

Instruction Manual

TH100ACHIMDX Thermometer for Stove Pipe, Chimney, w/ remote alarm

Version 1.1

1. Features

This thermometer can be used for stove pipe and chimney temperature monitoring. The meter contains two alarm settings for the built-in buzzer. One can be used for high limit alarm and the other can be used for low fuel alarm. It also has a third alarm for the connected external buzzer that can be placed at different floor from where the stove is located. The gauge is powered by 12V DC through an AC adapter (included) for continuous operation. It can also be powered by car battery.

2. Specifications

- AC adaptor: 100-240V, 50/60Hz input. 12 VDC, 1 Amp output.
- Power consumption: <2W
- Sampling rate: 4 samples/second
- Accuracy: 0.2% full scale
- Sensor: K type thermocouple, -320-1800°F (-200~900°C).
- Output for buzzer: 12VDC, 1 Amp
- LED display: 0.39 inch, red
- Internal buzzer: Two set points alarm.
- External buzzer: High limit or low limit alarm
- Dimension: 3x5x1.2" (78x120x28.5mm)

3. Front Panel

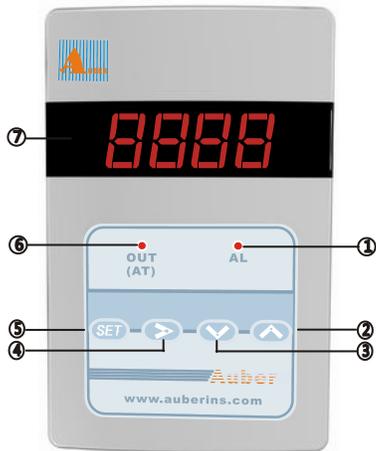
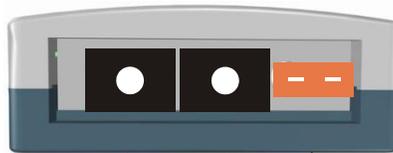


Figure 1. Front panel

- ① AL - Internal Alarm Indicator
- ② Value increment / Select next parameter
- ③ Value decrement / Select previous parameter
- ④ Digit shift / Internal alarm mute
- ⑤ Set / Confirm
- ⑥ OUT - External buzzer indicator
- ⑦ Parameter display

4. Connecting the meter

Figure 2 shows the terminals of the meter. Connect the 12V DC power adapter to the terminal 1 and wall outlet. Connect the external buzzer connector to terminal 2. The polarity for this socket is center pin positive (+), outer collar negative (-). Connect the K thermocouple to terminal 3. Please note that thermocouple connector also has polarity. The wide blade should go to the wide slot.



- ① POWER - 12V Power supply input
- ② OUT - Output for external buzzer
- ③ INPUT - Temperature probe input

Figure 2. Terminals (back view)

5. Parameter Setting

5.1. Temperature setting and Alarm setting (accessed by code 0001)

Table 1. Alarm parameters

Symbol	Description	Range	Initial	Note
SV	External alarm temperature	Arbitrary value within the measuring range	480	Note 1
RH1	Alarm 1 on temperature		481	Note 2
RL1	Alarm 1 off temperature		480	
RH2	Alarm 2 on temperature		250	
RL2	Alarm 2 off temperature		250	
End	Exit			

Note 1. Set Alarm for external buzzer.

There are two ways to set the external alarm temperature.

- During the normal operation mode, press Δ or V once to switch the display from process value (PV) to set value (SV, or target temperature). The display will start to blink. Press Δ or V again to increase or decrease the SV. When finished, wait 8 seconds and the settings will take effect automatically (the display will stop blinking).
- Press SET key once. Use Δ , Δ and V keys to enter code 0001. Press SET key to confirm, then the display would be SV (SV). Press SET key again to display the SV setting. Use Δ , Δ and V keys to enter the new SV value and press SET to confirm. Press V key to change the display to END. Then, press SET to exit. You can also ignore the steps after confirmation of SV. The controller will return to normal operation mode automatically if no key is pressed for 1 minute. The flow chart below shows how to set the SV and alarms in details.

The default setting for the external buzzer is high limit alarm (see Note 6). The external buzzer will be on when the temperature is above SV+Hy (see Note 5), will be off when the temperature drops back to SV.

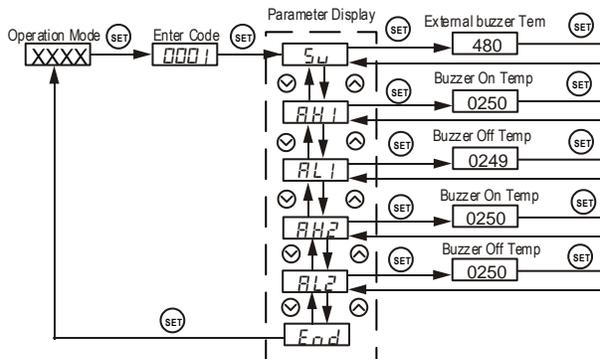


Figure 3. Flow chart for how to set target temperature and alarm.

