User manual
ALFA 10 DP and
ALFANET 10 DP

Thermometer.
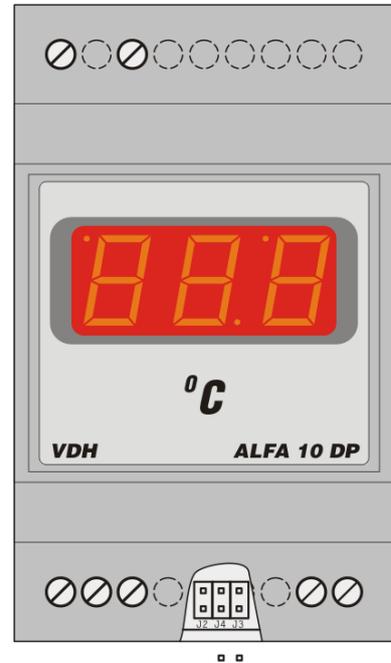
VDH doc: 053964	**Version: v2.2**	**Date: 14-11-2007**
Software: ......_ALFA 10/20/30DP	File: Do053964.wpd	Range: See product sticker per 0,1˚C

* Function.

The **ALFA(NET) 10 DP** is a digital thermometer for rail mounting. The temperature readout is in tenths of grad Celsius.

The **ALFA_NET_ 10 DP** has a RS 485 network connection so it can be read out the Alfanet.

* Installation.

On the connection diagram is shown how the sensor and power supply have to be connected. After connecting the **ALFA(NET) 10 DP** to the power supply, a self-test function is started. As this test is finished, the measured temperature appears in the display.

* Control.

The **ALFA 10 DP** thermometer has for normal use no need for controls. Only for adjustment of the sensor the **ALFA 10 DP** has three hidden pushbuttons on the front.

SET	- view / change the setpoint.
UP	- increase the setpoint.
DOWN	- decrease the setpoint.

These pushbuttons are placed at the following places at the front:

SET	- Left below the display, above 'VDH'.
UP	- Middle below the display, on '^{O}C'.
DOWN	- Right below the display, above 'ALFA 10 DP'.
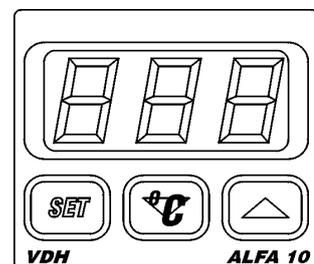
* <u>Setting internal parameters.</u>

To enter the internal parameter menu, use the following instructions;

By pushing the **DOWN** key more than 10 seconds, you enter the 'internal programming menu'. In the left display the upper and lower segments are blinking. Over the **UP** and **DOWN** keys the required parameter can be selected (see table for the parameters). In this case only '04' offset temperature sensor.

If the required parameter is selected, the value can be read-out by pushing the **SET** key. Pushing the **UP** and **DOWN** keys together with the **SET** key allows you to change the value of this parameter.

If after 20 seconds no key is pushed, the **ALFA(NET) 10 DP** changes to its normal operation mode.

* <u>Parameters ALFA(NET) 10 DP.</u>

PARA-METER	DESCRIPTION PARAMETER	RANGE	STANDARD VALUE
04	Offset temperature sensor	-15..+15˚C	0,0
90	Network number	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	-

* <u>Adjustment sensor.</u>

The sensor can be adjusted by using the Sensor Offset (parameter 04). Indicates the **ALFA(NET) 10 DP** e.g. 2,0˚C too much, the Sensor Offset has to de decreased with 2,0˚C.

* <u>Error messages.</u>

In the display of the **ALFA(NET) 10 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:
- Reprogram the settings.

* <u>Technical details.</u>

Model	:	ALFA 10 DP Thermometer
		ALFANET 10 DP Thermometer with network
Range	:	-10/+40°C, readout per 0,1°C (Standard)
		Or else see product sticker
Supply	:	230 Vac / 1,2VA 50/60Hz (or else see product sticker)
Control	:	by push buttons on the front.
Front	:	Polycarbonate
Sensor	:	SM 811/2m (1000 Ohm at 25°C)
Communication	:	RS485-Network
		(2x twisted pair shielded, min. 0,75mm^2)
Sizes	:	90 x 53 x 58mm (hwd)
Panel hole	:	46 x 53mm (hw)

