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# User's Guide

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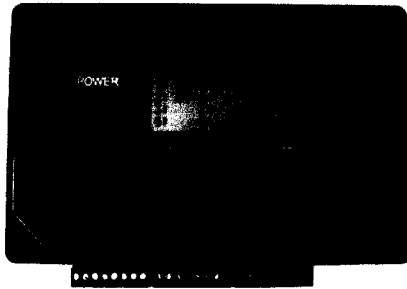
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## **Model OMA-VM500-5**

**Eight Zone Temperature Alarm Dialer**



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**Servicing North America:**

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The information contained in this document is believed to be correct, but OMEGA accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

**WARNING:** These products are not designed for use in, and should not be used for, human applications.

### **General Description**

The OMA-VM500-5 is a complete temperature monitor and auto-dialer. The OMA-VM500-5 monitors up to eight 100 ohm .00385 TCR curve RTD temperature sensors which allows the user to monitor a wide range of temperatures.

The OMA-VM500-5 allows the user to program individual high and low temperature limits for each zone. When a zone's temperature goes out of its limits, the OMA-VM500-5 will call up to four programmable voice or pager numbers.

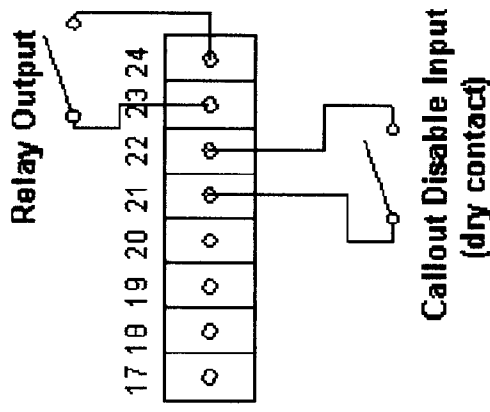
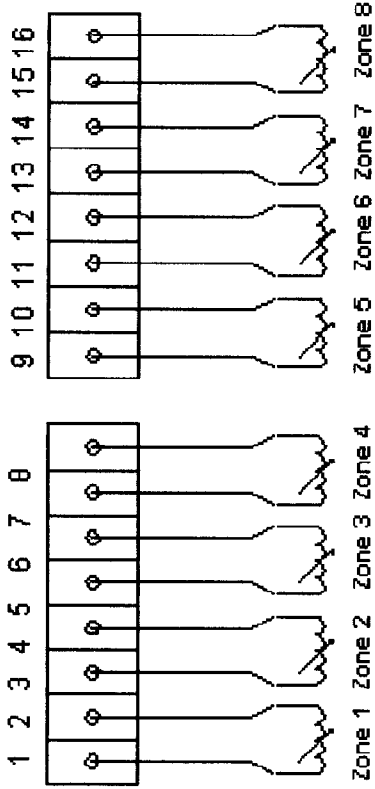
The OMA-VM500-5 also monitors the power to which it is connected and will call its programmed telephone numbers if a power outage exists.

The OMA-VM500-5 will turn on its alarm relay and buzzer, when any zone is out of limits. The alarm is turned off by pressing the white button on the face of the dialer.

### **Installing the OMA-VM500-5**

1. Select a location with access to power and a telephone line.
2. Connect the phone line to an active phone jack.
3. Plug in the wall mount transformer into a power socket
4. Connect the wall mount transformer power jack to the Eight Zone Temperature Guard on the top of the unit.
5. For ease of wiring, remove the RTD terminal blocks.
6. Wire each RTD to the OMA-VM500-5 RTD terminal block. See Wiring Diagram 1.
7. Turn the power switch located to the left of terminal block position 1.

### OMA-VM500-5 Terminal Block Definition



## **Programming the OMA-VM500-5**

Programming is accomplished over the phone and only has to be done once, unless it is necessary to make a change. Before programming, do the following:

- 1 Connect a phone line and power, and then turn on the OMA-VM500-5.
- 2 From another phone line dial the number where the OMA-VM500-5 is located. The device will pick up after the first ring.
- 3 When prompted, enter the 4-digit PIN number (Factory default PIN number is 0000).
- 4 You will hear the Main Menu options (you may enter your selection at any time):
  1. Status
  2. Set Limits
  3. Program
  0. Hang Up

Each Zone has four (4) programmable parameters.

**Zone Identification Message.** The Zone ID message will be played when the Eight Zone Temperature Guard is giving the status of that zone, both in callouts and call-ins.

**Zone Low and High Temperature limits.** The low and high temperature limit values are programmed in degrees. When a zone's temperature exceeds either the high or low limit for longer than the programmed callout time delay, the Eight Zone Temperature Guard will begin making telephone calls.

