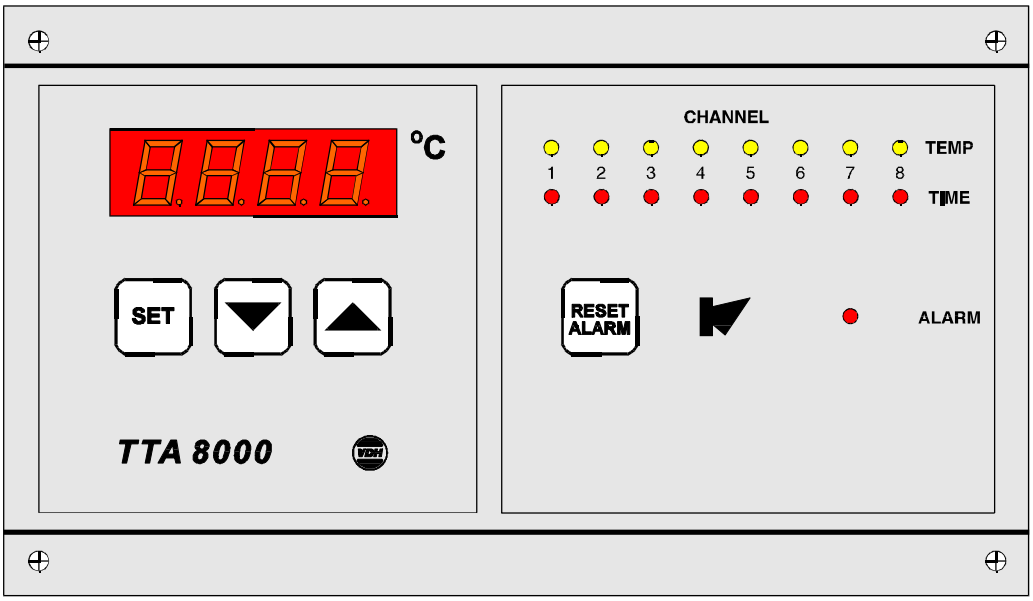
User manual

TTA 8000

-40/+40°C (0,1)



VDH doc. 040462 **Versie: V1.0** **Datum: 18-02-2004**
Software TTA8000D File: Do040461.wp8

* Functional specifications.

The TTA 8000 is an 8-channel temperature alarm unit.
A maximum of 8 SM811 sensors can be connected, each channel can be programmed as minimum, maximum or minimum/maximum alarm. Each alarm can have its own time delay. The not used channels can be switched off.
Normally the display shows the active sensors every 5 seconds in a loop.
Further there is a so called "Technical Alarm" input (with EA ="External Alarm" indication). This is a normally closed contact used for external failure indication. This 'EA' alarm is not resetable, but there is a parameter for the alarm duration and Technical Alarm time delay.

* Operation.

The unit is controlled by the buttons on the front of the TTA 8000:

SET	-	key for changing settings.
▾	-	down key to lower values.
▴	-	up key to increase values.
RESET ALARM	-	reset key to reset the alarm.

Manual or automatic readout temperatures:

When there is no alarm, each 5 seconds an active sensor is shown. The yellow LED indicates which sensor is shown.
Manually the next channel can be shown by pressing the ▴ key and the previous channel by pressing the ▾ key. After 15 seconds the unit switches to automatic mode.

Operation alarm output:

The alarm relay is normally on and drops during alarm. There are two types of alarms: temperature alarms of the 8 channels or a technical alarm via the external alarm input.
At temperature alarms per channel the type of alarm can be set at no, minimum alarm, maximum alarm or minimum/maximum alarm.

At a temperature alarm the red time LED of that channel will flash. If within the set time delay the cause of the alarm disappears, there will be no alarm and the red LED will go off. If the time delay is passed at temperature alarm, an alarm will follow. The red LED will light continuously, and the alarm relay drops, the alarm LED and the buzzer are on. The relay and buzzer can be reset by pressing the ' RESET' key, the red alarm LED will be on until the cause of the alarm is solved and the reset key is pushed (The alarm stays active until the RESET key is pushed).
The alarm relay is active during the 'duration-alarm-relay' time (P 9) of the alarm.

