

1.5 ROOM TEMPERATURE REGULATION

Specifications:

The ambient temperature of a room is controlled in the heat mode by a heater and a fan, and in the chill mode only by the fan. A heat sensor provides a 0-10 V signal.

A switch is used to deactivate temperature regulation.

The direct evolution of inputs and outputs can be monitored in a supervision window.

Description of the inputs/outputs:

INPUTS:	OUTPUTS:
I1 On/Off switch	Q1 Heater
I2 Mode selection	Q2 Fan
IB Ambient temperature (analog input)	
IC Setpoint (analog input)	

The temperature is supplied by a sensor with output voltage of 0 to 10 V.

Model Required:

Zelio Logic with analog inputs.

SR2 B121 BD (24 V DC) or **SR2 B121 JD** (12 V DC) for example.

Program Description:

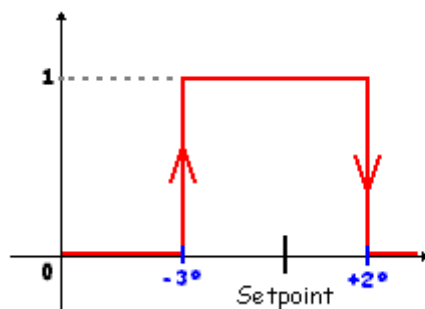
Input I1 =0 : regulation is off.

Input I1 =1 : Regulation is on.

Input I2 =0 : chill mode.

Input I2 =1 : heat mode.

Hysteresis:

