

## TECHNICAL INFORMATION SHEET – NUMBER 228

TITLE: 2400 On Off Control Behavior

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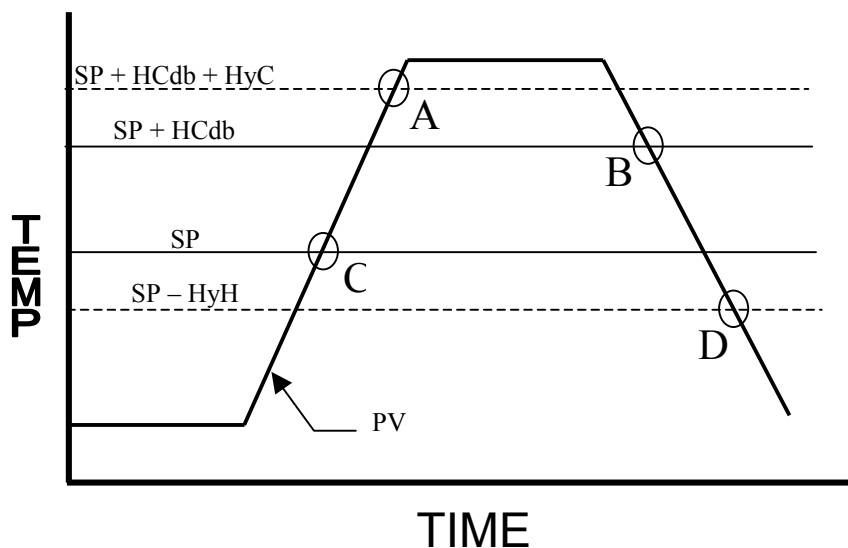
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EUROTHERM

This Technical Information sheet covers the behavior of the 2400 family of instruments when the control type selected is on / off.



The chart above shows this example:

A represents the point in temperature where the cooling comes on.

B represents the point in temperature where the cooling goes off.

C represents the point in temperature where heating goes off; it is always the same as the working setpoint\*.

D represents the point in temperature where the heating comes on.

SP is the temperature setpoint the controller is trying to maintain.

HC db is a band in temperature that always has its lowest end at the SP. The heating and cooling will not come on until the measured temperature is either above or below the dead band the HCdb.

HyH is the hysteresis for heating, indicating how much colder below the SP the measured temperature should become before the heating turns on.

HyC is the hysteresis for cooling, indicating how much warmer above the HCdb and the SP the measured temperature should become before the cooling comes on.

Of the parameters HyC, HyH, and HCdb, none can be set below zero. When they are all at zero, then the heating comes on sharply below SP, and the cooling comes on sharply above SP.

\*One set of parameters overrides the control algorithm mentioned above. The Ont.h and Ont.c are minimum on times that are always maintained. This means that if your ont.h is set to 60 seconds, and your Hyh equals 0, and the measured temperature goes above SP seven seconds after heating is called for--the heat will be on for an additional 53 seconds before the controller turns the heat off--no matter how high the measured temperature goes. Generally, the shortest possible ont.h and ont.c values are best.

For heating only, the ont.c, hyc, and hcdb appear, but have no function.

For cooling only, the ont.h and HyH appear, but have no function.