When opening the technical alarm contact (ALARM INPUT) the red alarm LED will flash and the time-delay for the technical alarm starts. The display shows '**EA**' (External Alarm). If the technical alarm will reset itself with the time-delay, no alarm will be given. If the time delay is passed, an alarm message will follow. During alarm the alarm relay will drop, the alarm LED will light continuously and the buzzer is on. This alarm is not resettable with the RESET ALARM key, but it will only take the maximum set time for the alarm. After this time the relay is reset and the buzzer goes off. The message '**EA**' will remain in the display until the technical alarm input is closed.

Changing internal parameters:

Each channel has its own parameter setting (see table 1, parameter 0 to 7).
The technical alarm has its own parameter settings (parameter 8 & 9).

Activate program mode:
- The program mode is activated by pressing the "SET" key for 10 seconds. The left display shows a flashing 0 (parameter nr.), the right display the preset value of that parameter. The yellow led of channel 1 flashes to indicate that this parameter belongs to channel 1.
- If no key is pressed for 30 seconds, the controller returns to the normal operation mode.

Change value of parameter:
- Press the "SET" key and the ▲ or ▼ key to change the setting.

Select next parameter:
- Press only the ▲ or ▼ key to select the next parameter of this channel.

Change channel of controller:
- Press the "RESET" key to select the next channel. The yellow LED of the next channel will light.

Technical alarm and duration alarm relay settings:
- After the settings of the channels are done, the settings of the Technical Alarm and duration alarm relay can be programmed (setting 8 & 9).

Table 1 : Internal parameters TTA 8000. (Attention: Parm. 0 until 7 for each channel)

Par.	Description	Default	Range	Unit
0	Function 0 = not active 1 = minimum alarm 2 = maximum alarm 3 = min/max alarm	3	0 .. 3	--
1	setpoint minimum alarm	-40.0	-	°C
2	setpoint maximum alarm	+40.0	40.0/+40.0	°C
3	delay minimum alarm	5	-	minutes
4	delay maximum alarm	10	40.0/+40.0	minutes
5	diff. minimum alarm	1.0	0 ... 240	°C
6	diff. maximum alarm	1.0	0 ... 240	°C
7	sensor offset	0.0	0.1/10.0 0.1/10.0 - 10.0/+10.0	°C
8	delay technical alarm	10	0/120	minutes
9	duration alarm relay	20	0/7200	seconds

The default values are the factory settings.

Selection function (parmeter 0):

Herewith the function of the channel is programmed. There are 4 options:
- 0 = Channel not active (also not scrolling of temperature).
- 1 = Channel active as minimum alarm.
- 2 = Channel active as maximum alarm.
- 3 = Channel active as minimum and maximum alarm.

Setpoints (parameter 1 & 2), delays (parameter 3 & 4) and differentials (parameter 5 & 6):

Each channel has its own minimum alarm setpoint (parameter 1), with time delay (parameter 3) and differential (parameter 5).
And each channel has its own maximum alarm setpoint (parameter 2), with time delay (parameter 4) and differential (parameter 6).
Depending on the function setting (parameter 0), non, one of the two or both are active.

The setpoint setting tells at which temperature of that channel an alarm will follow.
With the time delay the alarm can be delayed in time (e.g. if the temperature exceeds the alarm level for more than 30 minutes, an alarm should be given).
The differential setting is the difference in temperature between switching on and off of the alarm.
Example: if a maximum alarm should be given at +30°C and should switch off at +28°C. The alarm should be on for 10 minutes, before an alarm can be given. In this case set the maximum alarm setpoint at +30°C, the maximum alarm delay at 10 minutes and the maximum alarm differential at +2°C (2 = 30 - 28).

Sensor adjustment (parameter 7):

Each sensor can be adjusted via the software with parameter 7.
If a sensor indicates e.g. 2° C too much, the offset of that sensors needs to be set at -2° C.