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

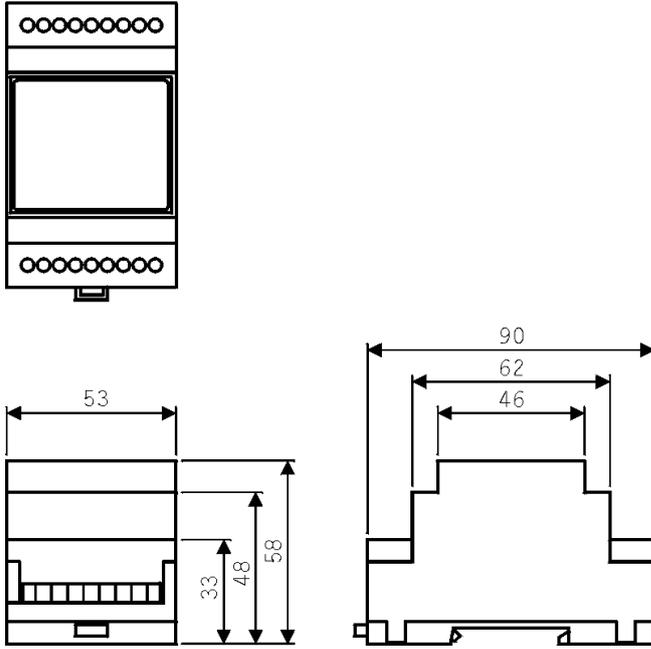## * <u>Address.</u>

VDH Products BV	Tel:	+31 (0)50 - 30 28 900
Produktieweg 1	Fax:	+31 (0)50 - 30 28 980
9301 ZS Roden	Email:	info@vdhproducts.nl
The Netherlands	Internet:	www.vdhproducts.nl

* Dimensions.   * Connections.

Supply
Vac (Vdc)
see sticker

N(V+)
L(0V)

VDH   ALFA 10 DP

°C

Shield only at one
point to Earth

GND 0V
Line-B
Line-A

RS485 Network
2 twisted pair
shielded
(Optional)

Place terminator jumper
J4 only at the ends of
the RS485 network
Place pullup/down
jumpers J2 and J3 only
at one point in the
RS485 network

Temperature Sensor
2-wire SM811

white
brown
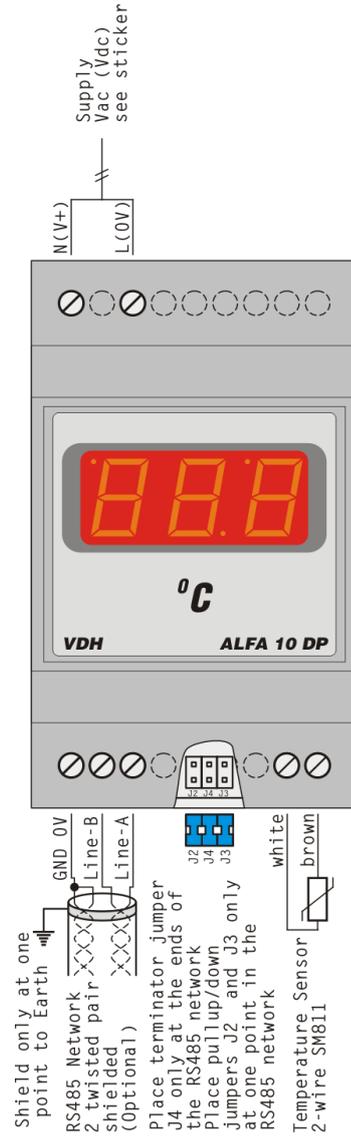
RS 485 NETWORK CONNECTIONS 2-twisted pair shielded cable:

Controller-1	One of the Controllers can be the PC-Interface (Repeater is also a contr.)	Controller-2		Controller-x

A B GND
RS485

A B GND
RS485

A B GND
RS485

*) Place Terminator resistor of 250 Ohm only at both ends of the RS485-cable, between line-A and line-B. May be provided in the controller with a jumper.
#) For signal conditioning Place Pullup/-down resistors only at one point in the Network! May be provided in the controller with jumpers. Or use ALFA 1 TERMINATOR

Line-A (Hi)
R=250E *
Line-B (Lo)
GND (0V)

Line-A(Hi)
Line-B(Lo)
GND (0V)

V+ #
R=250E *
#
0V

Line-A(Hi)
Line-B(Lo)
GND (0V)

Network connections:
Pair-1:
Connect A (HI) to A (HI)
Connect B (LO) to B (LO)
Pair-2:
Connect GND (0V) to GND (0V)
Shield:
Connect Shield to (clean) Earth only on one side of cable

Shield only at one side of the cable to Earth

Shield only at one side of the cable to Earth

Endpoint Network *

Connection-point Network

Endpoint Network *

Network-cable 2 twised pair shielded min. 0,5mm² Pair-1: (A/B), Pair-2: (Gnd)

Network-cable 2 twised pair shielded min. 0,5mm² Pair-1: (A/B), Pair-2: (Gnd)

Max Cable length 1KM

Note: 1) AVOID LONG STUB CABLES (No longer than 0,5M), otherwise use a Repeater.

4