

Temperature Control Implementation (BATEM)

This document explains how temperature control is implemented in the BATEM codebase, from schedule generation to HVAC power computation inside the simulation loop.

1) Main pipeline

The control chain is:

1. `Building` builds zone models and control objects.
2. `SignalGenerator.generate(zone)` creates `MODE:<zone>` and `SETPOINT:<zone>` time series.
3. `Simulation.run()` advances hour by hour:
 - builds/loads state model at `k`,
 - computes HVAC command(s),
 - forms zone input power `PZ`, `GAIN`, `PUVAC`