Mini-White Paper on:

Digital, Stand-A-Lone/Networked, Energy-Use Reducing, Low Environmental Impact Commercial Refrigerant Pressure Controller:

PressuRITE™

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The impetus for developing the above noted product was primarily to provide cost reductions… in manpower, equipment and supplies … as well as to reduce/eliminate the negative environmental impact of ***ALL Commercial Refrigeration Equipment*** & ***MOST LARGE TONAGE Air Conditioning Equipment*** for ***Grocery Retail Refrigeration*** & ***Restaurants (chain and independent)*** controlled under specific circumstances by this device while simultaneously eliminating, or at the very least, drastically reducing the incidence or the potential incidence of refrigerant leakage into the atmosphere currently caused to date, by the utilization of old-technology (mechanical pressure-switch controls)… both points resulting in reduced costs/money-saved by the user and consumer.

The Product Group has developed and produced ***PressuRITE***™ as the initial product in a family-line of controls utilizing this *RITE Technology*. This technology-specific line of controls is focused towards delivering energy related benefits first and environmental related benefits second that are inherent in its digital function operations due to its rapid, accurate and non-mechanical nature of its digital design and specifically, in the patent pending design of the ***PressuRITE***™ algorithms.

PressuRITE™ design incorporates a wide range of operating pressure parameters that allow for a near-infinite determination of ON/OFF "set-points" so selected by the user. This determinant user-choice adds the benefit of multiple replacement capability to the product when compared to old-style mechanical pressure switches currently used as the industry standard. Specifically, more than 140 general models of these older-style pressure switches offered to the market by other manufacturers are replace-able by ***PressuRITE***™ in a near 'drop-in' installation due to its multiple voltage and matching mounting configuration. The Product Group's patented control algorithms and calibration procedure for atmospheric pressure compensation are specific and key components to providing energy saving operation of the equipment that ***PressuRITE***™ controls while also providing safe environmental measurement and control of all refrigerant gases that in fact, the older-style pressure switches are incapable of delivering.

By completely eliminating the use of capillary sensing tubes and thin-walled pressure reservoir bellows that the older-style pressure switches use and that are proven 'weak-link sources' of refrigerant system leaks into the atmosphere, the ***PressuRITE***™ design via its "LeakNot" transducer sensor, insures leak-proof refrigerant gas pressure monitoring and control as both a Stand-A-Lone and/or Net-Worked device for refrigerant Low Pressure, High Pressure, Oil Limit/Differential Pressure and Condenser Fan Cycling operations in any combination for most commonly used refrigerants under-and-in-almost-any operating pressure(s). This functionality delivers inherent energy reduction capability.

Minimal points of improvement through the use of ***PressuRITE***™ are:

A. Energy-use savings due to precision control which can, on an aggregate commercial level, reduce electrical demand and its subsequent environmental impact;
B. Refrigerant replacement cost reductions due to controller leak elimination;
C. Environmental stewardship through refrigerant leak elimination from a controller;
D. "On-the road" drive-time reduction for servicing technicians of all types (in-house and contract) in this industry due to multiple range/configuration/refrigerant capability of ***PressuRITE***™ which can reduce collective service vehicle emissions and aggregate fossil fuel and labor expenditures.

PressuRITE™ is the only controller of its type (application specific for Stand-A-Lone & Network Capable Commercial Refrigerant Pressure Control) that is user configurable for multiple pressure functions, but is inherently focused primarily on energy conservation measures and environmental impact.

Certainly the safest possible choice for commercial refrigerant pressure control on all levels insofar as national energy and environmental issues are concerned, ***PressuRITE***™ combines first-cost issues of control with current technology… the result being that all users of ***PressuRITE***™ benefit:

- Application Users, Municipalities and the USA in general through reduced energy consumption overall;
- Application Users, Municipalities and the USA in general through reduced refrigerant impact via control failure leaks into the atmosphere – environmentally benign and refrigerant replacement cost elimination;
- Service Technicians (through improved digital features/time saving/accuracy);
- Distributors/Users of the product (through sole source delivery of solution to their customers and reduced in-house inventory);
- And the ultimate end-user (through reduced energy consumption and improved product preservation, etc.).

PressuRITE™ energy savings can differ somewhat due to application variations. However, savings percentages in laboratory-run models range from 17% to 28% in compressor-run-time and condenser fan-cycle test examples. ***PressuRITE***™ also addresses the data collection and quantification issue of energy and cost reduction verification through its Network connectivity capability. Able to communicate under industry-standard RS485 LAN protocol, it can reside under any existing office-type Ethernet Network or 3rd Party Proprietary or BAC-Net compliant HVAC/R & L networks. The device functions as an autonomous unit while being accessible to the network for data collection and operating parameter revisions. Technical users are able to access the device in-field through use of a hand-held programming tool as well as through remote access network connection.

Ultimate energy-use control and functionality through ***PressuRITE***™ is now brought down to the actual power-consuming equipment level so that no matter what occurs at a higher communication/networked level or centralized, semi-distributed process system… (ie… network failure, front-end and/or component compromise)… ***PressuRITE***™ will/can continue to operate its respective equipment and provide functional energy and environmental savings.