Note 2. Set alarm for internal buzzer

The meter offers two alarms that can be set to turn on the internal buzzer at specific temperatures. The first alarm is controlled by parameters AH1 and AL1. The initial setting will turn on the buzzer at 481 °F and off when temperature drops below 480°F. The second alarm is controlled by parameters AH2 and AL2. The initial setting of the second alarm is deactivated. It can be set as low alarm to send warning. AH1 and AH2 are the temperatures to turn the internal buzzer on; AL1 and AL2 are the temperatures to turn buzzer off. When AH1(2) >AL1(2), the alarm is set for absolute high alarm as shown in Figure 4 below. When AH1(2) <AL1(2), the alarm is set for absolute low alarm as shown in Figure 5 below. When AH1(2)=AL1(2), the alarm is deactivated.

Example, if AH1=481, AL1=480, when the temperature goes up to 481°F, the buzzer will be on; when the temperature drops down to 480°F, the buzzer will be off. If AH2=180, AL2=185, when the temperature drops down to 180°F, the buzzer will be on; when the temperature goes up to 185°F, the buzzer will be off.

User can press the shift key (>) to temporarily mute the buzzer sound. The alarm will buzz again if the alarm set temperature is reached again. To permanently deactivate the alarm, set AH1=AL1 or AH2=AL2. Please see flow chart in Figure 3 on how to set the value.

The default setting is both internal and external buzzer are on when the temperature is above 481 (SV+Hy, AH1); will be off when the temperature drops down to 480 (SV, AL1).

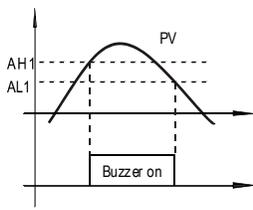


Figure 4. Absolute high alarm

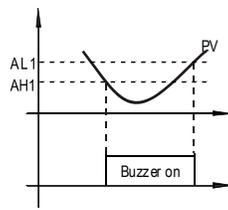


Figure 5. Absolute low alarm

5.2 System Configuration Parameters (accessed by code 0089)

Table 3. System configuration parameter setting

Code	Description	Setting Range	Initial	Note
Inty	Inty	Input Sensor Type	See Appendix	K
outy	outy	Output Mode	0, 1, 2, 3, 4, 5, 6	3 Note 3
Hy	Hy	Hysteresis Band	0-9999	1 Note 4
Atdu	Atdu	Ignore this setting	0-200	
PSb	PSb	Input Offset	-1000-1000	0 Note 5
rd	rd	External alarm type	0: low 1: high	1 Note 6
CorF	CorF	Display Unit	0: °C 1: °F	1 Note 7
End	End	Exit		

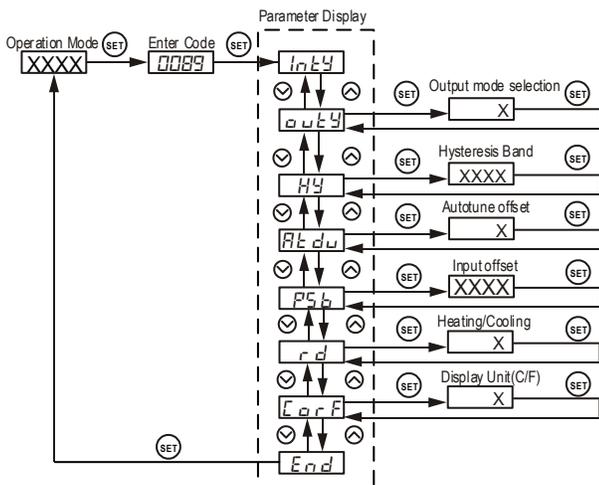


Figure 6. The system setup flow chart

Note 3. The value of outy should be 3.

Note 4. The default setting for the external buzzer is high limit alarm. The external buzzer will be on when the temperature is above SV+Hy will be off when the temperature drops back to SV. The default setting for the Hy is 1.

Note 5. Calibration offset, PSb is used to set an input offset to compensate the error produced by the sensor. For example, if the meter displays 5 °C when probe is in ice/water mixture, setting PSb= -5, will make the controller display 0 °C.

Note 6. Rd is for system function selection, Its value should be kept as 1 for high limit alarm.

Note 7. Display unit selection CorF: 0 for Celsius (°C); 1 for Fahrenheit (°F).

Additional note:

The remote alarm control output of this thermometer can also be used as a PID or on/off control output. For details, please refer to Auber SYL-1614 manual.

Auber Instruments, Inc
 5755 North Point Parkway, Suite 99
 Alpharetta, GA 30022 USA
 Tech support: 770-569-8420, 404-983-8228

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