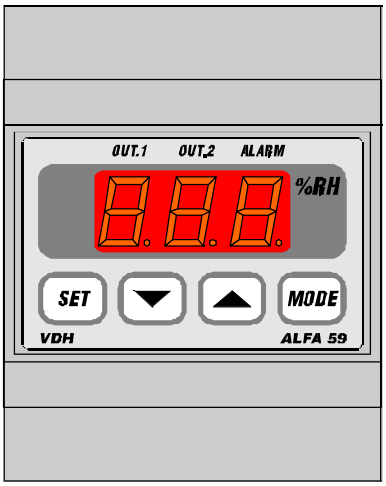
# User manual
# ALFA 59
# Hygrostat.




**VDH doc: 080340** **Version: v1.0** **Datum:06-03-2008**
**Software: ALFA59** **File: Do080340.WPD** **Range: 0/+100%RH**

## * Installation.

On the topside of the **ALFA 59** is shown how the sensor, power supply and relays has to be connected.
After connecting the **ALFA 59** to the power supply, a self test function is started. As this test is finished the measured humidity appears in the display.

## * Control.

The **ALFA 59** Hygrostat can be controlled by four push buttons on the front. These keys are:

| | |
|---|---|
| **SET** | - view / change set point and reset alarm. |
| **UP** | - increase value. |
| **DOWN** | - decrease value. |
| **%RH** | - hidden key above **SET** key and behind %RH symbol. |

## * View set point.

By pushing the **SET** key the set point appears in the display. The decimal point of the last display starts blinking to indicate this. After a few seconds after releasing the **SET** key the set point disappears and the measured temperature is shown again.

## * Changing set point.

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

## * Status of the Relays.

By pushing the hidden **°C** key the display shows the status of the relays. Each display segment shows the status of the relay output, showing 0= off and 1=on. The code 110 means 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 are possible like differentials, sensor-adjustments, set point-range and function of the hygrostat.
By pushing the **DOWN** key for more than 10 seconds, you enter the 'internal program-ming menu'. In the left display the upper and the lower segments are blinking. 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 after 20 seconds no key is pushed, the **ALFA 59** changes to it's normal operation mode.

## * Sensor adjustment.

The humidity-sensor can be adjusted by using the Offset Humidity sensor (parameter 05).
Indicates the **ALFA 59** e.g. 2% too much, than the Offset Humidity sensor (parameter 05) has to be decreased with 2%.

## * Error messages.

In the display of the **ALFA 59** the following error messages can appear:

| | | |
|---|---|---|
| **rLO** | - Minimum RH alarm. | Solution E1: |
| **rHI** | - Maximum RH alarm. | - Check if sensor is connected correctly. |
| **E1** | - RH sensor failure.* | - Check RH-signal. (0/+100%RH=0/+1Vdc) |
| | | - Replace sensor. |
| **EE** | - Settings are lost. | Solution EE: |
| | | - Reprogram the settings. |

*)
**-L-** - In case of sensor short-circuit the display alternates between error-code **E..** and **-L-**, as indication for a short-circuit sensor.
**-H-** - In case of open-circuit sensor the display alternates between error-code **E..** and **-H-**, as indication for a open circuit sensor.

## * Reset Alarm.

When a error-messages appears it can be reset by pushing the **SET** key. The function of this key depends on parameter P37.

## * Technical details.

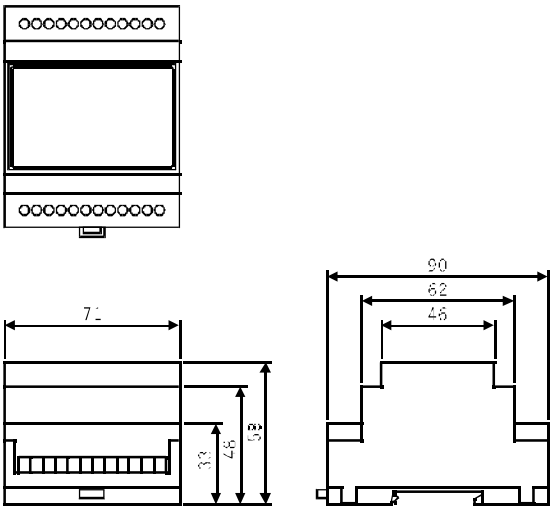
| | |
|---|---|
| Type | : ALFA 59 Hygrostat. |
| Range | : 0/+100%RH read-out per 1%RH |
| Read out | : 3-digit 7-segments display |
| Status LEDs | : LED 'SET' and LED 'RH' |
| Supply | : 230 Vac 50/60Hz (-5/+10%). |
| Relays | : Ry1= SPST(NO) 250V/8A (cos ϕ=1) of 250V/5A (cos ϕ=0.4)<br>Ry2= SPST(NO) 250V/8A (cos ϕ=1) of 250V/5A (cos ϕ=0.4)<br>Ry3= SPDT(NO/NC) 250V/8A (cos ϕ=1) of 250V/5A (cos ϕ=0.4)<br>The three relays have one common (C). |
| Control | : Thru pushbuttons on front. |
| Front | : Polycarbonate. |
| Input | : 0-10Vdc = 0-100% RH |
| Dimensions | : 35 x 77 x 71,5mm (HWD). |
| Panel-cutout | : 29 x 71mm (HW). |
| Accuracy | : ± 0,5% of 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.

