User manual
ALFANET 79 PI
Hygrostat.
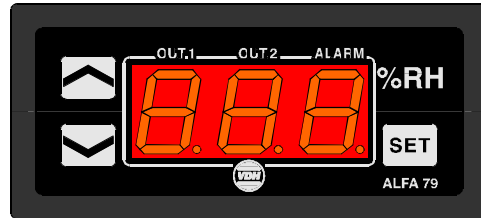
* Installation.

On the upper side from the **ALFANET 79 PI** is shown how the sensor, supply, output 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. The **ALFANET 79 PI** can be read out and controlled on the PC.

* Control.

The **ALFANET 79 PI** 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 point.

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 **ALFANET 79 PI** 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 **ALFANET 79 PI** can appear the following error messages:

rLO	- Minimum RH alarm.	<u>Solution E1</u>:
rHI	- Maximum RH alarm.	- Check if the sensor is connected well.
E1	- RH sensor defect.*	- Check the RH-signal (0/+100%RH=0/+1Vdc)
		- Replace the sensor.
EE	- Adjustments are lost.	<u>Solution EE</u>:
		- Reprogram the adjustments.

*) **-L-** - In case of a short circuit sensor the display will show **E1** and **-L-** alternating
  -H- - In case of a broken sensor the display will show **E1** and **-H-** alternating

* Working Alarm.

If there occurs an alarm, the message can be reset with the **SET** key. The function from the reset depends of parameter P37.

* Technical details.

Type	: ALFANET 79 PI 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	: 12...16 Vdc from LMS Supply-unit.
Relays	: Ry1= SPST(NO) 250V/8A (cos φ=1) of 250V/5A (cos φ=0.4)
	Ry2= SPST(NO) 250V/8A (cos φ=1) of 250V/5A (cos φ=0.4)
	Ry3= SPDT(NO/NC) 250V/8A (cos φ=1) of 250V/5A (cos φ=0.4)
	Relays have one common (C).
Communication	: RS485-network (2x twisted pair shielded cable)
Control	: Through push buttons on the front.
Front	: Polycarbonate.
Sensor	: RH 95 (+12Vdc; 0/+100%RH = 0/+1Vdc)
Analogue output	: 0...10Vdc PI output.
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.
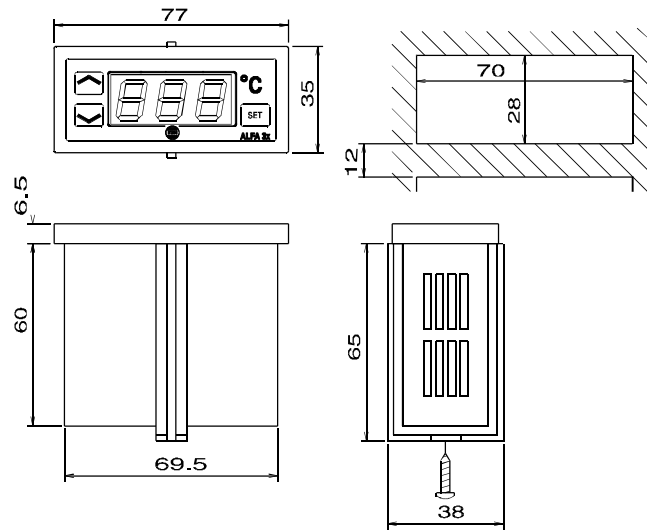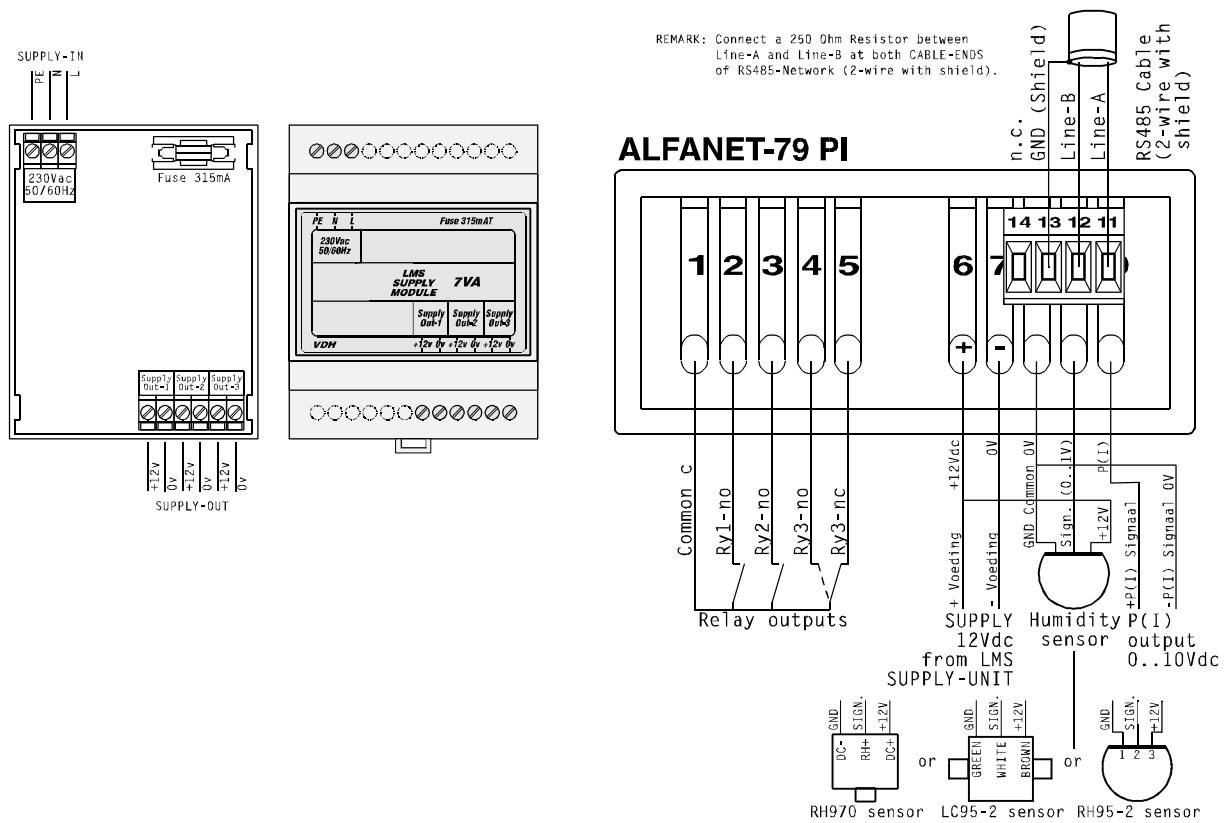- Special version on request available.

