

## 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.



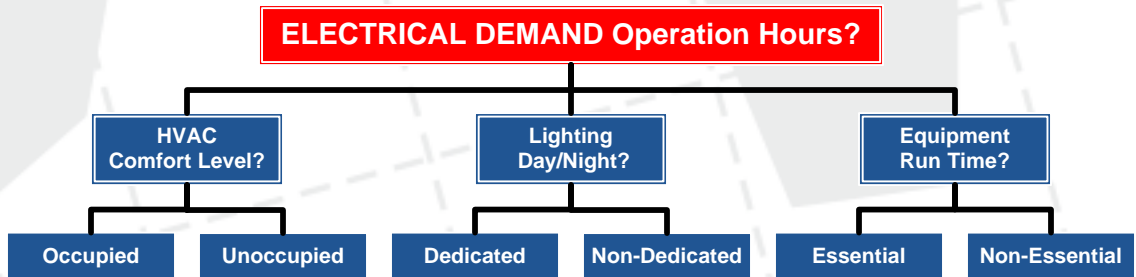
## Challenge:

Know 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?

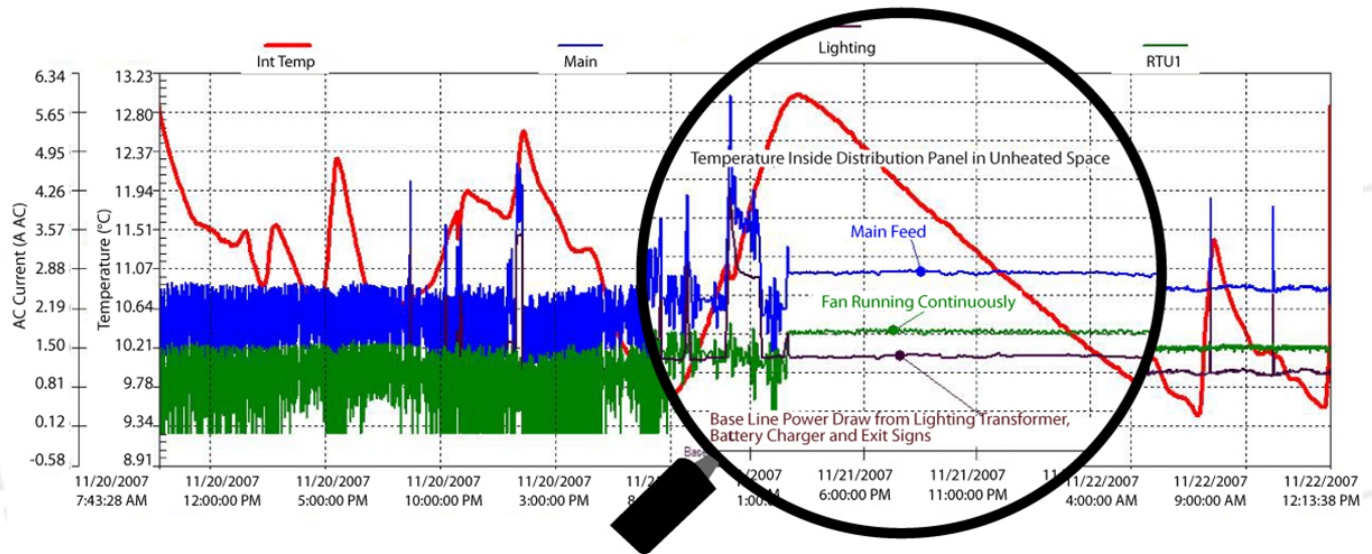
- Not knowing where to connect to existing loads
- Making sense out of the data collected
- Finding the most cost effective solution

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 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**

## 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.

**TIP:** The most practical place to attach Current monitoring is on the Hot 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 panel.

## Ordering Information:

Equipment	Description	Catalog No.
SmartReader 3 Data Logger	32 KB, 4 Channels (1 Temp & 2 AC Current) or	01-0026
SmartReader Plus 3 Data Logger	128 KB, 8 Channels (1 Temp, 4 AC Current & 3 DC Voltage*)	01-0114
A60FL AC Current Probe	60Hz, Ranges: 0-5/25/100/250A, 1in/25mm ID	35-0004
A70FL AC Current Probe	60Hz, Ranges: 0-10/50/250/500A, 2in/50mm ID	35-0005
A65FL AC Current Probe	50Hz, Ranges: 0-5/25/100/250A, 1in/25mm ID	35-0006
A75FL AC Current Probe	50Hz, Ranges: 0-10/50/250/500A, 2in/50mm ID	35-0007
TrendReader 2 Serial Interface Pkg.	Software on CD, IC-101 Interface Cable	01-0225
TrendReader 2 USB Interface Pkg.	Software on CD, IC-102 Interface Cable	01-0226

\*Compatible with AC Voltage Transducer, ID = Inside Diameter



ACR  
24/7/365  
10yr  
Battery