**Zone Temperature callout time delay.** A zone's temperature must be out of limits for greater than the callout delay time before the Eight Zone Temperature Guard will begin making telephone calls.

## **Programming Zone Parameters**

### **1. Accessing Sensor Configuration**

- a) From the Main Menu, press 2 to Set Limits
- b) You will hear "*Enter Zone*"
- c) Enter the zone you want to program (1-8)
  - ▶ If you do not wish to program a zone press 0 to return to the Main Menu.
- d) Proceed to Step 2.a.

## **2. Programming the Zone ID message**

- a) You will hear "Zone x message is ...."
- b) You will hear "Press 1 to change"
- c) Press 1 to change the message  
(Press 2 to skip and proceed to step 3.a or press 0 to stop programming this zone and return to step 1.b)
- d) You will hear a tone
- e) Begin speaking after the tone. The Eight Zone Temperature Guard will record for about 2 seconds
- f) After 2 seconds you will hear the tone again, marking the end of your message
- g) You will hear the message you recorded
- h) Proceed to step 3.a

## **3. Programming the Lower and Upper Temperature Limits**

- a) You will hear "Zone x lower limit is" and the current low temperature limit for that zone (i.e. 40 degrees)
- b) You will hear "Press 1 to change"
- c) Press 1 to change the limit  
(Press 2 to skip and proceed to step 3.g or press 0 to stop programming this zone and return to step 1.b)
- d) You will hear "Enter number then press pound"
- e) Enter the value then press #.  
▶ Acceptable range is -999 to 999
- f) You will hear the value you just entered (i.e. 55 degrees)
- g) You will hear "Zone x upper limit is" and the current high temperature limit for the selected zone (i.e. 85 degrees)
- h) You will hear "Press 1 to change"
- i) Press 1 to change the limit  
(Press 2 to skip and proceed to step 3.g or press 0 to stop programming this zone and return to step 1.b)
- j) You will hear "Enter number then press pound"
- k) Enter the value then press #.  
▶ Acceptable range is -999 to 999
- l) You will hear the value you just entered (i.e. 75 degrees)
- m) Proceed to step 4.a

## **4. Programming the callout delay time**

- a) You will hear "Callout time delay is XX minutes press 1 to change" (default 0 minutes)

- b) Press **1** to make a change (Press **2** to skip and return to step 1.b)
- c) You will hear *"Enter number then press pound"*
- d) Enter the time delay in minutes (i.e. 15 for 15 minutes or 0 minutes for an immediate callout)
  - ▶ Acceptable range is 0 to 900 minutes
- e) You will hear the value you just entered
- f) Proceed to step 1.b

Repeat the steps 1 to 4 for each zone in use.

**The following instructions deal with programming items from the Program menu.**

To access the Program Menu:

- 1. From the Main Menu, press **3**
- 2. You will hear the Program Menu options:
  - 1. Primary Number
  - 2. Secondary Number
  - 3. Third Number
  - 4. Fourth Number
  - 5. Local ID
  - 6. Record a Message
  - 7. Number of Rings
  - 8. Change PIN number
  - 0. Exit (return to Main Menu)

**Programming Telephone/Pager Numbers**

The OMA-VM500-5 stores up to four (4) emergency telephone or pager numbers. The OMA-VM500-5 will call each phone number until the PIN number is entered. If OMA-VM500-5 reaches an answering machine, it will leave your personal identification message, and then the alarm condition, but will continue calling.

**First Time Number Programming:**

- 1. From the Program Menu, Select **1** for the primary number, **2** for the secondary number, **3** for the third number, or **4** for the fourth number.
- 2. You will hear *"Enter number then press pound"*
- 3a. For voice phone numbers enter the full phone number (**1 + area code if necessary**) followed by the **#** key.
- 3b. For pager numbers enter **\*** then enter the full pager number

- (1 + area code if necessary)** followed by the **#** key.
4. You will hear the telephone number you just entered.
  5. You will be automatically returned to the Program Menu

**Note:**

If an extra delay between digits is required, entering \* will provide a two second delay. Do not enter \* for the first digit unless programming a pager number.

To program the second, third, and fourth numbers repeat above steps, entering 2, 3, and 4 respectively from the program menu.

