

ABSOLUTE HUMIDITY AND TEMPERATURE CONTROLLER 3002 series

- * Inputs:
 - 1 current input 4-20mA - proportional to the absolute humidity
 - 1 current input 4-20mA - proportional to the temperature
- * Outputs:
 - four 6A/250V SPDT relay outputs
- * Display:
 - 4 digit red LED display for absolute humidity measured value
 - 4 digit green LED display for measured temperature
 - 2 digit green LED display for symbols
 - 3 digit green LED display for absolute humidity set point
 - LED bargraph for visualization of the difference between the absolute humidity set point and measured value
 - LEDs for working modes
- * Mounting:
 - Dimensions - 160 x 166 x 102 mm, IP65
 - Wall mountable
- * Power supply - 90-250V AC, < 10 VA



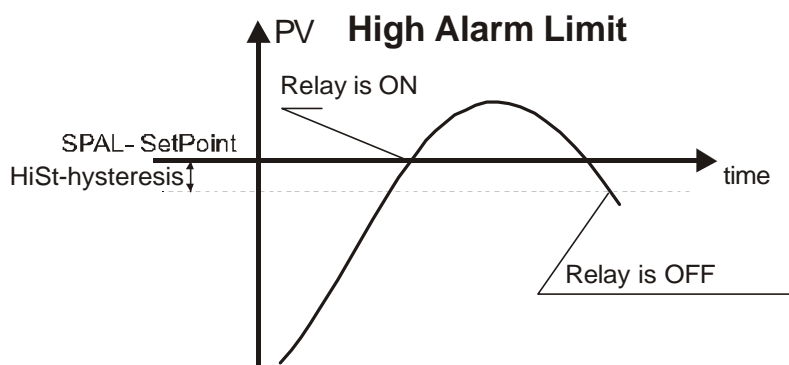
RELAY OUTPUTS FOR CONTROL

- For temperature (Rel1):

The temperature is controlled through relay output Rel1 (LED Ton the front panel) with ON/OFF-control action. A typical application for this control action is the heating process control where the temperature has to be near the set point. The following parameters have to be set:

1. Set point (St)
2. Hysteresis (Sth).

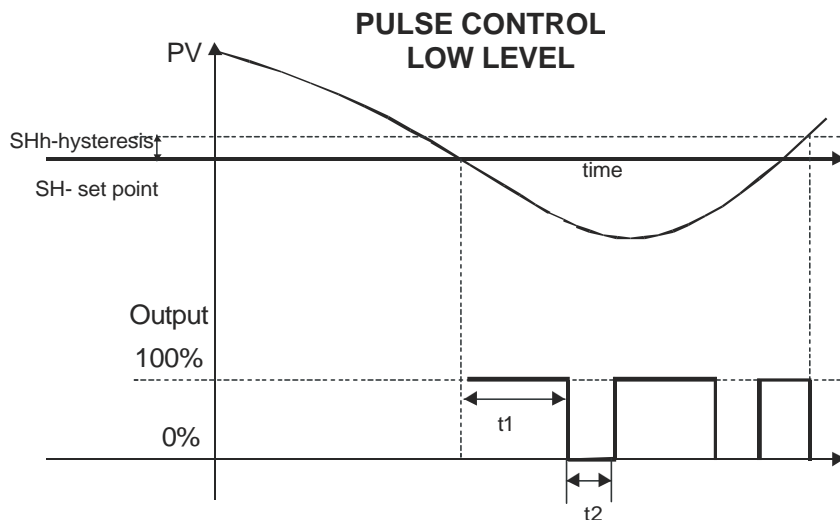
The way this relay output works is shown on the figure below:



- For humidity (Rel2):

The absolute humidity is controlled through relay output Rel2 (LED AH on the front panel) with Pulse control action. A typical application for this control action is the cooling process control. The following parameters have to be set:

1. Set point (SH)
2. Hysteresis (SHh).
3. Time in which relay output AH is switched on (t1) - pulse
4. Time in which the relay output is switched off (t2) - pause



When the humidity falls below the set point the Pulse-Pause control action is activated. When the humidity becomes higher than $SH+SHh$ the control action is deactivated.

ALARM RELAY OUTPUTS

- For temperature (Rel3):

The following parameters have to be set:

1. St - temperature set point
2. ht - hysteresis
3. t0 - minimal temperature

Relay output Rel3 (LED ALT on the front panel) is triggered when the following two conditions are true:

1. The temperature is higher than t0.
2. The temperature is below $St - ht$ or above $St + ht$

- For humidity (Rel4):

The following parameters have to be set:

1. Sh - absolute humidity set point
2. hr - humidity hysteresis
3. St - temperature set point
4. ht - temperature hysteresis

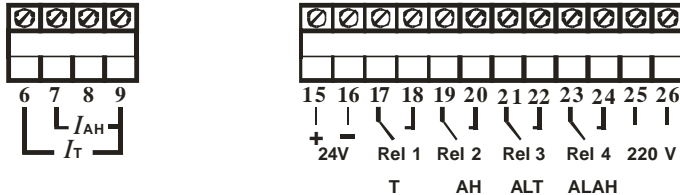
Relay output Rel4 (LED AHAL on the front panel) is triggered when the following conditions are true:

1. The temperature is above $St - ht$.
2. The humidity is below $Sh - hr$ or above $Sh + hr$.

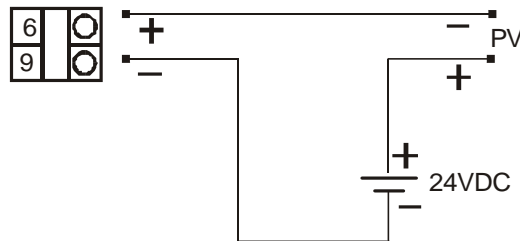
RELAY OUTPUT CONDITION RECORDING

The controller keeps records of date and time of alarm relay outputs energizing and de-energizing. The controller can keep up to 10 records. Each record consists of month, day, hour and minutes.

CONNECTION DIAGRAM



Terminal No	Description
6	temperature current input "+" lead
7	absolute humidity current input "+" lead
9	GND - common for the two inputs
15, 16	24V DC (galvanic isolated). Terminal 15 is "+" and terminal 16 is "-"
17, 18	NO contact of relay output for temperature control
19, 20	NO contact of relay output for humidity control
21, 22	NO contact of temperature alarm relay output
23, 24	NO contact of humidity alarm relay output
25, 26	Power supply 90-250V AC/DC



Passive current input connection

The connection of the current input (terminals 6 and 9 - for temperature, terminals 7 and 9 - for humidity) is with external power supply and is shown on the figure above.