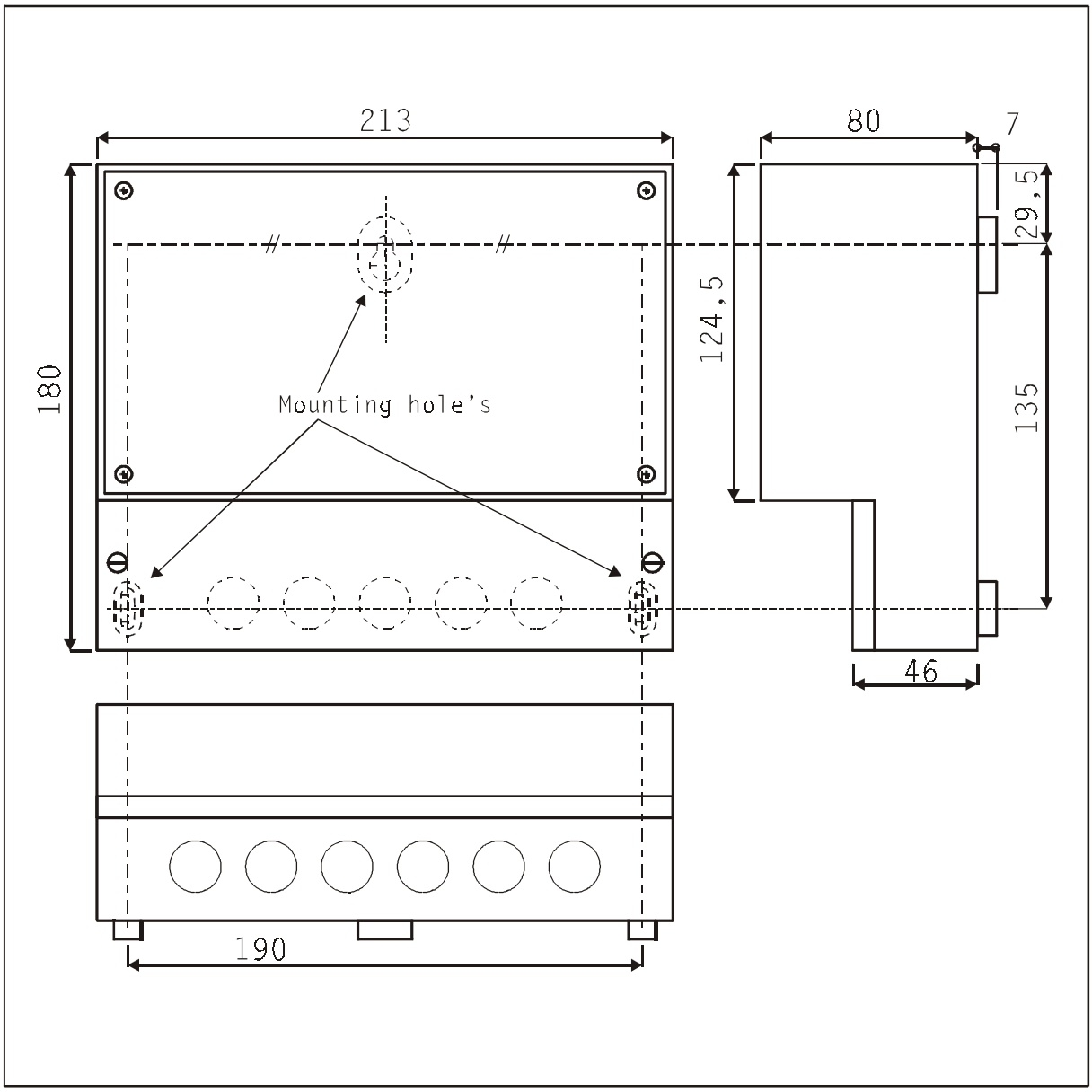
* Sensor failures.

The controller will show sensor failures directly. At ' open' sensor a maximum alarm without time delay is given and at ' short' sensor a minimum alarm without time delay is given.

