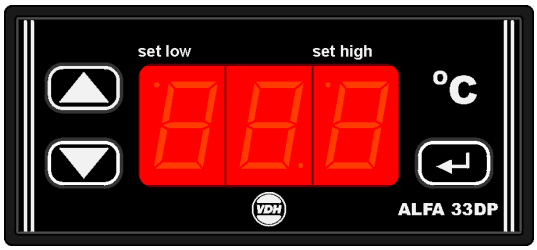
# User Manual
# ALFA(NET) 33 DP -10/+90˚C (0,1)
## Minimum / Maximum Alarm Thermostat.




**VDH doc. 120548** **Version: v1.0** **Date: 29-05-2012**
Software: 0726443 ALFA 13/23/33 DP2 F File: Do120548.wpd Range: -10/+90˚C readout per 0,1˚C

### * Function.
The **ALFA(NET) 33 DP** is a digital alarm thermostat for panel mounting. The temperature is readout in tents of degrees Celsius. The thermostat watches the minimum and maximum temperature. To report a alarm the **ALFA(NET) 33 DP** has one relay for both alarms.
The **ALFA*NET* 33 DP** has a RS 485 network connection so it can be read out and adjusted on the Alfanet.

### * Installation.
On the topside of the **ALFA(NET) 33 DP** you can see how the sensor, power supply and relay have to be connected.
After the **ALFA (NET) 13 DP** is connected to the power supply, it takes a few seconds to show the measured temperature in the display.
The alarm relay is a multi functional combined minimum- and maximum-alarm, at alarm the LED ‘set high’ is lit in the display.

### * Control.
The **ALFA(NET) 33 DP** alarm thermostat can be controlled by three pushbuttons on the front;
- **SET** - view / change setpoints and reset of alarm.
- **UP** - increase a value.
- **DOWN** - decrease a value.

### * Viewing setpoints.
Viewing setpoint of maximum alarm:
By pushing the **SET** key first and then the **UP** key together the maximum alarm setpoint appears in the display. The led 'set high' starts blinking.
Viewing setpoint of minimum alarm:
By pushing the **SET** key first and then the **DOWN** key together the maximum alarm setpoint appears in the display. The led 'set low' starts blinking.
A few seconds after releasing the keys the setpoint disappears and the measured temperature is shown in the display.

### * Changing setpoints.
Push the **SET** key together with the **UP** or **DOWN** key and the maximum alarm setpoint or minimum alarm setpoint appears in the display. Release both keys.
Now push the **SET** key again and together with the **UP** or **DOWN** keys the setpoint can be changed.
A few seconds after releasing the keys the measured temperature shows again in the display.

## * Operation of the alarm functions.

This alarm thermostat has two adjustable alarms namely, a minimum and a maximum alarm. Whereby can be chosen from watch or control alarms (Parameter 27):

- Watch Alarm: The relay is normally activated and LED 'set high' is off. At alarm the relay is deactivated and the LED 'set high' is lit. This is also the case at power failure.
- Control Alarm: The relay is normally deactivated and the LED 'set high' is off. At alarm the relay is activated and the LED 'set high' is lit.

Furthermore, an alarm can be hold or reset automatically (parameter 28).

- If alarms are hold (default), the alarms must be confirmed by pressing the **SET** button. Only when the alarm cause is solved and the alarm is confirmed, the relay is set to its normal position.
- If alarms are not hold and the alarm cause is solved, the alarm will automatically reset and the relay is set to its normal position.

Also, an offset (zone) and the differential for each alarm can be set. See the function diagram.
Furthermore, a delay time (Parameter 23 and 24) for each alarm can be set, during the delay time the led 'set high' flashes. If after ending the delay-time the alarm is still present, an alarm is given and the relay is set into the alarm position. If the temperature is recovered within the delay time, than there will be no alarm.

In the display is continuously shown **H** at maximum alarm and **L** at minimum alarm. Once the alarms are confirmed, the measured temperature is shown again alternating with any outstanding actual alarm indications.

With parameter 29 set to 1 (Yes), the relay of the controller can be set to its normal position by confirming the alarm, although the alarm is not being solved. Then the led 'set high' is switched off, the relay is set to its normal position and the display starts showing the measured temperature again, alternated with the outstanding alarm indications.

## * Sensor Fault Detection.

If a sensor fault is detected, there is error message **Er** in the display and the relay works according to the setting of parameter 11.
The error remains in the display until it is manually confirmed by pressing the **SET** key. Once the sensor fault is confirmed by the measured temperature is displayed alternating with any outstanding actual error.
After the sensor fault is solved, the relay works again according to setting of parameter 27 as:

- the sensor fault is/shall be confirmed by hand, or
- an alarm is detected.

