



Energy Demand Profile

The cost of energy is substantial – it is underestimated how simply changing usage patterns can contribute to savings. ACR Data Logging Solutions provide an effective means of collecting and presenting data for Electrical Load Profiling.

Energy audits leave few areas of operation to guesswork. However, the usage profile over time is often not considered since the cost of the real time monitoring infrastructure can be quite significant. The energy auditor looks for cost savings in retrofitting equipment rather than making existing equipment run more efficiently. Installing an Electric Current Data Logger attached to branch circuits will reveal information not otherwise obtainable. A portable 10-year self-powered data logger is versatile as it can be deployed easily, without reworking the system. Critical parameters are recorded 24/7/365 regardless of the system's state.



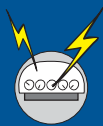
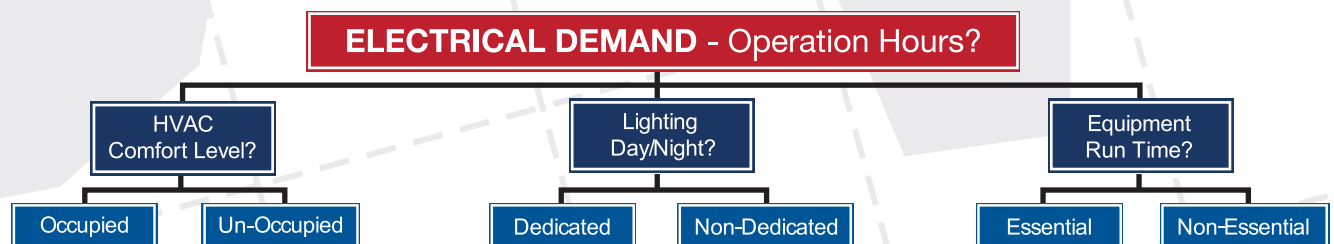
Challenge:

Knowing where and how to take readings. Sometimes the most mundane items can contribute the most. Electrical distribution panels are found everywhere in small and large facilities. The challenge is finding a way to measure demand without disconnecting or touching high voltage wires.

Are you faced with?

- Not knowing where to connect to existing loads
- Making sense out of the data collected
- Finding the most cost effective solution

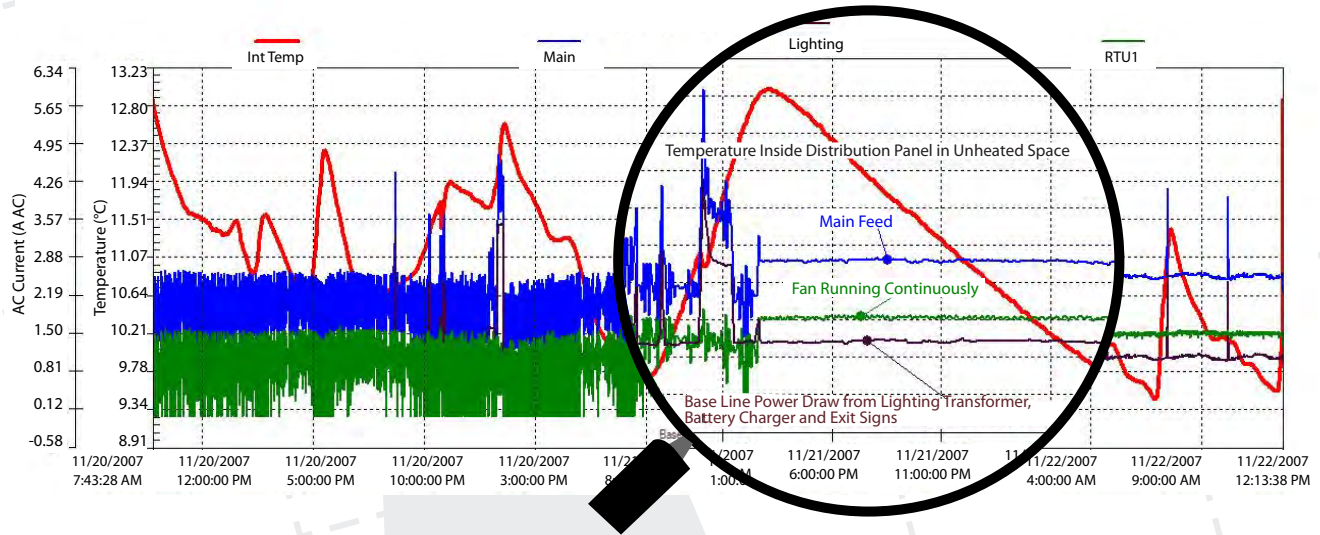
When measuring electrical demand, the immediate reaction is to measure the Voltage and Current then figure out the total kWh in order to relate it to billing. This is fine when accounting for total consumption costs, however it does not expose the fact that lights have been left on or a motor left running when not required. To do this, a more rudimentary approach is required where specific circuits are monitored to find out their usage pattern, then take steps to improve them and then provide proof of compliance.



Solution:

The most non-invasive solution is using a multi-channel self-contained Current-Clamp Data Logger where the Voltage is approximated – the main benefit is not having to wire in the logger making it transferable around the physical plant. The strategy involved is to monitor only one conductor in each leg or branch circuit, knowing that the other circuits are the same when devices are operating properly (usually the concern of others to fix).

By process of elimination, each of these circuits are then classified, monitored and decisions are made regarding what cost saving measures are to be employed. After the tactics are implemented the tests can be repeated to



sustain the effort as old practices tend to creep back in.

CAUTION: INSTALLATION OF EQUIPMENT SHOULD ALWAYS BE DONE BY QUALIFIED PERSONNEL

TIP: The most practical place to attach Current monitoring is on the Hot (Black) wire, either entering or leaving a wiring panel. The Amprobe brand Clamp chosen by ACR is known for being the most un-obtrusive probe of its kind (split core current transducer) while making it easy to clip around conductors without putting hands inside.

Deploying the data logger and downloading the information is easy...

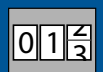
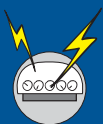
DANGER: ALWAYS WEAR ADEQUATE SAFETY PROTECTION

1. Simply place the ACR SmartReader 3 logger on the inside surface of the electrical panel (the logger has a magnetic strip on the back for easy attachment).
2. Squeeze the Current Clamp opening the jaws and place around the conductor leading to the circuit in question.
3. Connect the logger to an Interface Cable and with TrendReader software installed on your computer, simply download the information collected by the data logger.

Ordering Information:

Equipment	Description	Catalog #
SmartReader 3 Data Logger or SmartReader Plus 3 Data Logger	32 KB, 4 Channels (Temp & AC Current) or 128 KB, 8 Channels (1 Temp, 4 AC Current & 3 AC Voltage*)	01-0026 01-0114
AC Current Probe	0-250 Amps, 60 Hz, AC Current Clamp Probe or 0-250 Amps, 50 Hz, AC Current Clamp Probe	35-0004 35-0006
TrendReader 2 Interface Pkg. (IC-102)	Software on CD, USB Interface Cable & Screwdriver	01-0226

*Requires AC Voltage Transducer



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WORLD CLASS DATA LOGGERS
ISO 9001:2000 Certified

Application #: 000006
Release Date: 17/10/07