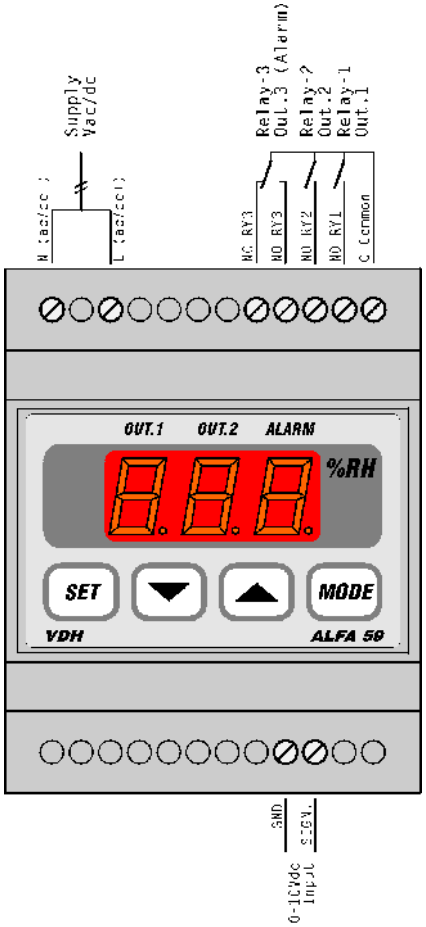
## * Parameters ALFA 59

| Para-meter | Description Parameter | Range | Default Value |
|---|---|---|---|
| 01 | Function Relays 1 | 1=Humidify<br>2=Dehumidify<br>3=Alarm | 1 |
| 02 | Function Relays 2 | 1=Humidify<br>2=Dehumidify<br>3=Alarm | 2 |
| 03 | Function Relays 3 | 1=Humidify<br>2=Dehumidify<br>3=Alarm | 3 |
| 05 | Offset Humidity sensor | -15..+15%RH | 0 |
| 10 | Switching differential relay 1 | 1..15%RH | 1 |
| 11 | Switching offset relay 1 | -15..+15%RH | 0 |
| 12 | Switching differential relay 2 | 1..15%RH | 1 |
| 13 | Switching offset relay 2 | -15..+15%RH | 0 |
| 14 | Switching differential relay 3 | 1..15%RH | 1 |
| 15 | Switching offset relay 3 | -15..+15%RH | 0 |
| 20 | Minimum set point | 0..100%RH | 0 |
| 21 | Maximum set point | 0..100%RH | 100 |
| 30 | Alarm mode | 0= None<br>1= Absolute<br>2= Relative | 1 |
| 31 | Minimum alarm set point | 0..100%RH | 0 |
| 32 | Maximum alarm set point | 0..100%RH | 100 |
| 33 | Time-delay minimum alarm | 0..99 min. | 0 |
| 34 | Time-delay maximum alarm | 0..99 min. | 0 |
| 35 | Function alarm relay | 0= fail safe al.<br>1= control al. | 0 |
| 36 | Auto reset alarm after failure recovering | 0= No<br>1= Yes | 0 |
| 37 | Manual reset alarm relay with set key | 0= No<br>1= Yes | 0 |
| 40 | Control-delay after power failure | 0..99 min. | 0 |
| 41 | Forced relay function at sensor failure | 0= None<br>1= Humidify<br>2= Dehumidify | 0 |
| 95 | Software version | 0..255 | 0 |
| 96 | Production year | 00..99 | 0 |
| 97 | Production week | 1..52 | 1 |
| 98 | Serial number (x1000) | 0..255 | 0 |
| 99 | Serial number (units) | 0..999 | 0 |

## * Dimensions.




## *Connections.




## * Address.

VDH Products BV
Produktieweg 1
9301 ZS Roden
The Netherlands

Tel: +31 (0)50 - 30 28 900
Fax: +31 (0)50 - 30 28 980
Email: info@vdhproducts.nl
Internet: www.vdhproducts.nl