricity to work productively and effectively, protecting people, buildings and equipment. Its low voltage electrical distribution equipment, systems and services are used extensively in residential and commercial applications.

#### Telemecanique

**Telemecanique** is a UK market leader and world expert in automation and control. It provides complete solutions, with it's range of components, Modicon range of high technology programmable controllers (PLCs), multiple fieldbus and ethernet communication networks, HMI, motion control systems, variable speed drives and communications software. In addition, it offers power distribution through prefabricated busbar trunking.

### Local customer support centres

Scotland  
Schneider Electric Ltd  
Unit 11000  
Academy Business Park  
Gower Street  
Glasgow G51 1PR

South West  
Schneider Electric Ltd  
PO Box 41  
Langley Road  
Chippenham  
Wiltshire SN51 1JJ

North West  
Schneider Electric Ltd  
8 Brindley Road  
City Park Business Village  
Cornbrook  
Manchester M16 9HQ

### Product showrooms

#### Industrial systems and solutions showroom

Schneider Electric Ltd, University of Warwick Science Park, Sir William Lyons Road, Coventry CV4 7EZ

#### Building systems and solutions showroom

Schneider Electric Ltd, Stafford Park 5, Telford, Shropshire TF3 3BL

#### Energy and Infrastructure systems and solutions showroom

Schneider Electric Ltd, 123 Jack Lane, Hunslet, Leeds LS10 1BS



[www.schneider.co.uk](http://www.schneider.co.uk)

