

Electric heat is 100% efficient

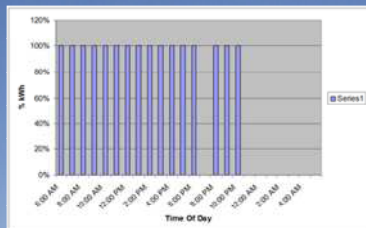
Now you can operate it at 100% efficiency

Perimeter Heating Control: **Conventional System Control:**

Perimeter Heating: Electric or Hot Water

- Low cost for installation and maintenance
- Adaptable for zoning
- 100% efficiency
- Control: Simple On/Off can be wasteful
- It uses more kW than is needed
- Operating cost: \$/kWh is high
- Thermostats are located on the base board
- Problems
 - Too many thermostats
 - Thermostats are never set at the proper level or location for all conditions
 - There are constant cold/hot complaints
- Interface with a building automation system is usually controlled in an enable/disable mode. Based on the time of day (TOD) and/or outside air setpoint.

Results: Usage



- Touch screen
- Graphics of system and environment
- Schedules, setpoints
- Trends
- Histories
- Password access levels
- Networked



- Zones
- All data inputs
- Calculations
- Time schedules (local/remote)
- Networked
- Interface to BMS



Perimeter Heating Control: **Computerized System Control:**

- Low cost for installation and maintenance
- Adaptable for zoning
- 100% efficient
- Control: Proportional
- Advantages
 - No more waste
 - Use only what is needed
- Operating cost
 - High \$/kWh
 - Reduce the kWh
- Thermostats
- No more thermostats
- Building Automation System
- It can interface 100% with full control and adjustments
- It will have demand limiting
- Weather Based Input
- Wind
- Outside air temperature
- Sun
- Internal Space Conditions:
 - Space temp(s)
 - Internal gain
 - Wall
 - Glass
 - Equipment, people, etc.
- Internal HVAC Operation:
 - Secondary heat source (air handler or VAV)
 - HVAC operation
 - System mode (summer/winter - cooling/heating)

Results: Usage



- Zero crossover switching
- No interference
- Isolated control circuit
- Proportional control
- Input:
 - 4-20 ma
 - 0-5 Vdc
 - 1-5 Vdc
 - 0-10 Vdc
- Remote auto/manual adjustment switch
- Remote shutdown
- Capacity 30, 45, 50 amp
- 3-8 sections per zone (Depending on BTU/ft)



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