**To Change a Phone Number:**

1. Select the appropriate number from the Program Menu
2. You will hear the telephone number for the selected recipient
3. You will hear *"Press one to change"*
4. Press 1 if you want to make a change or press any other button to return to the Program Menu
5. You will hear *"Enter number then press pound"*
- 6a. For voice phone numbers enter the full phone number **(1 + area code if necessary)** followed by the **#** key.
- 6b. For pager numbers enter \* then enter the full pager number **(1 + area code if necessary)** followed by the **#** key.
7. You will hear the telephone number you just entered.
8. You will be automatically returned to the Program Menu

**To Delete a Phone Number:**

1. Select the appropriate number from the Program Menu
2. You will hear the telephone number you selected
3. You will hear *"Press one to change"*
4. Press 1 to make a change
5. You will hear *"Enter number then press pound"*
6. Enter the **#** key
7. You will be automatically returned to the Program Menu

**Programming the Number of Rings**

The OMA-VM500-5 answers the telephone line after the programmed number of rings. Valid numbers of rings are 1 – 25.

1. From the Program Menu, press 7 to set the number of rings
2. You will hear the programmed number of rings
3. You will hear *"Press one to change."*



4. Press **1** if you wish to make a change or press any other button to return to the Program Menu
5. You will hear *"Enter number then press pound"*
6. Enter the number of rings, then press **#**
7. You will hear the number of rings you entered
8. You will be automatically returned to the Program Menu

### **Recording a Personal Identification Message**

When the OMA-VM500-5 calls out, it first plays a 4 second personal identification message.

1. From the Program Menu, press **6** to record a message
2. If this is the first time setup, go to step 4
3. You will hear the recorded message
4. You will hear *"Press one to change."*
5. Press **1** if you wish to make a change or press any other button to return to the Program Menu
6. You will hear a tone
7. Begin speaking after the tone. The OMA-VM500-5 will record for about 4 seconds
8. After 4 seconds you will hear the tone again, marking the end of your message
9. You will hear the message you recorded
10. You will be automatically returned to the Program Menu

### **Programming a Local Identification Number For Pagers**

The local identification number is printed on the display of a pager when the OMA-VM500-5 calls a pager number. This number can be up to 20 digits long.

1. From the Program Menu, press **5** for the local ID
2. If this is the first time setup, go to step 6
3. You will hear the programmed number
4. You will hear *"Press one to change"*
5. Press **1** if you wish to make a change or press any other button to return to the Program Menu
6. You will hear *"Enter number, then press pound"*
7. Enter the number, followed by a **#**
8. You will hear the number you just entered.
9. You will be automatically returned to the Program Menu

## **Programming a PIN Number**

The OMA-VM500-5 uses a 4-digit PIN number (0000-9999) to identify you when calling the device or during callout procedures. After programming the PIN number write it down here.

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**The PIN number must be 4 digits and must not include a # sign.**

1. From the Program Menu, press **8** to change the PIN number
2. You will hear the programmed PIN number
3. You will hear "*Press one to change.*"
4. Press **1** if you wish to make a change or press any other button to return to the Program Menu
5. You will hear "*Enter number*"
6. Enter a four digit number (do not put a # anywhere in your pin number)
7. You will hear the PIN number you just entered
8. You will be automatically returned to the Program Menu

## **Using the OMA-VM500-5**

### **The Alarm Override Input**

The alarm override input is used to disable the emergency call out feature. The alarm override input is a dry-contact type. The OMA-VM500-5 sources 12v at 12ma dc. To prevent the OMA-VM500-5 from calling out during a defrost cycle, or a predetermined period of time, the user can wire a timers dry contacts to pins 21 and 22. When the switch is closed the bottom LED will light.

On models equipped with the display, the display will read CALLOUT DISABLED when the Time-of-Day input is active.

### **What happens when a zone goes out of limits?**

1. The zone which has gone out of limits will display a "<-" after the temperature reading.
2. The alarm relay will close and the buzzer will sound.
3. The OMA-VM500-5 will begin making emergency phone calls.

To cancel an alarm condition locally, push the white button on

the right side of the OMA-VM500-5. The alarm relay will de-energize, and the OMA-VM500-5 will stop making emergency phone calls for this alarm condition.

**What happens when the OMA-VM500-5 calls?**

1. The OMA-VM500-5 will play the personal identification message.
2. The OMA-VM500-5 will report any alarm conditions (i.e. zone 2 temperature is 44 degrees, zone 5 is 39 degrees).
3. The OMA-VM500-5 will ask for the PIN number.
4. Once the PIN number has been entered, the OMA-VM500-5 will not call again because the current alarm condition has been acknowledged. The alarm buzzer will turn off and alarm relay will de-energize.

**What happens when the OMA-VM500-5 calls a pager?**

1. The OMA-VM500-5 will print the Local Identification number on the pager screen.
2. The OMA-VM500-5 will continue to call the pager until either:  
The alarm condition goes away  
OR  
The OMA-VM500-5 is called and the PIN is entered

**What happens if I call the OMA-VM500-5 while an alarm condition exists?**

1. You will hear either "Zone X is XX degrees" and/or "The power has been out for X hours and X minutes".
2. You will hear "Enter your PIN number".
3. If the PIN number is entered, the OMA-VM500-5 stops making emergency phone calls. The alarm buzzer and alarm relay will not turn off. To turn off the buzzer the white button on the face of the dialer must be pressed.
4. If the PIN number is not entered, the OMA-VM500-5 continues dialing the emergency phone numbers.

