User manual
ALFA 79 ST-PID
Hygrostat.

VDH doc: 080657 **Version: v1.1** **Date: 13-04-2010**
Software: ALFA79-ST-PID **File: Do080657.wpd** **Range: 0/+100%RH**

* Installation.

On the upper side from the **ALFA 79 ST-PID** is shown how the sensor, supply and relays should be connected. After power up a self test is started. If the self test is completed the measured humidity will be shown on the display.

* Control.

The **ALFA 79 ST-PID** hygrostat can be controlled by four push buttons on the front:

SET - viewing / changing the adjusted value and reset alarm.
UP - raise the adjusted value.
DOWN - lower the adjusted value.
%RH - hidden key above the **SET** key.

* Viewing the set points.

By pushing the **SET** key the adjusted set point can be read out. The led ‘set’ also starts flashing. A few seconds after releasing the **SET** key, the set point disappears and the measured value will be visible again.

* Changing set point.

Push the **SET** key and the set point appears in the display. Release the **SET** key. Push the **SET** key again together with the **UP** or **DOWN** keys to change the set point. A few seconds after releasing the **SET** key the set point disappears and the measured humidity is shown again.

* Status of the Relays.

By pushing the hidden **%RH** key the display shows the status of the relays. The three digits are indicating the status from the relays, hereby 0=off and 1=on. The code 110 means that relay 1 and relay 2 are on and relay 3 is off.

* Setting internal parameters.

Next to the adjustment of the set point, some internal settings can be made like differentials, sensor-adjustments, set point-range and alarm-settings.
By pushing the **DOWN** key for more than 10 seconds, you enter the 'internal programming menu'. On the left display the upper and the lower segments are flashing. Over the **UP** and **DOWN** keys the required parameter can be selected (see table for the parameters). If the required parameter is selected, the value can be read-out by pushing the **SET** key. Pushing the **UP** and **DOWN** keys allows you to change the value of this parameter.
If no key is pushed for 20 seconds, the **ALFA 79 ST-PID** changes to it's normal operation mode.

* Sensor adjustments.

The sensor can be adjusted by using the offset sensor (parameter 05).
Indicates a sensor e.g. 2%RH too much, the according Sensor-offset parameter has to be decreased with 2%RH.

* Error codes.

On the display from the **ALFA 79 ST-PID** can appear the following error codes:

E1 - RH sensor defect. Solution E1:
- Check if the sensor is connected well.
- Check RH-signal (0/+100%RH = 0/+10Vdc)
- Replace the sensor.

EE - Adjustments are lost. Solution EE:
- Reprogram the adjustments.

* Technical details.

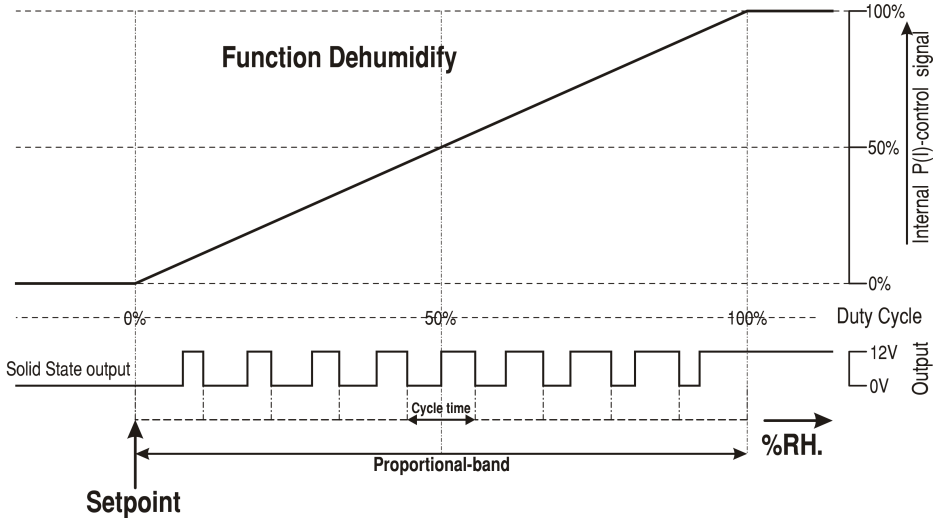
Type	: ALFA 79 ST-PID Hygrostat.
Range	: 0/+100%RH read out per 1%RH
Read out	: 3-digit 7-segments display
Status LED's	: LED 'SET' en LED 'RH'
Supply	: 12 Vac 50/60Hz (-5/+10%).
Solid-state	: Ry1 solid state output 12Vdc (pulse modulating)
Relays	: Ry2 spdt (C/NO/NC) 250V/8A(cosϕ=1) or 250V/5A(cosϕ=0.4)
Control	: Through push buttons on the front.
Front	: Polycarbonate.
Input voltage	: 0/+10Vdc (0/+100%RH) (Ri = 10KOhm)
Input contact	: C/NO contact(= 100% output) (Potential free input contact)
Dimensions	: 35 x 77 x 71,5mm (hwd).
Panel cut out	: 29 x 71mm (hw).
Accuracy	: ± 0,5% from the range.

