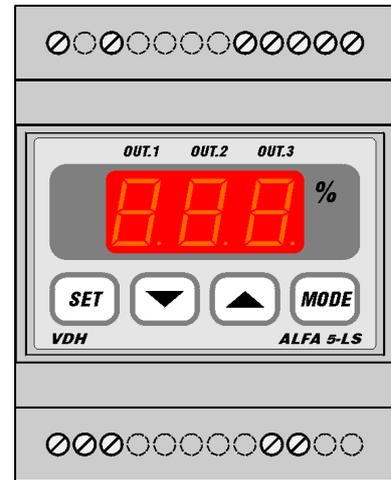


User manual

ALFA 5-LS and

ALFANET 5-LS

3-Stage level switch controller
With input 0-10Vdc = 0-100%



VDH doc. 080705

Version: v1.0

Date: 23-05-2008

Software: ALFA(NET) 5-LS

File: Do080705.wpd

Range: 0/+100% per 1%

* Function.

The **ALFA(NET) 5-LS** is a 3-stage level-switch controller for rail mounting. The read out is in whole percentage. The function from the controller can be adjusted through the internal parameters. A choice can be made between switching on if the measured value is higher or lower than the adjusted set point.

All three stages uses 1 set point and with the differentials and offsets the stages can be shift from each other.

The **ALFANET 5-LS** is equipped with a RS 485 network connection for read out and control on the Alfanet.

* Installation.

On the connection diagram from the **ALFA(NET) 5-LS** is shown how the input, network, supply and relay should be connected. After power up a self test is started. After the self test is started the measured percentage from the input will be shown.

* Control.

The **ALFA(NET) 5-LS** controller can be controlled by four push buttons on the front.

SET - viewing / changing from the adjusted value.

UP - raise the adjusted value.

DOWN - lower the adjusted value.

MODE - relays status key.

* Viewing the set point.

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

* Changing the 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 temperature is shown again.

* Status from the Relais.

Push the **MODE** key to 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.



* **Adjusting internal parameters.**

Next to the adjustment of the set point, some internal settings can be made like differentials, input offset and set point-range.

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(NET) 5-LS** changes to it's normal operation mode.

* **Parameters ALFA(NET) 5-LS.**

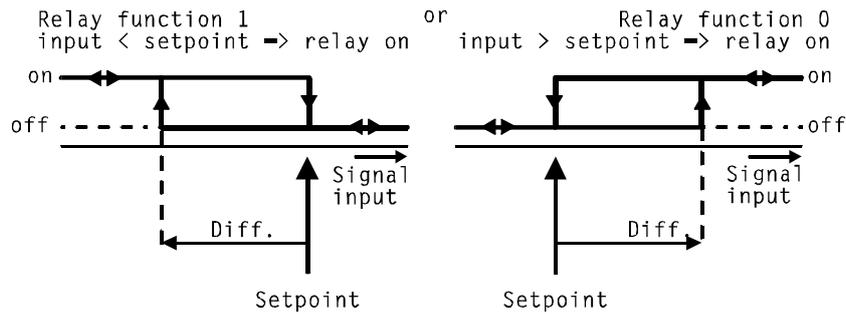
Parameter	Description Parameter	Range	Default value
01	Function relay-1 0 = input > set point; relay on 1 = input < set point; relay on	0..1	0
02	Function relay-2 (idem as P01)	0..1	0
03	Function relay-3 (idem as P01)	0..1	0
04	Minimum adjustable set point	0..100%	0
05	Maximum adjustable set point	0..100%	100
06	Offset input signal	-15...+15 %	0
10	Switching differential relay-1	1..100 %	1
11	Offset relay-1	-100...+100 %	0
12	Switch on delay relay-1	1) 0..99	0
13	Switch off delay relay-1	1) 0..99	0
14	Parameter 12/13 in sec. or min.	0=sec./1=min.	0
15	Minimum on-time relay-1	0..99 min.	0
16	Minimum off-time relay-1	0..99 min.	0
20	Switching differential relay-2	1..100 %	1
21	Offset relay-2	-100...+100 %	0
22	Switch on delay relay-2	1) 0..99	0
23	Switch off delay relay-2	1) 0..99	0
24	Parameter 22/23 in sec. or min.	0=sec./1=min.	0
25	Minimum on-time relay-2	0..99 min.	0
26	Minimum off-time relay-2	0..99 min.	0
30	Switching differential relay-3	1..100 %	1
31	Offset relay-3	-100...+100 %	0
32	Switch on delay relay-3	1) 0..99	0
33	Switch off delay relay-3	1) 0..99	0
34	Parameter 32/33 in sec. or min.	0=sec./1=min.	0
35	Minimum on-time relay-3	0..99 min.	0
36	Minimum off-time relay-3	0..99 min.	0
40	Control delay after power failure	0..99 min.	0
90	Network number	1..255	1
95	Software version	0..255	-
96	Production year	00..99	-
97	Production week	1..52	-
98	Serial number (x1000)	0..255	-
99	Serial number (units)	0..999	-

1) When a delay time is running, the most right dot will flashing.