**Calling the OMA-VM500-5 to check zone temperatures and power status**

1. Call the OMA-VM500-5.
2. The OMA-VM500-5 will report the following:  
The temperature of any zone that is out of limits  
The status of the power (on or off)

### **To check the temperature of any zone**

1. Call the OMA-VM500-5
2. Enter you PIN number
3. From the main menu press 1
4. You will hear "Enter Zone"
5. Enter the number of the zone you wish to hear (i.e. 1)
6. You will hear the current temperature of that zone and its highest and lowest reading. To clear the highest and lowest reading for any zone, remove the RTD sensor of that zone for at least 20 seconds.

### **Connecting the OMA-VM500-5 to a Phone Line which has a fax or answering machine connected to it**

Program the OMA-VM500-5 to answer after one more ring than the other device. This allows the other device to always answer first. To call and access the OMA-VM500-5

1. Dial the phone number
2. Hang up one ring before the other device answers.
3. Wait no longer than 30 seconds, then dial the phone number again.
4. The OMA-VM500-5 will answer.

For Example:

*A fax machine on the same line as the OMA-VM500-5 is set to answer after 4 rings. The OMA-VM500-5 is programmed to answer after 5 rings. To access the OMA-VM500-5, dial the number, let it ring three times, then hang up. Wait 20 seconds and call again. After two rings, the OMA-VM500-5 will answer.*

### **Verifying that the OMA-VM500-5 works with your phone line**

To verify that the OMA-VM500-5 works with your phone line, perform the following test.

Using another phone line, call the OMA-VM500-5 and verify that it answers the phone

1. From the Main Menu, press 1 to hear the status
2. Press 1 to hear the temperature of zone 1
3. Remember this temperature
4. Program the phone number you are calling from into the first phone number location. (See **Programming Telephone Numbers**)

5. Program the upper temperature limit for zone 1 to be 10 degrees less than the temperature which was reported by the OMA-VM500-5
6. Press '0' twice to exit the Program Menu and hang up the OMA-VM500-5
7. The OMA-VM500-5 will call out because the temperature is 10 degrees above the upper temperature limit.

**If the OMA-VM500-5 does not answer the phone**

Verify that the phone line is working. Connect a standard phone to the line intended for the OMA-VM500-5. Verify that there is a dial tone.

Check that the phone line is plugged in securely.

Verify that the OMA-VM500-5 is powered up and the status light is blinking.

**If the OMA-VM500-5 does not call out**

Verify that the phone line is good. Connect a phone to the line intended for the OMA-VM500-5. Verify that there is a dial tone.

Check that the phone line is plugged in securely

Verify that the OMA-VM500-5 is powered up and the status light is blinking

Verify that the OMA-VM500-5 is programmed correctly. Call up the OMA-VM500-5 and verify the programmed phone numbers and temperature limits.

**Optional 20 / 30 Hour Extended Batteries**

If your unit has been ordered with an extended battery, it is installed at the factory. These batteries are trickle charged and can take up to a week to reach full capacity. The battery is charging whenever the monitor is powered on.

<b>TABLE 1</b>	
<b>Wire Gauge</b>	<b>Cable Length (ft)</b>
14 AWG	800
16 AWG	500
18 AWG	310
20 AWG	200
22 AWG	124

## FCC PART 68 INFORMATION

This equipment complies with Part 68 of the FCC Rules. The FCC Part 68 Label is located on the bottom of the unit. This label contains the FCC Registration Number and Ringer Equivalence Number (REN) for this equipment. If requested, this information must be provided to your telephone company.

The REN is useful to determine the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the RENs of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.

Connection to the telephone network should be made by using standard modular telephone jacks, type RJ11. The plug and/or jacks used must comply with FCC Part 68 rules. If this telephone equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary. The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance in order for you to make necessary modifications to maintain uninterrupted service. This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to tariffs.

If trouble is experienced with this unit, for repair or warranty information, please contact customer service at the address and phone listed below. If the equipment is causing harm to the network, the telephone company may request that you disconnect the equipment until the problem is resolved.

**DO NOT DISASSEMBLE THIS EQUIPMENT.** It does not contain any user serviceable components.

Notes



## Notes

**Notes**



## WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

**OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.**

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## RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. **BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS).** The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available **BEFORE** contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available **BEFORE** contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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