AN INSPIRED WAY TO SOLVE YOUR ENERGY MONITORING PROBLEMS

We all know that we need to measure and monitor our energy use, and for a variety of reasons. Rising energy costs are more and more justifying the savings that can be made by identifying inefficient equipment and out of hours use. Then there is our own desire to improve our green credentials by reducing emissions, along with edicts like the imminent Streamlined Energy and Carbon Reporting (SECR) regulations, to make sure we do.

Studies by the Carbon Trust show savings of up to 20% can be achieved through energy efficiency measures. Monitoring energy used 24 hours a day can identify out of hours usage, which accounts for 46% of energy consumption in UK SME's according to a recent British gas smart meter survey. Office equipment plays a significant role in the energy consumption of a small business, and turning off non-essential equipment at the end of the day can achieve savings of 12%.

Documented research	Potential saving
Average saving from energy efficiency measures	20%
Average SME out of hours usage	46%
Occupancy sensor lighting cost reduction	30%
Automatic daylight adjustment lighting cost reduction	40%
Worst case LED replacement vs. incandescent lighting saving	80%
Discovery and correction of Power Factor	50%

Office equipment left on standby during Bank Holidays and weekends will cost the average SME up to £6,000 per year. Up to 40% of a building's electricity use is accounted for by lighting, and installation of occupancy sensors, daylight sensors or photocells, and replacing existing lighting with LED modules, can reduce electricity costs by between 30% and 80%.

Once you decide to take the plunge to look at your electrical usage you would be best served to hire or buy a power and energy logger (PEL). This will allow you to move it around the facility, monitoring electricity usage at various locations, and enable you to identify and measure the savings to be made. Only by monitoring and measuring will before and after energy use figures become available to accurately calculate these savings and justify any necessary expenditure.

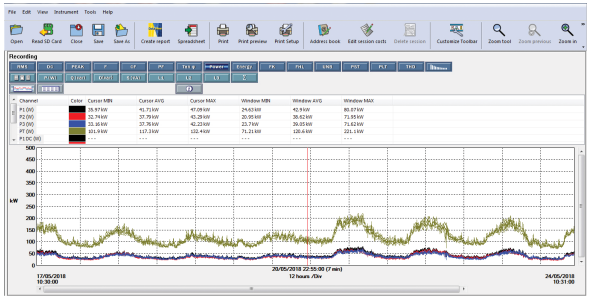
There is also good argument to say that any decent sized business should then continuously measure its energy usage with a permanently installed system. It can then chart consumption over time, identifying out of hours and seasonal usage, and monitor Power Factor degradation and Power Quality parameters such as harmonics.

Modern installations may already have such monitoring systems fitted, but there are often issues with retrofitting to an older installation. Not only that but the cost of the installation of a permanent system in equipment and labour, and the associated disruption, including switching off the power and cutting holes in panels to fit meters, etc., make it a somewhat daunting prospect.

Thankfully nowadays you can purchase a PEL to perform whatever logging you need around the installation, and then semi-permanently and non-intrusively install it in the distribution cabinet for continuous monitoring.

Modern PELs are designed to be so slim that they can be magnetically stuck to the inside of the cabinet door, or another convenient space, and left semi-permanently installed, while being safely locked away.

Rogowski coil current sensors, and magnetic voltage probes that can simply be stuck onto MCB screw heads, or permanently wired if preferred, enable an entirely non-intrusive connection to the supply. There's no need for a competent trained electrician to have to switch off the facilities power while the PEL is being installed.



These PELs can be self-powered from the installation to which they are connected, and plugged into the computer network for remote monitoring. Or just interrogated regularly through a tablet or smartphone.

Quite simply, you could deploy a PEL around the site when you want to monitor certain pieces of equipment or departments, and then literally stick it in back in the distribution cabinet afterwards, and monitor on an ongoing basis. As and when you want to use it somewhere else, you can move it, use it, put it back again, and so on. Probably the most cost-effective way to obtain a temporary and permanent logging solution to reduce your energy use.

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The Complete PEL Kit
Total optimisation at your disposal

Features & Benefits:
- Single, Split & Three-phase Installations
- No Mains Supply Interruption
- Harmonic Analysis up to 50th
- Bluetooth, Ethernet & USB
- Auto Sensor Detection
- Records to SD Card
- Real-time PC Analysis

The Complete PEL Kit contains:
- PEL 103 Power & Energy Logger
- Self powered adaptor
- 3 MiniFLEX clamps
- 4 Magnetised probes
- 2 reeling boxes
- DataView software
- 4 crocodile clips
- Mains cable
- 4x3m measurement leads
- Free Lenovo TAB 7

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