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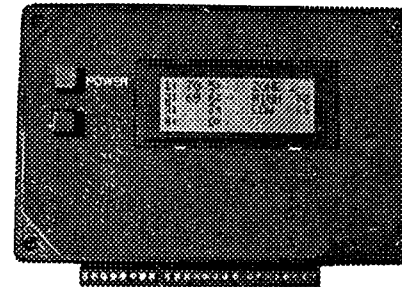
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User's Guide



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Model OMA-VM500-5

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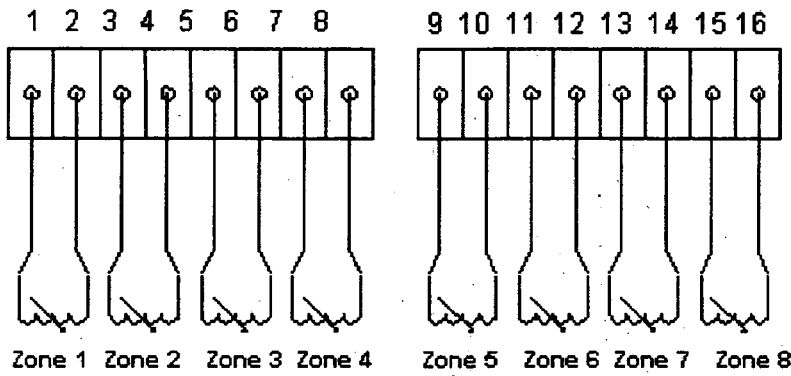
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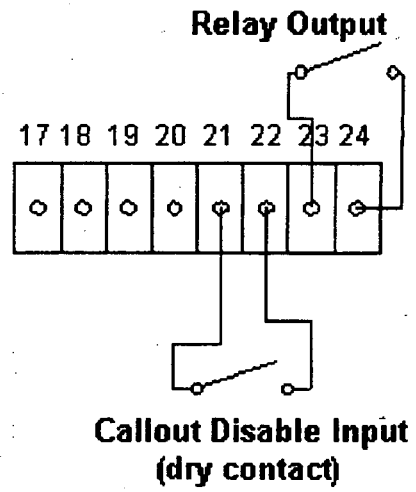
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OMA-VM500-5 Terminal Block Definition



RTD Inputs 100ohm .00385 TCR



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 device 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.

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.

Temperature measuring range is -200°C to 400°C .

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. Use the recommended wire gauge specified in Table 1. See Wiring Diagram 1.
7. Turn the power switch located to the left of the display on the front panel.

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

Programming Temperature Limits and the Defrost Time Delay

Each temperature zone has its own high and low temperature limits and a programmable defrost cycle time delay. The delay is the number of minutes that a temperature zone must be out of limits before emergency phone calls are made. This time delay can be used to prevent emergency phone calls during a freezer defrost cycle.

If a temperature zone goes out of limits and then comes back within limits prior to the delay expiring, no emergency phone calls will be made. The delay is programmed in minutes. The factory default is zero, which means that emergency calls will be made as soon as a temperature zone goes out of limits.

Factory Default: 0 minutes (immediate alert)
 Time Delay Range: 0 to 900 minutes

1. From the Main Menu, press 2 to set Temperature Limits
2. You will hear "Enter Zone"
3. Enter the number of the zone for which you wish set limits (i.e. 1)
4. You will hear the current low limit for that zone (i.e. 45 degrees)
5. You will hear "Press 1 to change"
6. Press 1 to change the limit or press any other button to not change the limit. (If you do not press one, go to step 10)
7. You will hear "Enter number then press pound"
8. Enter the temperature (Valid temperatures are -200° to 400° C), then press #. Use the * key to indicated a negative num-

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.

Specifications

| | |
|------------------------------|---|
| Power Requirements | 120 Vac 60 Hz for wall mount power supply |
| Temperature Sensing Range | -200°C to 400°C |
| Measuring Resolution | +/- 1°C |
| Sensor Type | Two-wire, 100 ohm, .00385 TCR |
| Electrical Connections | Removable eight position terminal block |
| Ambient Operating Conditions | 32°F to 125°F |
| Agency Compliance | FCC Approved and Registered, power supply UL listed |

Table 1: Sensor Extension Wire Gauge vs Cable Length

| | |
|--------|-----|
| 14 AWG | 800 |
| 16 AWG | 500 |
| 18 AWG | 310 |
| 20 AWG | 200 |
| 22 AWG | 124 |

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.

ber. (enter *20# for -20 degrees.)

9. You will hear the value you just entered (i.e. 55 degrees)
10. You will hear the current high limit for the selected zone (i.e. 85 degrees)
11. You will hear "Press 1 to change"
12. Press 1 to make a change or press any other button to not change the limit (If you do not press one go to step 16)
13. You will hear "Enter number then press pound"
14. Enter the temperature then press #
15. You will hear the value you just entered (i.e. 85 degrees)
16. You will hear "Callout time delay is xx minutes press 1 to change"
17. Press 1 to make a change or press any other button to not make a change
18. You will hear "Enter number then press pound"
19. Enter the time delay in minutes (i.e. 15 for 15 minutes)
20. You will hear the value you just entered
21. You will be returned to the Set Temperature Limits Menu

Repeat the above steps for each connected temperature sensor/zone.

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 (you may enter your selection at any time):
 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:

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, shorted or opened.
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, high and low temperature reading, or *"has shorted"* or *"has opened"*. To clear the highest and lowest reading for any zone, disconnect the RTD sensor of that zone for at least 20 seconds, or cycle the power.
7. If you wish to hear a full report of all zones press **9**.

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

will turn off, 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 sensor that is out of limits or opened or shorted. For example: "Warning zone 2 temperature is 44 degrees, zone 5 has shorted, zone 6 has opened".
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 not turn off and alarm relay will not be de-energize. The alarm is only turned off by pressing the black button on the front left corner of the enclosure.

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 number 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

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 will play the 10 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 10 seconds
8. After 10 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. _____

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 timer's dry contacts to pins 21 and 22. When the switch is closed the bottom LED on the front cover will light.

On models equipped with the optional LCD display, an *"**"* will be displayed on the lower right hand side when the Time-of-Day input is active.

What happens if a zone goes out of temperature limits?

1. The zone which has gone out of limits will display a *"<"* after the temperature reading if below the low limit, or a *">"* if above the upper limit (with optional LCD display).
2. The time in minutes the sensor is out of limits is displayed on the optional LCD (i.e. *"T 123"* for 123 minutes).
3. The alarm relay will close and the buzzer will sound.
4. The OMA-VM500-5 will begin making emergency phone calls.

What happens if a sensor opens or short circuits?

The OMA-VM500-5 can detect open or shorted sensors that have been previously functioning.

1. The zone which has shorted will display *"SHRT"*. The zone which has opened will display *"OPEN"*. (with optional LCD display)
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 black button on the left side of the OMA-VM500-5. The alarm relay will de-energize, the buzzer