



## ***PowerSentry™***

### **Technology Overview**

The line of controls consists of add-on units that provide intelligent microprocessor control logic for residential and commercial air-conditioning compressors. These control devices achieve energy savings by dynamically adjusting the dead-band of the operating-control of the energy system in accordance with the system's energy load. That load is deduced from measurements made by the control units.

The dead-band's cut-in point is dynamically adjusted in response to the load changes calculated by the controller. This allows the energy output of the controlled device to more closely match the energy requirements of the system, thereby minimizing overshoots in the temperature of the controlled space. The energy load on the system is deduced from continuous time history data measured by the control device itself. The control continually monitors the system to detect load changes. In cases where the load is less than the system maximum output the control delays the start of the system to lower the energy output to match the reduced load. This process is varied dynamically from cycle to cycle. This control strategy is in distinction to most current electromechanical controls where the control decision is based only on an instantaneous measurement.

By matching the operating cycle of the energy system more closely to the actual load requirements, energy savings of 10-20% can be achieved for almost all applicable installations. Higher savings are possible and have been documented in previous field tests.