* Parameters ALFANET 79 PI

Para-Meter	Description Parameter	Range	Default value
01	Function Relay 1	1=Humidifying 2=Dehumidifying 3=Alarm	1
02	Function Relay 2	1=Humidifying 2=Dehumidifying 3=Alarm	2
03	Function Relay 3	1=Humidifying 2=Dehumidifying 3=Alarm	3
04	Function PI-output	1=Humidifying 2=Dehumidifying	1
05	Offset humidity sensor	-15..+15 %RH	0
06	Offset PI (zone)	-15..+15 %RH	0
07	P-band adjustment	1..100 %RH	50
08	I-time adjustment	0..99 Minutes	0 (off)
10	Switching differential relay 1	1..15 %RH	1
11	Offset relay 1	-15..+15 %RH	0
12	Switching differential relay 2	1..15 %RH	1
13	Offset relay 2	-15..+15 %RH	0
14	Switching differential relay 3	1..15 %RH	1
15	Offset relay 3	-15..+15 %RH	0
20	Minimum adjustable set point	0..100 %RH	0
21	Maximum adjustable set point	0..100 %RH	100
30	Type Alarm	0= Non 1= Absolute 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	Relay function alarm relay	0= fail safe alarm 1= control alarm	0
36	Reset alarm relay after recovering alarm	0= No 1= Yes	0
37	Reset alarm relay after manual reset	0= No 1= Yes	0
40	Control delay after power failure	0..99 min.	0
41	Forced relay function at sensor failure	0= No 1= Humidifying 2= Dehumidifying	0
90	Network number	1..31	1
95	Software version	0..255	-
96	Production year	0..99	-
97	Production week	1..52	-
98	Serial number (x1000)	0..022	-
99	Serial number (units)	0..999	-

* Dimensions.

* Connections.

REMARK: Connect a 250 Ohm Resistor between
Line-A and Line-B at both CABLE-ENDS
of RS485-Network (2-wire with shield).

ALFANET-79 PI

* Address.

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