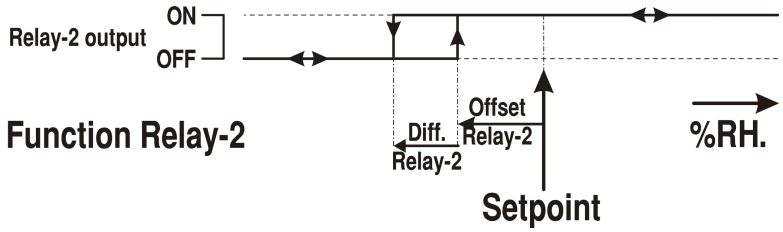
- Provided with memory protection during power failure.
- Equipped with self-test function and sensor-failure detection.
- Connection with screw-terminals.
- Special version on request available.

* Parameters ALFA 79 ST-PID

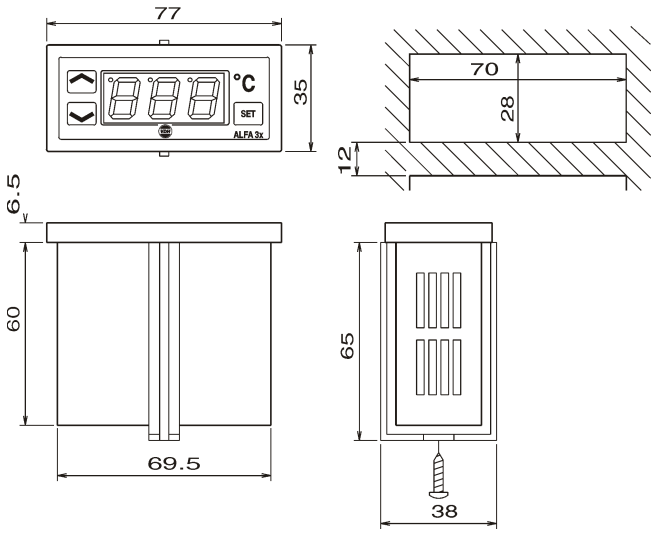
Para-Meter	Description Parameter	Range	Default value
01	Proportional band	1..15 %RH	5
02	Integration time	0..99 Seconds	0 (=off)
03	Differential action percentage	0..100 %	0 (=off)
04	Cycle time	0..999 Seconds	20
05	Offset humidity sensor	-15..+15%RH	0
10	Switching offset relay 2	0..+20%RH	10
11	Switching differential relay 2	1..5%RH	1
20	Minimum adjustable set point	0..100%RH	0
21	Maximum adjustable set point	0..100%RH	100
40	Control delay after power failure	0..99 min.	0
41	Forced solid-state output at sensor failure	0=No, 1=100% out	0
42	Forced relay-2 output at sensor failure	0=No, 1=Yes	0
95	Software version	0..255	-
96	Produktion year	00..99	-
97	Produktion week	1..52	-
98	Serial number (x1000)	0..255	-
99	Serial number (units)	0..999	-

* Function Diagram.

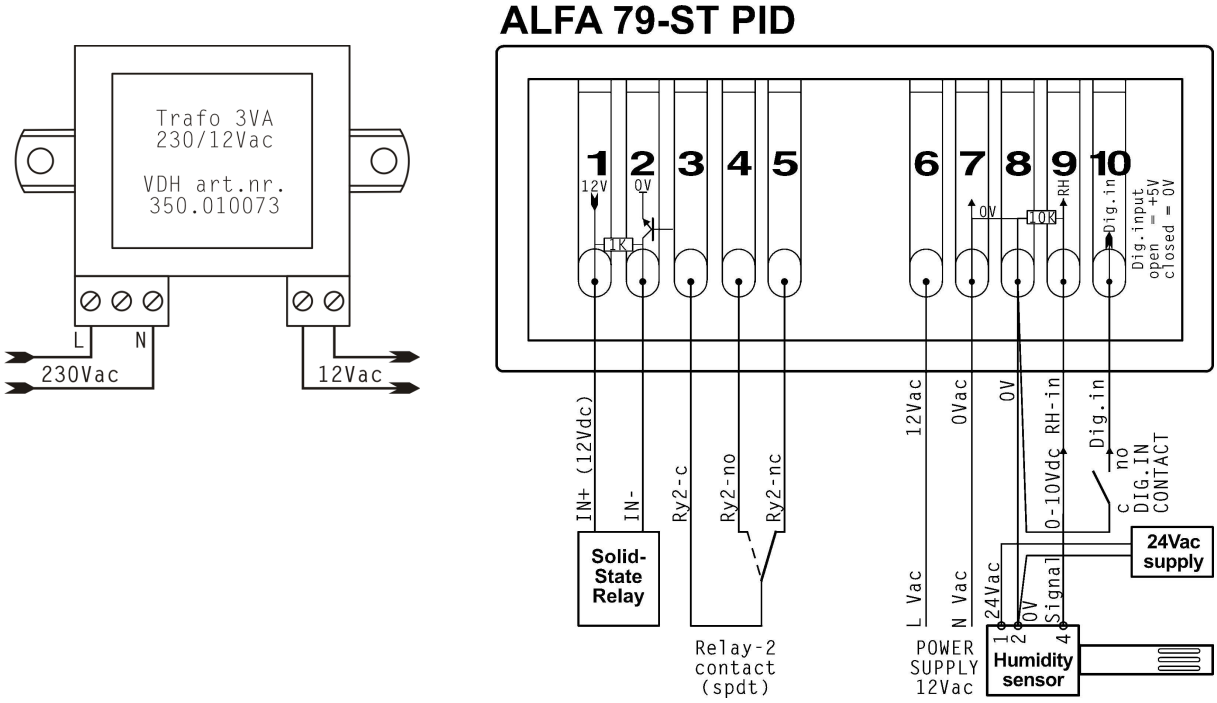




* Dimensions.



* Connections.



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