* **Function diagram.**

Each relays (out.1 till out.3) is adjustable



* **Adjusting input signal.**

The input signal can be adjusted with the Offset input signal (parameter 06). Indicates the **ALFA(NET) 5-LS** f.i.. 2 % to much, than the Offset input signal should be decreased with 2 %.

* **Error codes.**

On the display from the **ALFA(NET) 5-LS** can appear the following error codes:

EE - Adjustments are lost.

Solution EE: - Reprogram the adjustments.

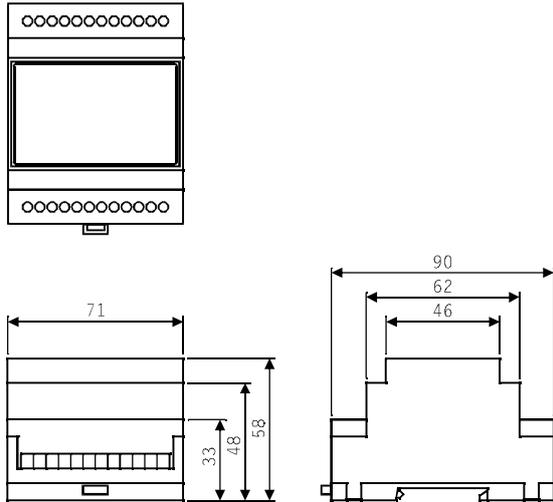
* **Technical details.**

Type	: ALFA(NET) 5-LS Level Switch	
Range	: 0/100 %, read out per 1 %	
Supply	: 230 Vac (or 24Vdc or 12Vdc see sticker)	
Relays	: The three relays have one common;	
	Ry-1 (out-1)SPST (NO)	250V/8A (cos φ=1) of 5A (cos φ=0,4)
	Ry-2 (out-2)SPST (NO)	250V/8A (cos φ=1) of 5A (cos φ=0,4)
	Ry-3 (out-3)SPDT (NO,NC)	250V/8A (cos φ=1) of 5A (cos φ=0,4)
Control	: Through push buttons on the front.	
Communication	: RS485 (2x twisted pair shielded cable min. 0,5mm ²)	
Front	: Polycarbonate IP65	
Input signal	: 0-10Vdc = 0-100%	
Dimensions	: 90 x 71 x 58mm (hwd)	
Panel cut out	: 46 x 71mm (hw)	
Accuracy	: ± 0,5 % from the range.	

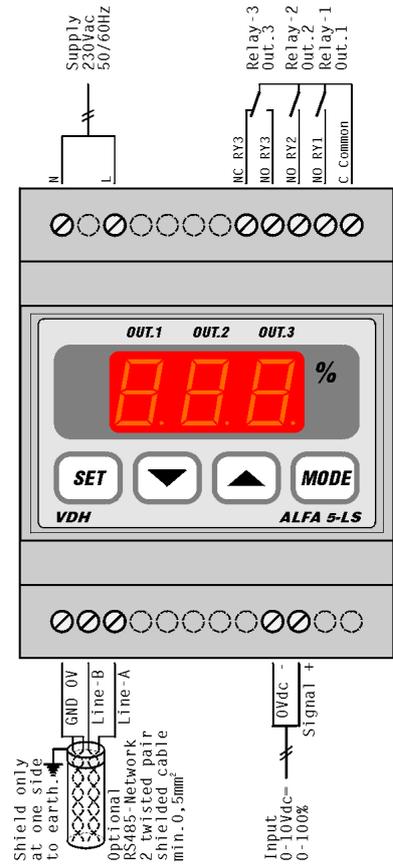
- Provided with memory protection during power failure.
- Equipped with self-test function and sensor-failure detection.
- Connection with screw-terminals.
- Special version on request available.



* **Dimensions.**



* **Connections.**



* **Address.**
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