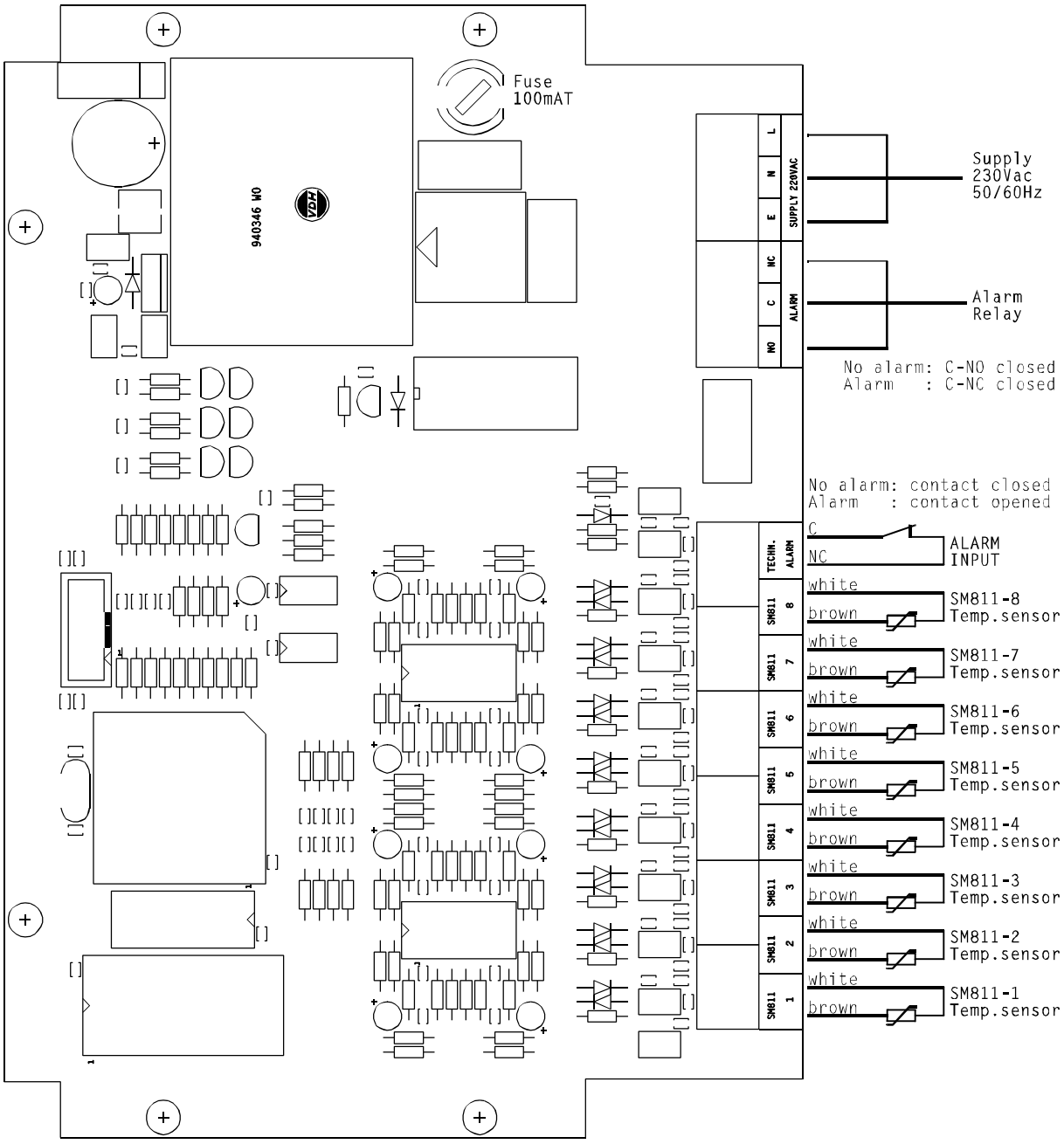
* Technical data.

Type	:TTA 8000
Housing	:SM785 with door
Mounting method	:Wall mounting
Cable input	:Via feed through holes
Cable connection	:On coded print connectors
Dimensions	:LxWxH = 213 x 180 x 80mm
Power supply	:230 Vac or 24 Vac 50/60 Hz (-5/+10%) see sticker!
Sensors input	:8x SM811 (1000 Ohm at 25° C)
Digital input	:1x potential free contact (technical alarm)
Range	:-40/+40° C per 0,1° C
Accuracy	:± 0,5% of the range
Functions	:alarm (minimum, maximum or both per channel programmable and technical alarm)
Indications	:8x LED yellow (temperature alarm) 8x LED red (temperature alarm after time delay) 1x LED red (alarm)
Read-out	:4-digit display
Output relay	:1x SPDT relay contact
Store temperature	:-10/+50° C
Operation temp.	:-10/+50° C
Operation RH.	:0/+100 %RH not condensing

