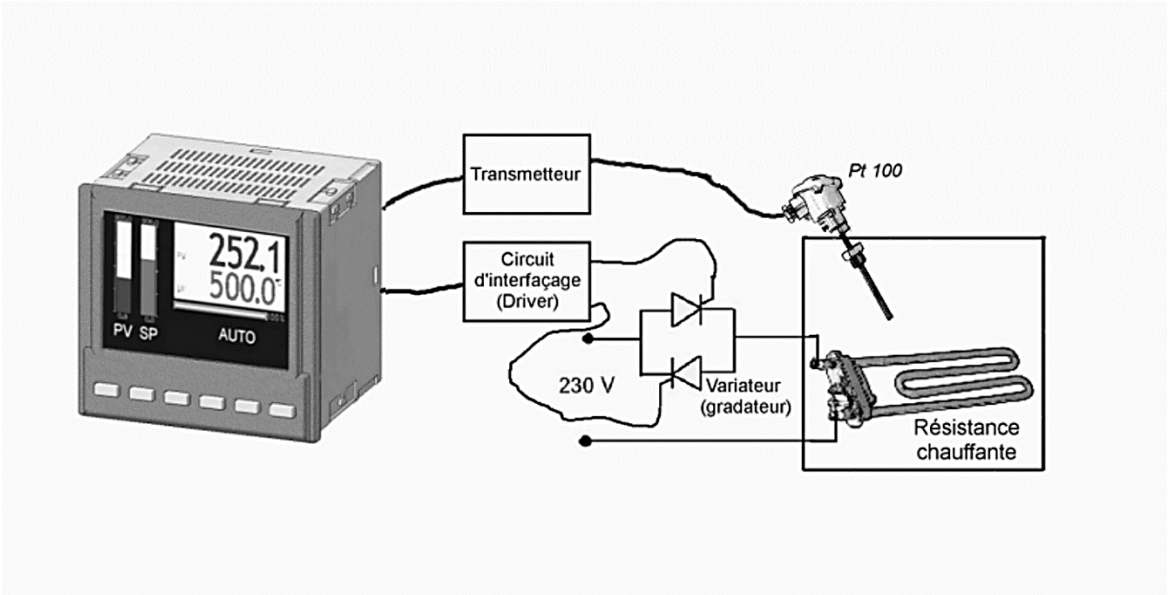
Temperature Control

The system is a room with a heater. An industrial controller regulates the temperature in the room.



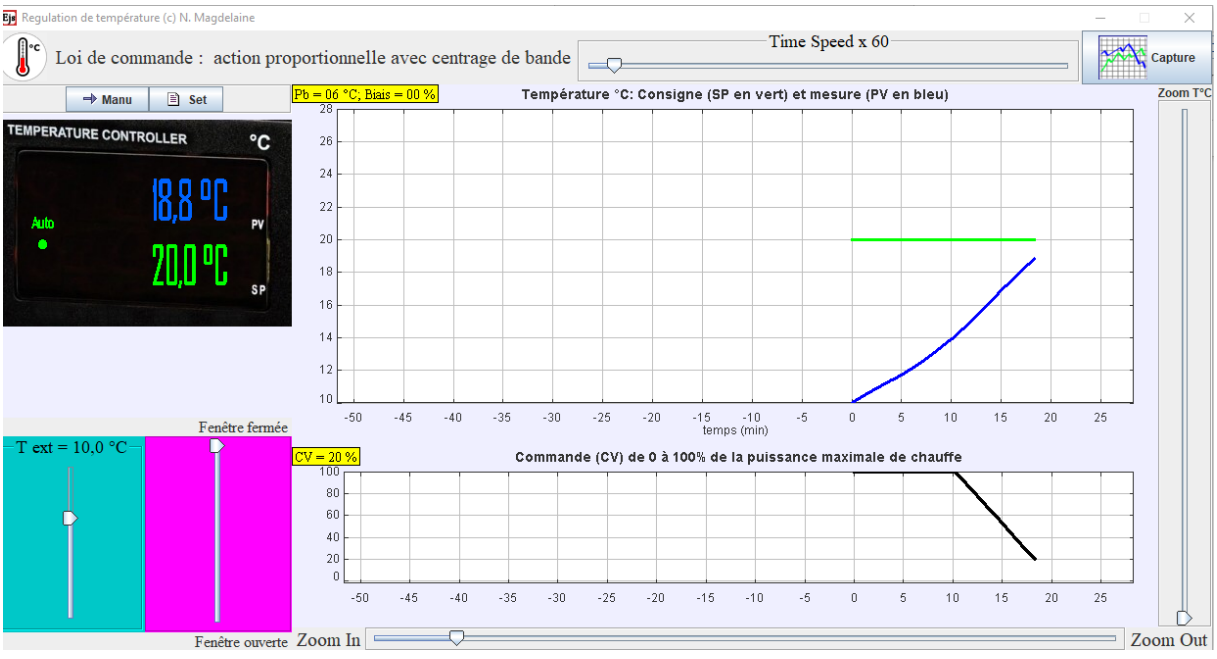
The control law uses Proportional Band (P_b) and Manual Reset also called *bias* or *offset*. The control value (CV) reads as:

$$CV = \frac{100}{P_b}.(SP - PV) + Bias$$

Where SP is the *Set Point* (desired value of the temperature) and PV is the *Process Value* (current value of the temperature).

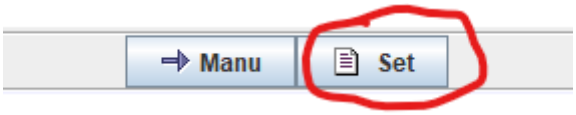
With this simulation you can tune P_b and *bias*, to see how PV reacts with respect to different tuning.

The settings are made on an industrial user-interface. Graphics display SP, PV and CV.



How to?

To modify the parameters of the control-law use the SET button



From there you can set:

- The high value of the alarm Al_{high}
- The low value of the alarm Al_{low}
- The set point (Note that $Al_{low} < SP < Al_{high}$)
- The Proportionnal Band
- The Bias

Use *<Prev* & *Next>* to change the item, + & - to change the value, and *Done* to validate the settings.

To modify the control value manually use the *=>Manu* button, + & - to change the control value.

Two sliders allow to zoom horizontally and vertically. Another slider allows to accelerate the time.

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