In most situations it will be logical to set Parameter 11 and 27 to the same value.

## * Sensor adjustment.

The sensor can be adjusted by using the Sensor Offset (parameter 04). Indicates the **ALFA(NET) 33 DP** e.g. 0.2˚C too much, the Sensor Offset has to de decreased by 0.2˚C.

## * Error messages.

In the display of the **ALFA(NET) 33 DP** the following error messages can appear:

**Er** - Sensor broken.
Solution: - Check if the sensor is connected correctly.
- Check the sensor (1000Ω at 25˚C).
- Replace the sensor.

**EE** - Settings are lost.
Solution: - Settings must be reprogrammed.

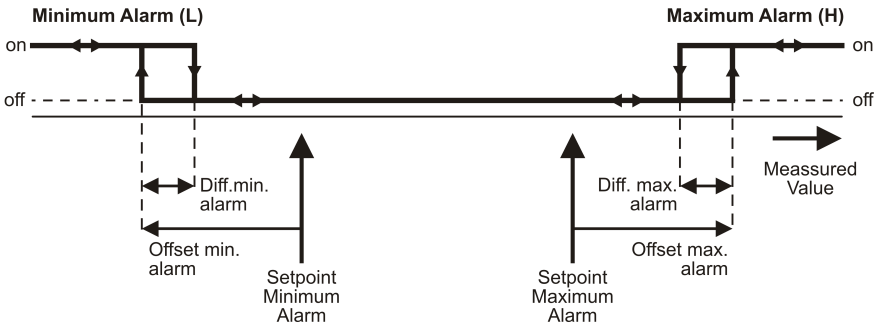
## * Setting internal parameters.

Next to the adjustment of the setpoint, some internal settings are possible like differential, sensor-offset, setpoint range and alarm settings.
By pushing the **DOWN** key more than 10 seconds, you enter the 'internal programming menu'. In the left display the upper- and lower-segment are blinking. With the **UP** and **DOWN** keys the required parameter can be selected (see the parameter table). If the required parameter is selected, the value can be read-out by pushing the **SET** key. Pushing the **UP** or **DOWN** keys, allows you to change the value of this parameter. If no key is pushed for 20 seconds, the **ALFA(NET) 33 DP** changes to it's normal operation mode.

## * Parameters ALFA(NET) 33 DP.

| Para-meter | Description Parameter | Range | Standard Value |
|---|---|---|---|
| 02 | Minimum setpoint setting | -10.0..+90.0˚C | -10.0 |
| 03 | Maximum setpoint setting | -10.0..+90.0˚C | +90.0 |
| 04 | Offset temperature sensor (sensor adjustment) | -15.0..+15.0˚C | 0.0 |
| 10 | Startup delay after power failure | 0..99 Minutes | 0 |
| 11 | Relay on at sensor failure | 0 = No, 1 = Yes | 0 |
| 21 | Differential maximum alarm | 0.1..15.0˚C | 1.0 |
| 22 | Differential minimum alarm | 0.1..15.0˚C | 1.0 |
| 23 | Time delay maximum alarm | 0..99 Minutes | 0 |
| 24 | Time delay minimum alarm | 0..99 Minutes | 0 |
| 25 | Offset maximum alarm | -10.0..+10.0˚C | 0.0 |
| 26 | Offset minimum alarm | -10.0..+10.0˚C | 0.0 |
| 27 | Relay alarm function (0=watch alarm 1=control alarm) | 0..1 | 0 |
| 28 | Auto reset alarm after temperature recovering (0=hold alarm, 1=don't hold alarm) | 0 = No, 1 = Yes | 0 |
| 29 | Reset alarm after manual conformation, despite the alarm situation is not solved | 0 = No, 1 = Yes | 0 |
| 90 | Network number (only at ALFANET) | 1..250 | 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 | - |