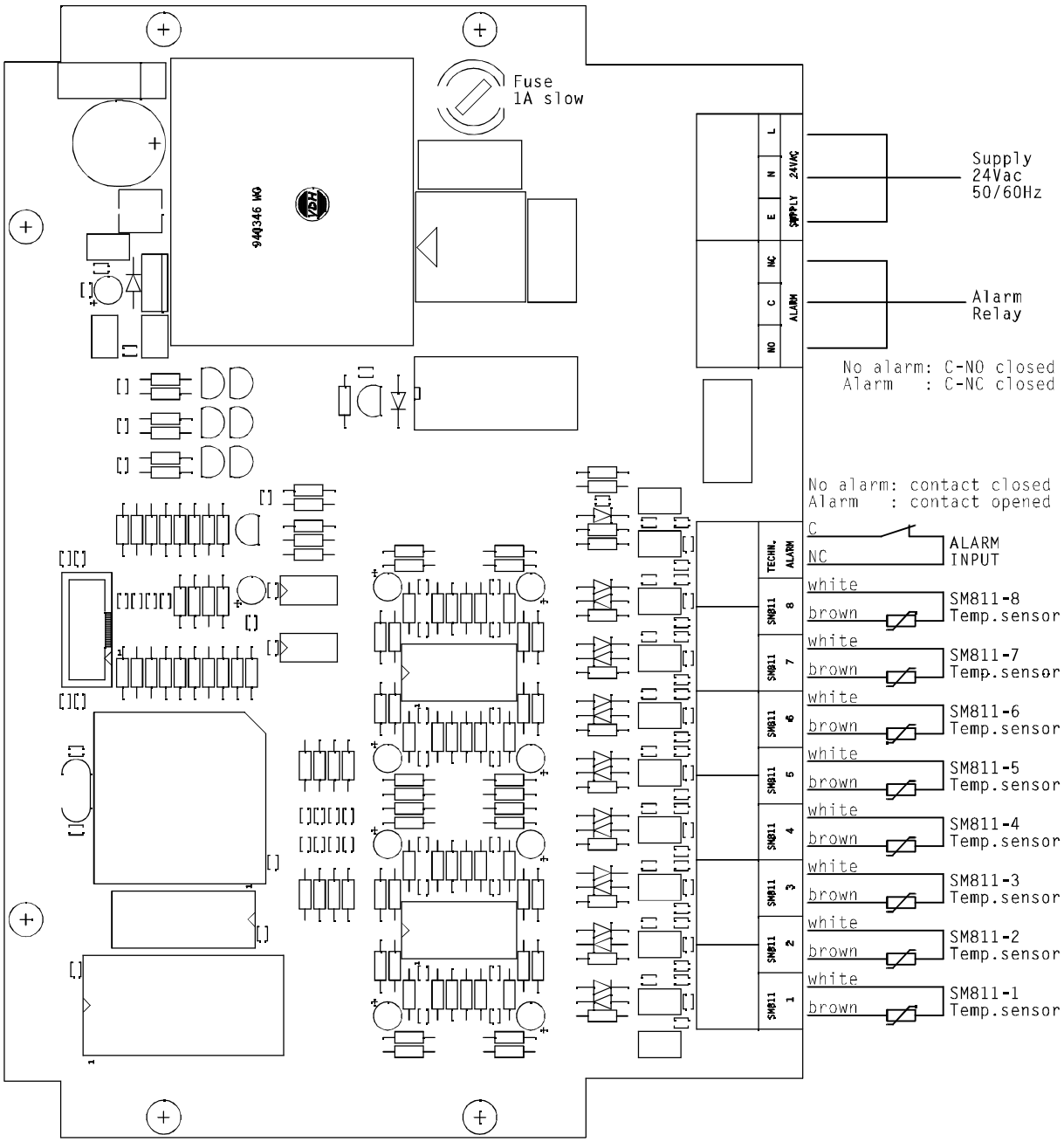
*** Dimensions.**



* Connection diagram.



Drawing 951770: Supply 230Vac



Drawing 980484: Supply 24Vac

*** Address.**

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