

# SUBMITTAL SHEET

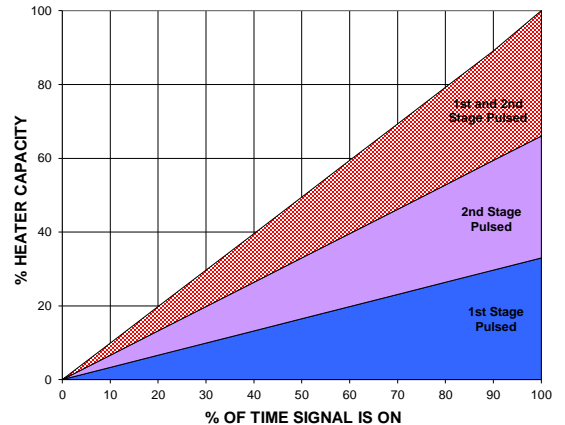
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## LINEAHEAT CODE LX6 – Binary “X” designates input power code

### Proportional Electric Heat Controlled by Two Binary Acting 24Vac Outputs (Discharge Temperature Sensor Optional)

LX6 – Provides proportional electric heat from 0 to 100% for those controllers that have two 24Vac outputs available for supplemental heat control that can be operated in a binary fashion (A on/B off, A off/B on, and A on/B on), but not be programmed to provide “open/close” signals. One output is used for controlling heat from 0 to 33%, the second output is for controlling heat from 0 to 67%, and both together provides 100% heat. Proportional heat is available by decreasing length of pulse within a constant time period. For example, if every 5 seconds both inputs (Inc & Dec) are turned on for only 3 seconds, the unit provides 60% ( $3s/5s * 100%$ ) of the heater’s kW rating. Applications using two 24Vac signals can have more accurate control of the lower heater outputs. By modulation of Input 1 (Inc), the turn down ratio is greater, increasing accuracy of low heat output. If every 5 seconds Input 1 is turned on for only 3 seconds, the unit provides 20% ( $3s/5s * 33%$ ) of the heater’s kW rating, and if every 5 seconds Input 2 is turned on for only 3 seconds, the unit provides 40% ( $3s/5s * 67%$ ) of heater capacity. Also can be used for staging electric heat to 33%, 67% and 100% capacity.



If LineaHeat is used with optional discharge temperature sensor, the heater will modulate heat to a set discharge temperature. User defined maximum temperature and controller defined temperature desired are maintained independent of heater kW or incoming air temperature. The maximum discharge temperature produced by the heater is set by rotary dial on the LineaHeat control board. When the unit receives a signal to start heating, the board will take an initial temperature reading and modulate heat from that point to the maximum temperature. For example, if a thermostat requires only a 10% increase in heating of air that was initially 60°F, and has a maximum temperature setting of 90°F, the EHM will modulate the heater’s output temperature to 63°F (the additional 3 degrees coming from  $(90^{\circ}\text{F} - 60^{\circ}\text{F}) * 10\%$ ). This option allows an increase of heater energy into occupancy by increasing discharge airflow while keeping an optimal discharge temperature. ASHRAE Fundamentals Handbook (Chapter 31) states that discharging air at a temperature more than 15° F above the room (90°F in a 75°F room) will likely result in significant unwanted air temperature stratification.