## * Function diagram.

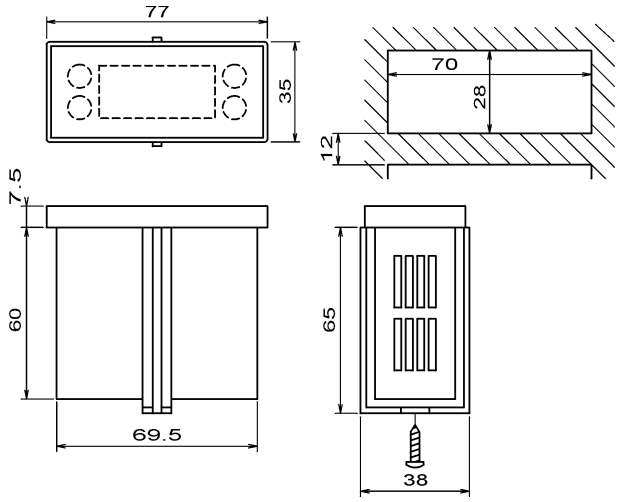



## * Technical data.

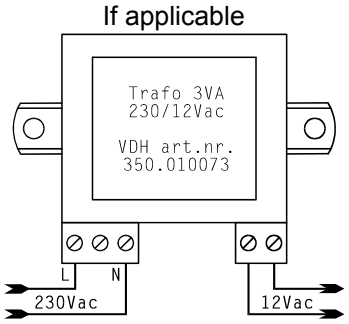
| | | |
|---|---|---|
| Type | : | ALFA 33 DP alarm thermostat<br>ALFANET 33 DP alarm thermostat with network |
| Range | : | -10/+90˚C, readout per 0,1˚C |
| Supply | : | 230 Vac / 3VA, 50/60Hz (or else see product sticker) |
| Relay | : | 1x SPDT contact Max. 250V/16A(C-NO), 8A(C-NC) (cos phi=1) |
| Communication | : | RS 485 Network (2xtwisted pair shielded) at ALFANET model. |
| Control | : | By pushbuttons on front. |
| Front | : | Polycarbonate IP65 |
| Sensor | : | SM 811 2-wire PTC-sensor (1000Ω at 25˚C). |
| Dimensions | : | 35 x 77 x 71,5mm (hwd) |
| Panel cut-out | : | 28 x 70mm (hw) |

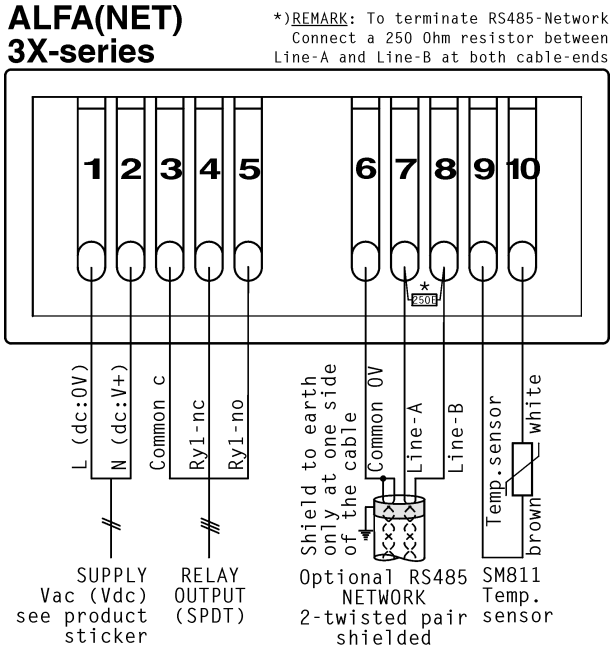
- Provided with memory protection during power failure.
- Connection with screw terminals on the backside.
- Equipped with self test function and sensor failure detection.
- Special versions are available upon request.

## * Dimensions.

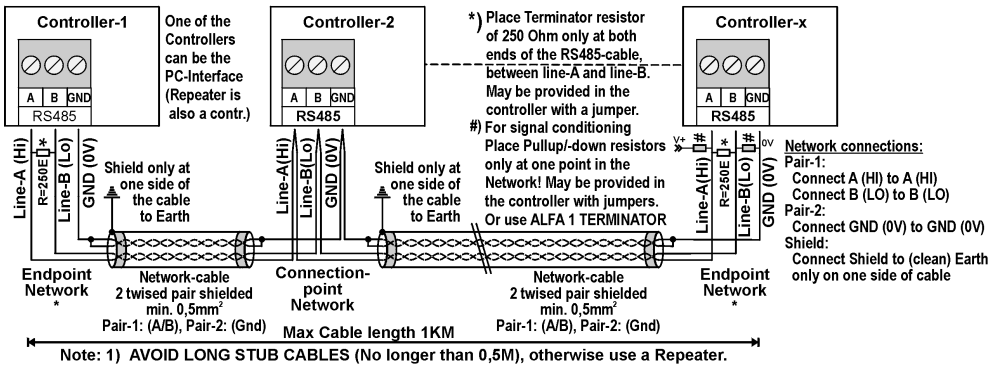



## * Connection diagram.




**RS 485 NETWORK CONNECTIONS 2-twisted pair shielded cable:**

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