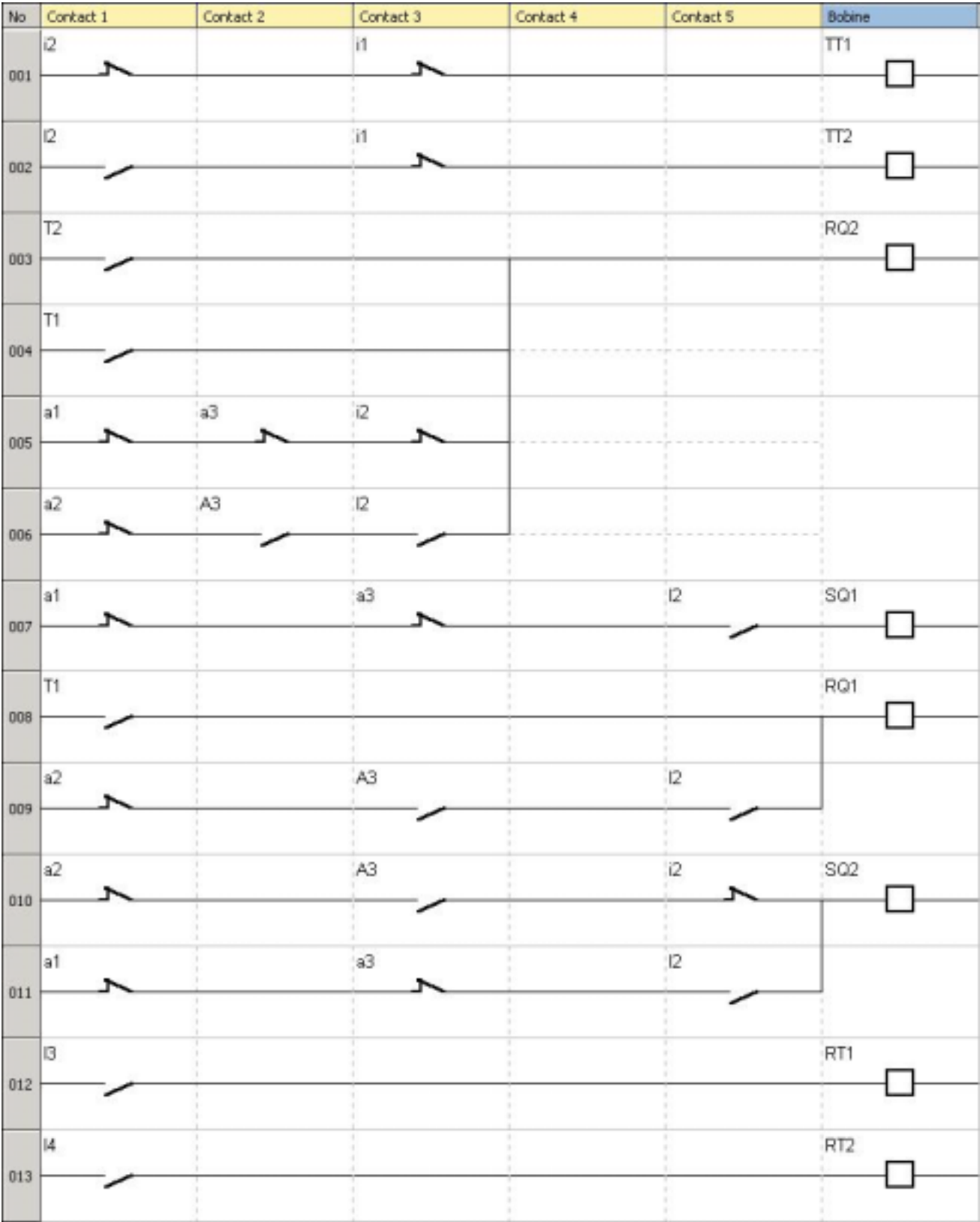


Advantages of the application:

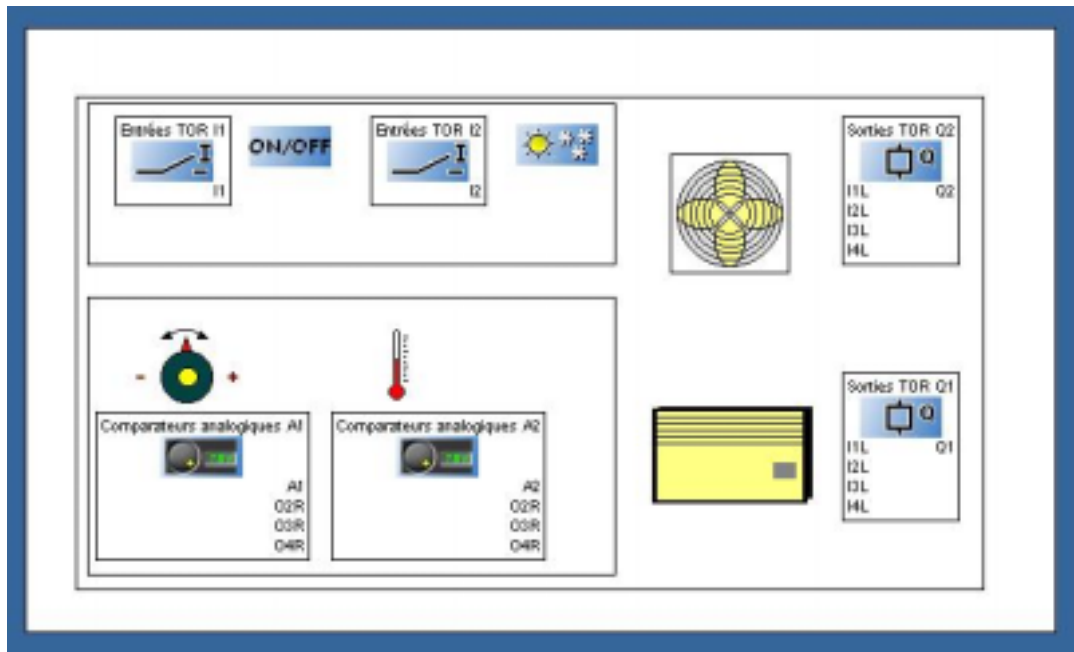
Use of 0-10 V analog inputs.

The supervision window.

Logic diagram:



Supervision window:



Click on the link below to access the application:

[Room temperature regulation](#)

*Note: to simulate this program, first adjust the setpoint using analog input **IC** then switch on the temperature regulation (I1=1, click on **I1**). If the chill mode is selected (I2=0), the fan will be activated as soon as the temperature exceeds the setpoint of 3°C and will stop when it drops 2°C below the setpoint. And conversely for the heat mode.*